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1 LTC 0335 Series Monochrome Cameras



Features

- ▶ 1/3-inch format CCD imager
- ▶ High sensitivity
- ▶ Advanced digital signal processing
- ▶ Standard resolution
- ▶ Auto detection of lens type
- ▶ Easy to install
- ▶ Accepts AC or DC voltages

The LTC 0335 series are compact, rugged, 1/3-inch image format digital monochrome CCD cameras. Their superior sensitivity and resolution provide optimal performance in virtually all environments. Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability brings the video performance of standard resolution monochrome cameras to a level never reached before. The LTC 0335 series is the best choice for first time and professional users.

The LTC 0335 camera also comes with a lens wizard that automatically detects the type of lens installed. An OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters.

The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on-hand.

This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. On-screen Displays (OSD) provide quick and easy access to all camera features.

Functions

Bilinx Technology

The LTC 0335 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Certifications and Approvals

Electromagnetic Compatibility

EMC Immunity: According EN50130-4

EMC Emission: According EN505022 class B

According FCC, class B part 15

Safety

LTC 0335/10 and LTC 0335/50: EN60065

LTC 0335/20 and LTC 0335/60: UL6500

Parts Included

Quantity	Component
1	LTC 0335 Series Monochrome Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0335/10	12 VDC	10.8-39 VDC	CCIR
	24 VAC	12-28 VAC	
	50Hz	45-65 Hz	
LTC 0335/20	12 VDC	10.8-39 VDC	EIA
	24 VAC	12-28 VAC	
	60 Hz	45-65 Hz	
LTC 0335/50	230 VAC	85-265 VAC	CCIR
	50 Hz	45-65 Hz	
LTC 0335/60	120 VAC	85-265 VAC	EIA
	60 Hz	45-65 Hz	
Power Consumption	4 W, excluding lens		
Imager	Interline transfer CCD 1/3-inch image format		
Active Pixels			
CCIR Models:	512 H x 582 V		
EIA Models:	512 H x 492 V		

Electrical**Sensitivity (3200 k)**

	Usable Picture (50 IRE)	Full Video
Scene Illumination ¹⁾	0.12 lux (0.01 fc)	0.48 lux (0.048 fc)
Imager Illumination	0.024 lux (0.0024 fc)	0.10 lux (0.010 fc)
Horizontal Resolution	380 TVL	
Signal-to-Noise Ratio	50 dB	
Gain	Auto, 21 dB (max)	
Electronic Shutter	Automatic, 1/50 to 1/500000 sec. (CCIR), 1/60 to 1/600000 sec. (EIA)	
Aperture Correction	Horizontal and Vertical, symmetrical	
Backlight Compensation	Center window weighting	
Video Output	Composite video 1.0 Vpp, 75 ohm	
Synchronization		
Line-Lock	(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 – 358 degrees) to allow vertical synchronization in multi-phase power installations.	
Crystal-Lock	(When DC-supply or L/L off) Internal crystal reference is standard on all models.	

Controls

	Video level
	Shutter: AES / off / flickerless
	AGC: on / off
	BLC: on / off
	Auto black: on / off
	Vphase adjustment: 0 - 358 degrees

¹⁾ For F/1.2, 89% scene reflectance

Mechanical

Connectors	- Video output: BNC
	- Video/DC-IRIS connector: 4-pin EIA-J

Power

LTC 0335/10 and LTC 0335/20:	push type connectors, polarity independent, isolated from video output terminals
LTC 0335/50:	2-wire power cord with Euro plug
LTC 0335/60:	2-wire power cord with polarized plug
Tripod Mount	Top and Bottom, 1/4-inch 20 UNC
Lens Mount	C and CS
Dimensions (H x W x D)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) including connectors
Weight	0.45 kg (0.99 lb)

Environmental

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-25°C to 70°C (-13°F to 158°F)
Operating Humidity	5% to 93% non-condensing

Ordering Information

LTC 0335/10 Monochrome Camera	LTC0335/10
1/3-inch B/W CCIR, DSP, 380 TVL, 12 VDC/24VAC, 50 Hz	

Ordering Information

LTC 0335/20 Monochrome Camera	LTC0335/20
1/3-inch B/W EIA, DSP, 380 TVL, 12 VDC/ 24VAC, 60 Hz	

LTC 0335/50 Monochrome Camera	LTC0335/50
1/3-inch B/W CCIR, DSP, 380 TVL, 230 VAC, 50 Hz	

LTC 0335/60 Monochrome Camera	LTC0335/60
1/3-inch B/W EIA, DSP, 380 TVL, 120 VAC, 60 Hz	

Accessories

LTC 3364/40 Varifocal Lens	LTC3364/40
1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	

LTC 3374/20 Varifocal Lens	LTC3374/20
1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	

TC 120PS Power Supply Unit	TC120PS
110-120 VAC/15 VDC, 50/60 Hz, 300mA	

TC 220PS Power Supply Unit	TC220PS
230 VAC/12 VDC, 50 Hz, 10 VA	

TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	

TC 1334 Power Supply Unit	TC1334
120 VAC/24 VAC, 60 Hz, 30 VA	

1 LTC 0355 Series Monochrome Cameras



Features

- ▶ 1/3-inch format CCD imager
- ▶ High sensitivity
- ▶ Advanced digital signal processing
- ▶ High resolution
- ▶ Auto detection of lens type
- ▶ Easy to install
- ▶ Accepts AC or DC voltage

The LTC 0355 series are compact rugged, 1/3-inch image format digital high monochrome CCD cameras. Their superior sensitivity and high resolution provide optimal performance in virtually all environments. Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability brings the video performance of high resolution monochrome cameras to a level never reached before. The LTC 0355 series is the best choice for first time and professional users.

The LTC 0355 cameras also comes with a lens wizard that automatically detects the type of lens installed and provides an OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters. The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on-hand.

This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. On-screen Displays (OSD) provide quick and easy access to all camera features.

Functions

Bilinx Technology

The LTC 0355 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Certifications and Approvals

Electromagnetic Compatibility

EMC Immunity: According EN50130-4

EMC Emission: According EN505022 class B

According FCC, class B part 15

Safety

LTC 0355/10 and LTC 0355/50: EN60065

LTC 0355/20 and LTC 0355/60: UL6500

Parts Included

Quantity	Components
1	LTC 0355 Series Monochrome Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0355/10	12 VDC	10.8-39 VDC	CCIR
	24 VAC	12-28 VAC	
	50Hz	45-65 Hz	
LTC 0355/20	12 VDC	10.8-39 VDC	EIA
	24 VAC	12-28 VAC	
	60Hz	45-65 Hz	
LTC 0355/50	230 VAC	85-265 VAC	CCIR
	50Hz	45-65 Hz	
LTC 0355/60	120 VAC	85-265 VAC	EIA
	60Hz	45-65 Hz	
Power Consumption	4 W, excluding lens		
Imager	Interline transfer CCD 1/3-inch image format		

Electrical**Active Pixels**

CCIR Models:	752 H x 582 V
EIA Models:	582 H x 494 V

Sensitivity (3200 k)

	Usable Picture (50 IRE)	Full Video
Scene Illumination ¹⁾	0.09 lux (0.009 fc)	0.36 lux (0.036 fc)
Imager Illumination	0.018 lux (0.0018 fc)	0.072 lux (0.0072 fc)

Horizontal Resolution	570 TVL
Signal-to-Noise Ratio	50 dB
Gain	Auto, 21 dB (max)
Electronic Shutter	Automatic, 1/50 to 1/500000 sec. (CCIR), 1/60 to 1/600000 sec. (EIA)
Aperture Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting
Video Output	Composite video 1.0 Vpp, 75 ohm

Synchronization

Line-Lock	(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 - 358 degrees) to allow vertical synchronization in multi-phase power installations.
Crystal-Lock	(When DC-supply or L/L off) Internal crystal reference is standard on all models.

Controls

Video level
Shutter: AES / off / flickerless
AGC: on / off
BLC: on / off
Auto black: on / off
Vphase adjustment: 0 - 358 degrees

1) For F/1.2, 89% scene reflectance.

Mechanical

Connectors	- Video output: BNC
	- Video / DC-IRIS connector: 4-pin EIA-J

Power

LTC 0355/10 and LTC 0355/20:	push type connectors, polarity independent, isolated from video output terminals
LTC 0355/50:	2-wire power cord with Euro plug
LTC 0355/60:	2-wire power cord with polarized plug
TripodMount	Top and Bottom, 1/4-inch 20 UNC
LensMount	C and CS
Dimensions (HxWxD)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) including connectors
Weight	0.45 kg (0.99 lb)

Environmental

OperatingTemperature	-20°C to 50°C (-4°F to 122°F)
StorageTemperature	-25°C to 70°C (-13°F to 158°F)
OperatingHumidity	5% to 93% non-condensing

Ordering Information

LTC 0355/10 Monochrome Camera 1/3-inch B/W CCIR, DSP, 570 TVL, 12 VDC/240 VAC, 50 Hz	LTC0355/10
LTC 0355/20 Monochrome Camera 1/3-inch B/W EIA, DSP, 570 TVL, 12 VDC/24 VAC, 60 Hz	LTC0355/20
LTC 0355/50 Monochrome Camera 1/3-inch B/W CCIR, DSP, 570 TVL, 230 VAC, 60 Hz	LTC0355/50
LTC 0355/60 Monochrome Camera 1/3-inch B/W EIA, DSP, 570 TVL, 120 VAC, 60 Hz	LTC0355/60

Accessories

LTC 3364/40 Varifocal Lens 1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3364/40
LTC 3374/20 Varifocal Lens 1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	LTC3374/20
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

1 LTC 0356 Series Monochrome Cameras



Features

- ▶ 1/3-inch format CCD imager with IR cut filter
- ▶ High sensitivity
- ▶ Advanced digital signal processing
- ▶ High resolution
- ▶ Auto detection of lens type
- ▶ Easy to install
- ▶ Accepts AC or DC voltages

The LTC 0356 series are compact rugged, 1/3-inch image format digital monochrome CCD cameras. Their superior sensitivity and high resolution, combined with the IR cut filter on the sensor, provides optimal performance in traffic applications. Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability brings the video performance of high resolution monochrome cameras to a level never reached before.

The LTC 0356 cameras also comes with a lens wizard that automatically detects the type of lens installed and provides an OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters.

The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on-hand.

This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. On-screen Displays (OSD) provide quick and easy access to all camera features.

Functions

Bilinx Technology

The LTC 0356 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Certifications and Approvals

Electromagnetic Compatibility

EMC Immunity: According EN50130-4

EMC Emission: According EN505022 class B

According FCC, class B part 15

Safety

LTC 0356/10: EN60065

LTC 0356/20: UL6500

Parts Included

Quantity	Components
1	LTC 0356 Series Monochrome Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0356/10	12 VDC	10.8-39 VDC	CCIR
	24 VAC	12-28 VAC	
	50Hz	45-65 Hz	
LTC 0356/20	12 VDC	10.8-39 VDC	EIA
	24 VAC	12-28 VAC	
	60Hz	45-65 Hz	
Power Consumption	4 W, excluding lens		
Imager	Interline transfer CCD 1/3-inch image format, with IR cut filter		

Active Pixels

LTC 0356/10:	752 H x 582 V
LTC 0356/20:	582 H x 494 V

Sensitivity (3200 K)

	Usable Picture (50 IRE)	Full Video
Scene Illumination ¹⁾	0.2 lux (0.02 fc)	0.9 lux (0.09 fc)
Imager Illumination	0.05 lux (0.005 fc)	0.02 lux (0.02 fc)

Horizontal Resolution	570 TVL
Signal-to-Noise Ratio	50 dB
Gain	Auto, 21 dB (max)
Electronic Shutter	Automatic, 1/50 to 1/500000 sec. (LTC 0356/10), 1 / 60 to 1 / 600000 sec. (LTC 0356/20)
Aperture Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting
Video Output	Composite video 1.0 Vpp, 75 ohm

Synchronization

Line-Lock	(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 - 358 degrees) to allow vertical synchronization in multi-phase power installations.
Crystal-Lock	(When DC-supply or L/L off) Internal crystal reference is standard on all models.

Controls

	Video level
	Shutter: AES / off / flickerless
	AGC: on / off
	BLC: on / off
	Auto black: on / off
	Vphase adjustment: 0 - 358 degrees

1) For F/1.2, 89% scene reflectance.

Mechanical

Connectors	- Video output: BNC - Video/DC-Iris connector: 4-pin EIA-J
Power	Push type connectors, polarity independent, isolated from video output terminals
TripodMount	Top and bottom, 1/4-inch 20 UNC
LensMount	C and CS
Dimensions (HxWxD)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) including connectors
Weight	0.45 kg (0.99 lb)

Environmental

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-25°C to 70°C (-13°F to 158°F)
Operating Humidity	5% to 93% non-condensing

Ordering Information

LTC 0356/10 Monochrome Camera 1/3-inch B/W CCIR, DSP, 570 TVL, 12 VDC/24 VAC, 50 Hz, IR cut filter	LTC0356/10
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LTC 0356/20 Monochrome Camera 1/3-inch B/W EIA, DSP, 570 TVL, 12 VDC/24 VAC, 60 Hz, IR cut filter	LTC0356/20
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Accessories

LTC 3364/40 Varifocal Lens 1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3364/40
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LTC 3374/20 Varifocal Lens 1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	LTC3374/20
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TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
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TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
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TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
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TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334
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LTC 0385 Series DinionXF Monochrome Cameras



Features

- ▶ 15-bit DSP technology
- ▶ XF-dynamic
- ▶ Bilinx communication
- ▶ Default shutter
- ▶ Lens wizard
- ▶ Auto black
- ▶ Video motion detection

The LTC 0385 Series of High Performance 1/3-inch Digital CCD Monochrome Cameras create the best possible image, even under the most difficult light and scene conditions.

Based on unique 15-bit digital video processing technology and employing XF-Dynamic, these cameras provide excellent sensitivity with extended dynamic range. By employing the best 1/3-inch CCD available, advanced front end processing, combined with the outstanding Dinion DSP, the cameras achieve an astonishing sensitivity, providing better images in low light situations and sharper daytime images.

All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, and connect power to provide optimal pictures under virtually all scene conditions. No tools are required for back focus and power connection. For extra challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). Also, to aid installation, the camera automatically detects the lens type, and using the Lens Wizard ensures accurate (back) focusing for perfectly sharp pictures at all times

Functions

XF-Dynamic

Extended dynamic range is brought to a new level on the LTC 0385 Series Camera by XF-Dynamic technology. XF-Dynamic automatically processes the highly accurate 15-bit digital signal to optimally capture the detail in both the highlight and lowlight areas of the scene simultaneously, to maximize the information visible in the picture.

Bilinx Technology

The LTC 0385 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal, the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature, enhances contrast by removing veiling glare from the picture or when contrast is reduced by fog or mist.

Default Shutter

When viewing moving objects a fast shutter speed is required. When using a fast shutter speed the lens opening or gain control needs to be increased to maintain the video signal. The camera sensitivity is limited by the fast shutter speed. The default shutter setting of the LTC 0385 offers the best of all worlds, fast shutter speed as long as there is sufficient light, however as the light level falls, when other adjustments have been exhausted, the shutter reverts to the standard setting maintaining the cameras excellent sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The LTC 0385 series automatically detects the type of lens installed. The Lens Wizard will focus the lens at the maximum lens opening, to ensure that focus is maintained throughout the entire 24-hour day/night cycle. No special tools or filters are required.

Programmable Modes

The camera supports three independent operating modes. The 3 modes are preprogrammed for typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced, especially useful where there is no artificial lighting and you rely on the moon, stars and scattered radiation.

Certifications and Approvals

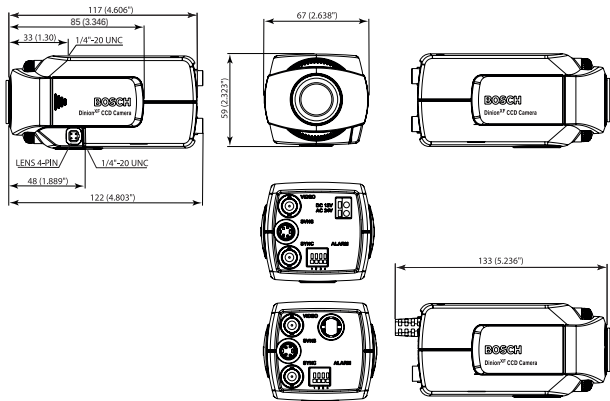
Electromagnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

EN60065 (/10 and /50 models)
UL6500, cUL CAN/CSA E60065-00 (/20 and /60 models)

Installation/Configuration Notes



Dimensions in mm (inches)

Parts Included

Quantity	Components
1	LTC 0385 Series Dinion ^{XF} Monochrome Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Voltage Range	System
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Electrical

LTC 0385/10	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz	CCIR
LTC 0385/20	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz	EIA
LTC 0385/50	85 - 265 VAC	45 - 65 Hz	CCIR
LTC 0385/60	85 - 265 VAC	45 - 65 Hz	EIA
Power Consumption	4 W		
Imager	Interline transfer CCD 1/3-inch image format		

Active Pixels

CCIR Models:	752 H x 582 V
EIA Models:	768 H x 492 V

Sensitivity

Sensitivity (Full video) ¹⁾	0.23 lux (0.023 fc)
Sensitivity 50 IRE ¹⁾	0.046 lux (0.0046 fc)
Minimum Illumination ¹⁾	0.031 lux (0.0031 fc)
Minimum Illumination with Sens UP	0.0031 lux (0.00031 fc)
Horizontal Resolution	570 TVL
Signal-to-Noise-Ratio	> 50 dB
Video Output	1 Vpp, 75 ohm
Synchronization	Internal, line lock or genlock selectable
Electronic Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity Up	Off, automatic continuous up to 10x
Auto Black	On, off selectable
Range	32x dynamic range enhancement
Noise Reduction	Auto, off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, area and level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
VMD	4 area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input(TTL)	Profile switching, +5 V nominal, +40 VDC max.
Alarm Output Relay	max. 30 VAC or +40 VDC, max. 0.5 A continuous, 10 VA
External Synchronal Input	75 ohm or high impedance selectable
Cable Compensation	Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-Iris auto-detect with override DC-iris drive: max 50 mA continuous Video-iris: 11.5 ± 0.5 VDC, max 50 mA continuous
Remote Control	Bi-directional coaxial communication

1) F/1.2, 89% reflection, SenseUp off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC

Mechanical

Lens Mount	C and CS
Controls	OSD with softkey operation

Environmental

Operating Temperature	-20°C to +50°C (-4°F to +122°F)
Storage Temperature	-25°C to +70°C (-13°F to +158°F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

LTC 0385/10 DinionXF Monochrome Camera 1/3-inch B/W high performance CCIR, DSP, 570 TVL, 12-28 VAC/11-39 VDC, 50 Hz	LTC0385/10
LTC 0385/20 DinionXF Monochrome Camera 1/3-inch B/W high performance EIA, DSP, 570 TVL, 12-28 VAC/11-39 VDC, 60 Hz	LTC0385/20
LTC 0385/50 DinionXF Monochrome Camera 1/3-inch B/W high performance CCIR, DSP, 570 TVL, 85-265 VAC, 50 Hz	LTC0385/50
LTC 0385/60 DinionXF Monochrome Camera 1/3-inch B/W high performance EIA, DSP, 570 TVL, 85-265 VAC, 60 Hz	LTC0385/60

Accessories

LTC 3364/21 Varifocal Lens IR corrected 1/3-inch, 2.8 – 6 mm, DC-iris, CS-mount F1.4-200, 4-pin	LTC3364/21
LTC 3364/31 Varifocal Lens 1/3-inch, 3.5 – 8 mm, DC-iris, CS-mount F1.4-200, 4-pin	LTC3364/31
LTC 3364/40 Varifocal Lens 1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3364/40
LTC 3374/20 Varifocal Lens 1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	LTC3374/20
LTC 3384/21 Zoom Lens 1/3-inch, 6 – 60 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3384/21
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

Software Options

VP-CFGSFT Configuration Software for cameras using Bilinx, includes VP-USB Adaptor	VP-CFGSFT
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LTC 0510 Series DinionXF Monochrome Cameras



Features

- ▶ 15-bit DSP technology
- ▶ XF-Dynamic
- ▶ Bilinx communication
- ▶ Default shutter
- ▶ Lens wizard
- ▶ Auto black
- ▶ Video motion detection
- ▶ Exceptional IR sensitivity

The LTC 0510 Series of High Performance 1/2-inch Digital CCD Monochrome Cameras create the best possible image, even under the most difficult light and scene conditions. Based on unique 15-bit digital video processing technology and employing XF-Dynamic, these cameras provide the ultimate sensitivity with extended dynamic range. By employing the best 1/2-inch CCD available, advanced front end processing, combined with the outstanding Dinion DSP, the cameras achieve an astonishing sensitivity, providing better images in low light situations and sharper daytime images.

All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, and connect power to provide optimal pictures under virtually all scene conditions. No tools are required for back focus and power connection. For extra challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). Also, to aid installation, the camera automatically detects the lens type, and using the Lens Wizard ensures accurate (back) focusing for perfectly sharp pictures at all times.

Functions

XF-Dynamic

Extended dynamic range is brought to a new level on the LTC 0510 Series Camera by XF-Dynamic technology. XF-Dynamic automatically processes the highly accurate 15-bit digital signal to optimally capture the detail in both the highlight and lowlight areas of the scene simultaneously, to maximize the information visible in the picture.

Bilinx Technology

The LTC 0510 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate setup and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal, the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature, enhances contrast by removing veiling glare from the picture or when contrast is reduced by fog or mist.

Default Shutter

When viewing moving objects a fast shutter speed is required. When using a fast shutter speed the lens opening or gain control needs to be increased to maintain the video signal. The camera sensitivity is limited by the fast shutter speed. The default shutter setting of the LTC 0510 offers the best of all worlds, fast shutter speed as long as there is sufficient light, however as the light level falls, when other adjustments have been exhausted, the shutter reverts to the standard setting maintaining the cameras excellent sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The LTC 0510 series automatically detects the type of lens installed. The Lens Wizard will focus the lens at the maximum lens opening, to ensure that focus is maintained throughout the entire 24-hour day/night cycle. No special tools or filters are required.

Programmable Modes

The camera supports 3 independent operating modes. The 3 modes are preprogrammed for typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced, especially useful where there is no artificial lighting and you rely on the moon, stars and scattered radiation.

Certifications and Approvals

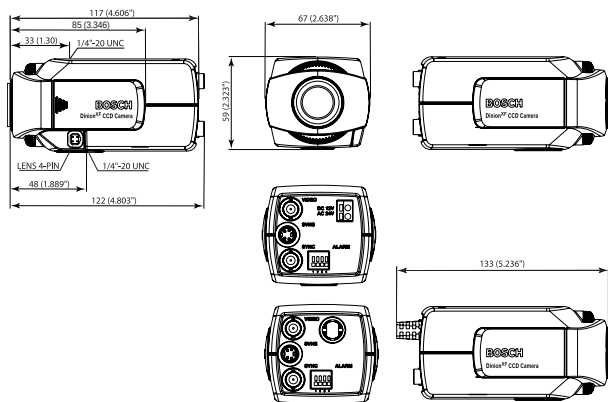
Electromagnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

EN60065 (/10 and /50 models)
UL6500, cUL CAN/CSA E60065-00 (/20 and /60 models)

Installation/Configuration Notes



Dimensions in mm

Parts Included

Quantity	Component
1	LTC 0510 Series Dinion ^{XF} Monochrome Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Voltage Range	System
LTC 0510/10	12 – 28 VAC 11 – 39 VDC	CCIR
LTC 0510/20	12 – 28 VAC 11 – 39 VDC	EIA
LTC 0510/50	85 – 265 VAC	CCIR
LTC 0510/60	85 – 265 VAC	EIA
Power Consumption	4 W	
Imager	Interline transfer CCD 1/2-inch image format	

Active Pixels

CCIR Models:	752 H x 582 V
EIA Models:	768 H x 492 V

Sensitivity (3200 k)

Sensitivity (Full video) ¹⁾	0.16 lux (0.016 fc)
Sensitivity 50 IRE ¹⁾	0.032 lux (0.0032 fc)
Minimum Illumination ¹⁾	0.021 lux (0.0021 fc)
Minimum Illumination with Sense Up	0.0021 lux (0.00021 fc)
Horizontal Resolution	570 TVL
Signal-to-Noise-Ratio	> 50 dB
Video Output	1 Vpp, 75 ohm
Synchronization	Internal, line lock or genlock selectable
Electronic Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity Up	Off, automatic continuous up to 10x
Auto Black	On, off selectable
Range	32x dynamic range enhancement
Dynamic Noise Reduction	Auto, off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, area and level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
VMD	4 area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input(TTL)	Profile switching, +5 V nominal, +40 VDC max
Alarm Output Relay	max. 30 VAC or +40 VDC, max. 0.5 A continuous, 10 VA
External Synchronal Input	75 ohm or High Impedance selectable
Cable Compensation	Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-Iris auto-detect with override. DC-iris drive: max 50 mA continuous Video-iris: 11.5 ± 0.5 VDC, max. 50 mA continuous
Remote Control	Bi-directional coaxial communication

¹⁾ F/1.2, 89% reflection, SenseUp off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
TripodMount	Bottom (isolated) and top 1/4-inch 20 UNC
LensMount	C and CS
Controls	OSD with softkey operation

Environmental

OperatingTemperature	-20°C to +50°C (-4°F to +122°F)
StorageTemperature	-25°C to +70°C (-13°F to +158°F)
OperatingHumidity	20% to 93% RH
StorageHumidity	up to 98% RH

Ordering Information

LTC 0510/10 DinionXF Monochrome Camera 1/2-inch B/W high performance CCIR, 570 TVL, 12-28 VAC/11-39 VDC, 50 Hz	LTC0510/10
LTC 0510/20 DinionXF Monochrome Camera 1/2-inch B/W high performance EIA, 570 TVL, 12-28 VAC/11-39 VDC, 60 Hz	LTC051020
LTC 0510/50 DinionXF Monochrome Camera 1/2-inch B/W high performance CCIR, 570 TVL, 85-265 VAC, 50 Hz	LTC0510/50
LTC 0510/60 DinionXF Monochrome Camera 1/2-inch B/W high performance EIA, 570 TVL, 85-265 VAC, 60 Hz	LTC0510/60

Accessories

LTC 3274/41 Varifocal Lens 1/2-inch, 7.5 – 75 mm, DC-iris, C-mount, F1.7-360, 4-pin	LTC3274/41
LTC 3283/20 Zoom Lens 1/2-inch, 8.0 – 48 mm, Video-iris, CS-mount F1.4-360, 4-pin	LTC3283/20
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

Software Options

VP-CFGSFT Configuration Software for cameras using Bilinx, includes VP-USB Adap- tor	VP-CFGSFT
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1 LTC 0435 Series Color Cameras



Features

- ▶ 1/3- inch format CCD imager
- ▶ High sensitivity
- ▶ Advanced digital signal
- ▶ Processing
- ▶ Standard resolution
- ▶ Auto detection of lens type
- ▶ Easy to install
- ▶ Accepts AC or DC voltages

The LTC 0435 series are compact rugged, 1/3-inch image format digital color CCD cameras. Their superior sensitivity and resolution provide optimal performance in virtually all environments.

Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability brings the video performance of standard resolution color cameras to a level never reached before and makes the LTC 0435 series the best choice for first time and professional users.

This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. On-screen Displays (OSD) provide quick and easy access to all camera features.

The LTC 0435 cameras also comes with a lens wizard that automatically detects the type of lens installed and provides an OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters. The automatic black level feature, now introduced in color cameras, enhances contrast by removing veiling glare from the picture.

The wide range of through the lens automatic sensing tracking white balance provides true to life color images for indoor and outdoor applications. The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on-hand.

Functions

Bilinx Technology

The LTC 0435 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. with Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Certifications and Approvals

Electromagnetic Compatibility:

EMC Immunity:	According EN50130-4
EMC Emission:	According EN505022 class B According FCC, class B part 15

Safety:

LTC 0435/10 and LTC 0435/50: EN60065

LTC 0435/20 and LTC 0435/60: UL6500

Parts Included

Quantity	Components
1	LTC 0435 Series Color Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0435/10	12 VDC	10.8-39 VDC	PAL
	24 VAC	12-28 VAC	
	50 Hz	45-65 Hz	
LTC 0435/20	12 VDC	10.8-39 VDC	NTSC
	24 VAC	12-28 VAC	
	60 Hz	45-65 Hz	
LTC 0435/50	230 VAC	85-265 VAC	PAL
	50Hz	45-65 Hz	
LTC 0435/60	120 VAC	85-265 VAC	NTSC
	60Hz	45-65 Hz	
Power Consumption	4 W, excluding lens		
Imager	Interline transfer CCD 1/3-inch image format		
Active Pixels			
PAL Models	500 H x 582 V		
NTSC Models	510 H x 494 V		

Electrical**Sensitivity (3200 k)**

	Usable Picture (50 IRE)	Full Video
Scene Illumination ¹⁾	0.39 lux (0.039 fc)	1.6 lux (0.16 fc)
Imager Illumination	0.06 lux (0.006 fc)	0.24 lux (0.024 fc)
Horizontal Resolution	330 TVL	
Signal-to-Noise Ratio	50 dB	
AGC	21 dB (max)	
Electronic Shutter	Automatic, 1/50 to 1/125000 sec. (CCIR), 1/60 to 1/150000 sec. (EIA)	
Aperture Correction	Horizontal & vertical symmetrical	
Backlight Compensation	Center window weighting	
White Balance	Automatic sensing (2500-9000 K)	
Video Output	Composite video 1.0 Vpp, 75 ohm	

Synchronization**Line-Lock**

(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 - 358 degrees) to allow vertical synchronization in multi-phase power installations Free Running (When DC-supply or L/L off): Internal crystal reference is standard on all models.

Controls

Video level
Shutter: AES / off / flickerless
AGC: on / off
BLC: on / off
Auto ATW: on / hold black: on / off
R-offset
B-offset
Vphase adjustment: 0 - 358 degrees

1) For F/1.2, 89% scene reflectance.

Mechanical**Connectors**

- Video Output: BNC
- Video/DC-iris connector 4-pin EIA-J

Power

LTC 0435/10 and LTC 0435/20	Push type connectors, polarity independent, isolated from video output terminals
LTC 0435/50	2-wire power cord with Euro plug
LTC 0435/60	2-wire power cord with polarized plug
Tripod Mount	Top and Bottom, 1/4-inch 20 UNC
Lens Mount	C and CS
Dimensions (H x W x D)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) including connectors
Weight	0.45 kg (0.99 lb)

Environmental

Operating Temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Storage Temperature	-25 °C to 70 °C (-13 °F to 158 °F)
Operating Humidity	5% to 93% non-condensing

Ordering Information

LTC 0435/10 Color Camera 1/3-inch, 330 TVL, PAL, DSP, 12 VDC/24 VAC, 50 Hz	LTC0435/10
LTC 0435/20 Color Camera 1/3-inch, 330 TVL, NTSC, DSP, 12 VDC/24 VAC, 60 Hz	LTC0435/20
LTC 0435/50 Color Camera 1/3-inch, 330 TVL, PAL, DSP, 230 VAC, 50 Hz	LTC0435/50
LTC 0435/60 Color Camera 1/3-inch, 330 TVL, NTSC, DSP, 120 VDC, 60 Hz	LTC0435/60
Accessories	
LTC 3364/40 Varifocal Lens 1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3364/40
LTC 3374/20 Varifocal Lens 1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	LTC3374/20
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

1 LTC 0440 Series Color Cameras



Features

- ▶ 1/3-inch format CCD imager
- ▶ High sensitivity
- ▶ Advanced digital signal processing
- ▶ High resolution with outstanding picture quality
- ▶ Auto detection of lens
- ▶ Type with lens wizard
- ▶ Easy to install
- ▶ Accepts AC or DC voltages

The LTC 0440 series are compact rugged, 1/3-inch image format digital color CCD cameras. Their superior sensitivity, 480 TVL resolution and picture quality provide optimal performance in virtually all situations. This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. Onscreen Displays (OSD) provide quick and easy access to all camera features. The LTC 0440 cameras also comes with a lens wizard that automatically detects the type of lens installed and provides an OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters.

Automatic sensing for tracking white balance, provides true to life color images in indoor and outdoor applications. The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on hand. Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability brings the video performance of high resolution color cameras to a level never reached before and makes the LTC 0440 series the best choice for first time and professional users.

Certifications and Approvals

Electromagnetic Compatibility:

EMC Immunity:	According EN50130-4
EMC Emission:	According EN505022 class B According FCC, class B part 15

Safety:

LTC 0440/10 and LTC 0440/50:	EN60065
LTC 0440/20 and LTC 0440/60:	UL6500

Parts Included

Quantity	Components
1	LTC 0440 Series Color Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0440/10	12 VDC 24 VAC 50Hz	10.8-39 VDC 12-28 VAC 45-65 Hz	PAL
LTC 0440/20	12 VDC 24 VAC 60Hz	10.8-39 VDC 12-28 VAC 45-65 Hz	NTSC
LTC 0440/50	230 VAC 50Hz	85-265 VAC 45-65 Hz	PAL
LTC 0440/60	120 VAC 60Hz	85-265 VAC 45-65 Hz	NTSC
Power Consumption	4 W, excluding lens		
Imager	Interline transfer CCD 1/3-inch image format		

Active Pixels

PAL Models:	752 H x 582 V
NTSC Models:	768 H x 494 V

Sensitivity (3200 k)

	Min. Illumination(30 IRE)	Usable Picture(50 IRE)	Full Video
Scene Illumination ¹⁾	0.40 lux (0.04 fc)	0.87 lux (0.09 fc)	3.5 lux (0.35 fc)
Imager Illumination	0.060 lux (0.006 fc)	0.13 lux (0.013 fc)	0.53 lux (0.053 fc)
Horizontal Resolution	480 TVL		
Signal-to-Noise Ratio	50 dB		
AGC	21 dB (max)		

Electronic Shutter	Automatic, 1/50 to 1/125000 sec. (CCIR), 1/60 to 1/50000 sec. (EIA)
Aperture Correction	Horizontal and vertical symmetrical.
Backlight Compensation	Center window weighting
Video Output	Composite video 1.0 Vpp, 75 ohm

Synchronization

Line-Lock
(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 - 358 degrees) to allow vertical synchronization in multi-phase power installations.

Free Running
(When DC-supply or L/L off) Internal crystal reference is standard on all models.

Controls

Video level
Shutter: AES / off / flickerless
AGC: On / Off
BLC: On / Off
ATW: On / Hold
R-offset
B-offset
Vphase Adjustment: 0 - 358 degrees

1) For f/1.2 lens, 89% scene reflectance.

Mechanical

Connectors	- Video Output: BNC
	- Video/DC-iris connector: 4-pin EIA-J

Power

LTC 0440/10 and LTC 0440/20	Push type connectors, polarity independent, isolated from video output terminals
LTC 0440/50	2-wire power cord with plug
LTC 0440/60	2-wire power cord with polarized plug
LensMounting	C and CS
Dimensions (H x W x D)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) inc. connectors
Weight	0.45 kg (0.99 lb)

Environmental

Operating Temperature	-20 °C to 50 °C (-4 °F to 122 °F)
Storage Temperature	-25 °C to 70 °C (-13 °F to 158 °F)
Operating Humidity	5% to 93% non-condensing

Ordering Information

LTC 0440/10 Color Camera	LTC0440/10
1/3-inch, 480 TVL, PAL, DSP, 12 VDC/24 VAC, 50Hz	
LTC 0440/50 Color Camera	LTC0440/50
1/3-inch, 480 TVL, PAL, DSP, 230 VAC, 50Hz	

Accessories

LTC 3364/40 Varifocal Lens	LTC3364/40
1/3-inch, 2.8 - 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	

Ordering Information

LTC 3374/20 Varifocal Lens	LTC3374/20
1/3-inch, 5 - 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	
TC 120PS Power Supply Unit	TC120PS
110-120 VAC/15 VDC, 50/60 Hz, 300mA	
TC 220PS Power Supply Unit	TC220PS
230 VAC/12 VDC, 50 Hz, 10 VA	
TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	
TC 1334 Power Supply Unit	TC1334
120 VAC/24 VAC, 60 Hz, 30 VA	

1 LTC 0455 Series Color Cameras



Features

- ▶ 1/3-inch format CCD imager
- ▶ High sensitivity
- ▶ Advanced digital signal processing
- ▶ 540 TVL resolution with outstanding picture quality
- ▶ Extended sensitivity with nightsense
- ▶ Auto detection of lens type with lens wizard
- ▶ Easy to install
- ▶ Accepts AC or DC voltages

The LTC 0455 series are compact rugged, 1/3-inch image format digital color CCD cameras. Their superior sensitivity, 540 TVL resolution and picture quality provide optimal performance in virtually all situations. Easy Installation, digital signal processing, on screen displays, superior picture quality and reliability, brings the video performance of high resolution color cameras to a level never reached before and makes the LTC 0455 series the best choice for first time and professional users.

This fully automatic camera is ready to work for you, and is easy to install in even the most demanding applications. On-screen Displays (OSD) provide quick and easy access to all camera features.

The LTC 0455 cameras also comes with a lens wizard that automatically detects the type of lens installed and provides an OSD guide that allows the installer to easily adjust the lens level and focus without special tools or filters.

The automatic black level feature, now introduced in color cameras, enhances contrast by removing veiling glare from the picture. NightSense is used to further extend the excellent sensitivity by a factor 3 in monochrome operation. This mode can be automatically activated under low light situations.

Automatic sensing for tracking white balance, provides true to life color images in indoor and outdoor applications.

The ability to operate on AC or DC provides added flexibility to system designs and reduces the amount of training and support items to keep on-hand.

Functions

Bilinx Technology

The LTC 0455 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Certifications and Approvals

Electromagnetic compatibility:

EMC Immunity:	According EN50130-4
EMC Emission:	According EN505022 class B, According FCC, class B part 15

Safety:

LTC 0455/11 and LTC 0455/51: EN60065

LTC 0455/21 and LTC 0455/61: UL6500

Parts Included

Quantity	Components
1	LTC 0455 Series Color Camera
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	System
LTC 0455/11	12 VDC	10.8-39 VDC	PAL
	24 VAC	12-28 VAC	
	50 Hz	45-65 Hz	
LTC 0455/21	12 VDC	10.8-39 VDC	NTSC
	24 VAC	12-28 VAC	
	60 Hz	45-65 Hz	
LTC 0455/51	230 VAC	85-265 VAC	PAL
	50Hz	45-65 Hz	
LTC 0455/61	120 VAC	85-265 VAC	NTSC
	60Hz	45-65 Hz	
Power Consumption		4 W, excluding lens	
Imager		Interline transfer CCD, 1/3-inch image format	
Active Pixels			
PAL Models		752 H x 582 V	
NTSC Models		768 H x 494 V	

Electrical**Sensitivity (3200 k)**

	Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video
Scene Illumination ¹⁾ (color mode)	0.30 lux (0.03 fc)	0.65 lux (0.07 fc)	2.6 lux (0.26 fc)
Imager Illumination (colormode)	0.045 lux (0.005 fc)	0.10 lux (0.010 fc)	0.40 lux (0.040 fc)
Scene Illumination ¹⁾ (nightmode)	0.12 lux (0.012 fc)	0.26 lux (0.026 fc)	1.04 lux (0.104 fc)
Imager Illumination (nightmode)	0.018 lux (0.002 fc)	0.040 lux (0.004 fc)	0.16 lux (0.016 fc)
Horizontal Resolution	540 TVL		
Signal-to-Noise Ratio	50 dB		
Gain	21 dB, (max)		
Electronic Shutter	Automatic, 1/50 to 1/125000 sec. (CCIR), 1/60 to 1/150000 sec. (EIA)		
Aperture Correction	Horizontal and vertical, symmetrical		
Backlight Compensation	Center window weighting		
White Balance	Automatic sensing (2500 - 9000 K)		
Video Output	Composite video 1.0 Vpp, 75 ohm		

Synchronization

Line-Lock	(When powered by AC only) Synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (0 - 358 degrees) to allow vertical synchronization in multi-phase power installations. Free Running (When DC-supply or L/L off): Internal crystal reference is standard on all models.
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Controls

Video level
Shutter: AES / Off / Flickerless
AGC: On / Off
BLC: On / Off
Auto Black: On / Off
NightSense On / Auto / Forced
ATW: On / Hold
R-offset, B-offset
Vphase Adjustment: 0 - 358 degrees

1) For f/1.2 lens, 89% scene reflectance.

Mechanical

Connectors	- Video Output: BNC - Video/DC-iris connector: 4-pin EIA-J
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Power

LTC 0455/11 and LTC 0455/21	Push type connectors, polarity independent, isolated from video output terminals
LTC 0455/51	2-wire power cord with Euro plug
LTC 0455/61	2-wire power cord with polarized plug
Camera mounting	Top and Bottom, 1/4-inch 20 UNC
Lens mounting	C and CS
Dimensions (H x W x D)	58 x 66 x 122 mm (2.28 x 2.6 x 4.8 inch) including connectors
Weight	0.45 kg (0.99 lb)

Environmental

Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-25°C to 70°C (-13°F to 158°F)
Operating Humidity	5% to 93% non-condensing

Ordering Information

LTC 0455/11 Color Camera 1/3-inch, 540 TVL, PAL, DSP, 12 VDC/24 VAC, 50 Hz	LTC0455/11
LTC 0455/21 Color Camera 1/3-inch, 540 TVL, NTSC, DSP, 12 VDC/24 VAC, 60 Hz	LTC0455/21
LTC 0455/51 Color Camera 1/3-inch, 540 TVL, PAL, DSP, 230 VAC, 50 Hz	LTC0455/51
LTC 0455/61 Color Camera 1/3-inch, 540 TVL, NTSC, DSP, 120 VAC, 60 Hz	LTC0455/61

Accessories

LTC 3364/40 Varifocal Lens 1/3-inch, 2.8 - 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3364/40
LTC 3374/20 Varifocal Lens 1/3-inch, 5 - 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	LTC3374/20
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

1 LTC 0485 Series DinionXF Color Cameras



Features

- ▶ 15-bit DSP technology
- ▶ XF-dynamic
- ▶ Bilinx communication
- ▶ NightSense
- ▶ Default shutter
- ▶ Lens wizard
- ▶ Auto black
- ▶ Video motion detection
- ▶ 540 TVL resolution

The LTC 0485 Series of High Performance 1/3-inch Digital CCD Color Cameras create the best possible image, even under the most difficult light and scene conditions. Based on unique 15-bit digital video processing technology and employing XF-Dynamic, these cameras provide excellent sensitivity with extended dynamic range. By employing the best 1/3-inch CCD available, advanced front end processing, combined with the outstanding Dinion DSP, the cameras achieve an astonishing sensitivity, providing better color images in low light situations and sharper daytime images. Intelligent White balance algorithms, supported by a White Balance Hold function and even full manual white balance, ensure the most accurate color reproduction possible. All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, and connect power to provide optimal pictures under virtually all scene conditions. No tools are required for back focus and power connection. For extra challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). Also, to aid installation, the camera automatically detects the lens type, and using the Lens Wizard ensures accurate (back) focusing for perfectly sharp pictures at all times

Functions

XF-Dynamic

Extended dynamic range is brought to a new level on the LTC 0485 Series Camera by XF-Dynamic technology. XF-Dynamic automatically processes the highly accurate 15-bit digital signal to optimally capture the detail in both the highlight and lowlight areas of the scene simultaneously, to maximize the information visible in the picture.

Bilinx Technology

The LTC 0485 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal, the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature, enhances contrast by removing veiling glare from the picture or when contrast is reduced by fog or mist.

Default Shutter

When viewing moving objects a fast shutter speed is required. When using a fast shutter speed the lens opening or gain control needs to be increased to maintain the video signal. The camera sensitivity is limited by the fast shutter speed. The default shutter setting of the LTC 0485 offers the best of all worlds, fast shutter speed as long as there is sufficient light, however as the light level falls, when other adjustments have been exhausted, the shutter reverts to the standard setting maintaining the cameras excellent sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The LTC 0485 series automatically detects the type of lens installed. The Lens Wizard will focus the lens at the maximum lens opening, to ensure that focus is maintained throughout the entire 24-hour day/night cycle. No special tools or filters are required.

Programmable Modes

The camera supports 3 independent operating modes. The 3 modes are preprogrammed for typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

NightSense

The LTC 0485 cameras feature NightSense. With NightSense the sensitivity is increased by 9 dB in monochrome mode. NighSense can be automatically activated in low light situations, or remotely using Bilinx.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced, especially useful where there is no artificial lighting and you rely on the moon, stars and scattered radiation.

Certifications and Approvals

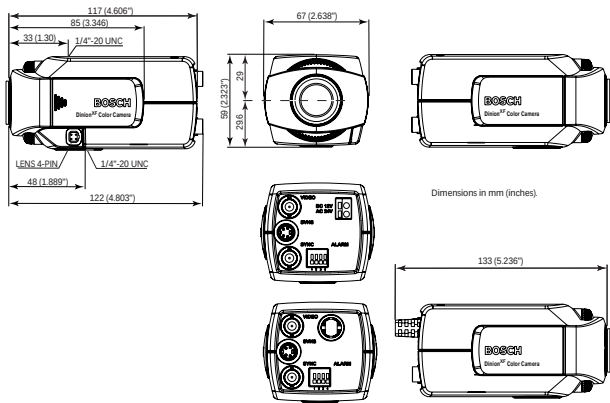
Electro Magnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

LTC 0485/11 and LTC 0485/51:	EN60065
LTC 0485/21 and LTC 0485/61:	UL6500, cUL CAN/CSA E60065-00

Installation/Configuration Notes



Dimensions in mm (inches)

Parts Included

Quantity	Components
1	LTC 0485 Series Dinion ^{XF} Color Camera
1	Spare male 4 – pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Voltage Range	
LTC 0485/11	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz
LTC 0485/21	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz
LTC 0485/51	85 - 265 VAC	45 - 65 Hz
LTC 0485/61	85 - 265 VAC	45 - 65 Hz
Power Consumption	4 W	
Imager	Interline transfer CCD 1/3-inch format	

Active Pixels

PAL	752 H x 582 V
NTSC	768 H x 492 V

Sensitivity (3200 k)

Sensitivity (Full Vid- eo) ¹⁾	2.4 lux (0.24 fc)
Sensitivity 50 IRE ¹⁾	0.59 lux / 0.24 lux (NightSense) (0.059 fc / 0.024 fc (NightSense))
Minimum Illumination ¹⁾	0.24 lux / 0.10 lux (NightSense) (0.024 fc / 0.01 fc (NightSense))
Minimum Illumination with Sens Up	0.024 lux / 0.010 lux (NightSense) (0.0024 fc / 0.0010 fc (NightSense))
Horizontal Resolution	540 TVL
Signal-to-Noise-Ratio	> 50 dB
Video Output	1 Vpp, 75 ohm
Y/C Output	Y: 1 Vpp / C: 0.3 Vpp
Synchronization	Internal, line lock, HV-lock and genlock (Burst lock) selectable
Electronic Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity up	Off, automatic continuous up to 10x
Auto Black	On, off selectable
Range	32x dynamic range enhancement
Dynamic Noise Reduc- tion	Auto, off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, area and level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
White Balance	ATW (2500 - 10000 K), AWB hold, Manual WB se- lectable
VMD	4 area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input (TTL)	Profile switching, +5 V nominal, +40 VDC max.
Alarm Output Relay	max. 30 VAC or +40 VDC, max. 0,5 A continuous, 10 VA

Electrical

External Synchronalln- 75 ohm or High Impedance selectable put

Cable Compensation	Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-iris auto-detect with override DC-iris drive: max. 50 mA continuous Video-iris: 11.5 ± 0.5 VDC, max. 50 mA continuous
Remote Control	Bi-directional coaxial communication

1) F1.2, 89% reflection, SensUp Off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC
Lens Mount	Cand CS
Controls	OSD with softkey operation

Environmental

Operating Temperature	-20 °C to +50 °C (-4 °F to +122 °F)
Storage Temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

LTC 0485/11 DinionXF Color Camera	LTC0485/11
1/3-inch, high performance, 540 TVL, PAL, DSP, 12 – 28 VAC/11 – 39 VDC, 50 Hz	
LTC 0485/21 DinionXF Color Camera	LTC0485/21
1/3-inch, high performance, 540 TVL, NTSC, DSP, 12 – 28 VAC/11 – 39 VDC, 60 Hz	
LTC 0485/51 DinionXF Color Camera	LTC0485/51
1/3-inch, high performance, 540 TVL, PAL, DSP, 85 – 268 VAC, 50 Hz	
LTC 0485/61 DinionXF Color Camera	LTC0485/61
1/3-inch, high performance, 540 TVL, NTSC, DSP, 85 – 265 VAC, 60 Hz	

Accessories

LTC 3364/21 Varifocal Lens IR corrected	LTC3364/21
1/3-inch, 2.8 – 6 mm, DC-iris, CS-mount F1.4-200, 4-pin	
LTC 3364/31 Varifocal Lens	LTC3364/31
1/3-inch, 3.5 – 8 mm, DC-iris, CS-mount F1.4-200, 4-pin	
LTC 3364/40 Varifocal Lens	LTC3364/40
1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	
LTC 3374/20 Varifocal Lens	LTC3374/20
1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	
LTC 3384/21 Zoom Lens	LTC3384/21
1/3-inch, 6 – 60 mm, DC-iris, CS-mount F1.4-360, 4-pin	

Ordering Information

TC 120PS Power Supply Unit	TC120PS
110-120 VAC/15 VDC, 50/60 Hz, 300mA	
TC 220PS Power Supply Unit	TC220PS
230 VAC/12 VDC, 50 Hz, 10 VA	
TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	
TC 1334 Power Supply Unit	TC1334
120 VAC/24 VAC, 60 Hz, 30 VA	

Software Options

VP-CFGSFT Configuration Software	VP-CFGSFT
for cameras using Bilinx, includes VP-USB Adaptor	

LTC 0610 Series DinionXF Color Cameras



Features

- ▶ 15-bit DSP technology
- ▶ XF-Dynamic
- ▶ Bilinx communication
- ▶ NightSense
- ▶ Default shutter
- ▶ Lens wizard
- ▶ Auto black
- ▶ Video motion detection
- ▶ 540 TVL resolution

The LTC 0610 Series of High Performance 1/2-inch Digital CCD Color Cameras create the best possible image, even under the most difficult light and scene conditions. Based on unique 15-bit digital video processing technology and employing XF-Dynamic, these cameras provide the ultimate sensitivity with extended dynamic range. By employing the best 1/2-inch CCD available, advanced front end processing, combined with the outstanding Dinion DSP, the cameras achieve an astonishing sensitivity, providing better color images in low light situations and sharper daytime images.

Intelligent White balance algorithms, supported by a White Balance Hold function and even full manual white balance, ensure the most accurate color reproduction possible. All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, and connect power to provide optimal pictures under virtually all scene conditions. No tools are required for back focus and power connection.

For extra challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). Also, to aid installation, the camera automatically detects the lens type, and using the Lens Wizard ensures accurate (back) focusing for perfectly sharp pictures at all times.

Functions

XF-Dynamic

Extended dynamic range is brought to a new level on the LTC 0610 Series Camera by XF-Dynamic technology. XF-Dynamic automatically processes the highly accurate 15-bit digital signal to optimally capture the detail in both the highlight and lowlight areas of the scene simultaneously, to maximize the information visible in the picture.

Bilinx Technology

The LTC 0610 series cameras incorporate Bilinx. Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. With Bilinx technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate setup and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal, the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature, enhances contrast by removing veiling glare from the picture or when contrast is reduced by fog or mist.

Default Shutter

When viewing moving objects a fast shutter speed is required. When using a fast shutter speed the lens opening or gain control needs to be increased to maintain the video signal. The camera sensitivity is limited by the fast shutter speed. The default shutter setting of the LTC 0610 offers the best of all worlds, fast shutter speed as long as there is sufficient light, however as the light level falls, when other adjustments have been exhausted, the shutter reverts to the standard setting maintaining the cameras excellent sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The LTC 0610 series automatically detects the type of lens installed. The Lens Wizard will focus the lens at the maximum lens opening, to ensure that focus is maintained throughout the entire 24-hour day/night cycle. No special tools or filters are required.

Programmable Modes

The camera supports three independent operating modes. The 3 modes are preprogrammed for typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

NightSense

The LTC0610 cameras feature NightSense. With NightSense the sensitivity is increased by 9 dB in monochrome mode. NightSense can be automatically activated in low light situations, or remotely using Bilinx.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced, especially useful where there is no artificial lighting and you rely on the moon, stars and scattered radiation.

Certifications and Approvals

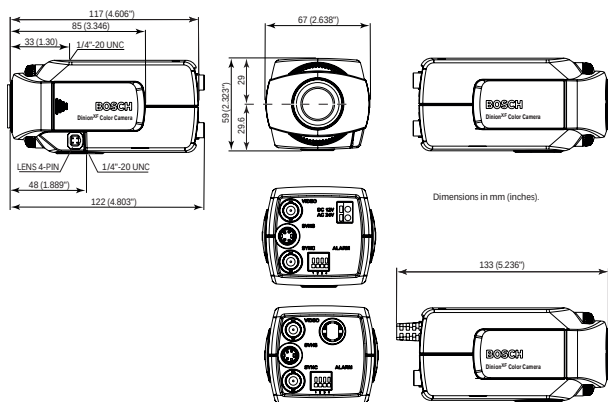
Electro Magnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

LTC 0610/11 and LTC 0610/51: EN60065
LTC 0610/21 and LTC 0610/61: UL6500, cUL CAN/CSA E60065-00

Installation/Configuration Notes



Dimensions in mm (inches)

Parts Included

Quantity	Components
1	LTC 0610 Series Dinion ^{XF} Color Camera
1	Spare male 4 – pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	
LTC 0610/11	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz
LTC 0610/21	12 - 28 VAC 11 - 39 VDC	45 - 65 Hz
LTC 0610/51	85 - 265 VAC	45 - 65 Hz
LTC 0610/61	85 - 265 VAC	45 - 65 Hz
Power Consumption	4W	
Imager	Interline CCD type 1/2-inch image format	

Active Pixels

PAL Models	752 H x 582 V
NTSC Models	768 H x 492 V

Sensitivity (3200 k)

Sensitivity (Fullvideo) ¹⁾	1.4 lx (0.14 fc)
Sensitivity 50 IRE ¹⁾	0.35 lux / 0.14 lux (NightSense) (0.035 fc / 0.014 fc (NightSense))
Minimum Illumination ¹⁾	0.18 lux / 0.08 lux (NightSense) (0.018 fc / 0.008 fc (NightSense))
Minimum Illumination with Sens Up	0.018 lux / 0.008 lux (NightSense) (0.0018 fc / 0.0008 fc (NightSense))
Horizontal Resolution	540 TVL
Signal-to-Noise-Ratio	> 50dB
Video Output	1Vpp, 75 ohm
Y/C Output	Y: 1Vpp / C: 0.3Vpp
Synchronization	Internal, Line Lock, HV-lock and Genlock (Burst lock) selectable
Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Night Sense	Auto, forced, off
Sensitivity up	Off, automatic continuous up to 10x
Auto Black	On, off selectable
Dynamic Range	32x dynamic range enhancement
Dynamic Noise Reduction	Auto, off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, area and level selectable
Gain	Auto (maximum level selectable to 28dB) or fixed level selectable
Lens Mount	C and CS
White Balance	ATW (2500 - 10000K), AWB hold, Manual WB selectable
VMD	four area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input (TTL)	Profile switching, +5 V nominal, +40 VDC max.

Electrical

Alarm Output Relay	max. 30 VAC or +40 VDC, max. 0,5 A continuous, 10 VA
External Synchronal Input	75 ohm or High Impedance selectable
Cable Compensation	Up to 1000m (3000ft) coax without external amplifiers (automatic setup in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-iris auto-detect with override DC-iris drive: max 50mA continuous Video-iris: 11.5 ± 0.5 VDC, max. 50mA continuous
Remote Control	Bi-directional coaxial communication

1) F/1.2, 89% reflection, SenseUp off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC
Controls	OSD with softkey operation

Environmental

Operating Temperature	-20 °C to +50 °C (-4 °F to +122 °F)
Storage Temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

LTC 0610/11 Dinion XF Color Camera	LTC0610/11
1/2-inch, high performance, 540 TVL, PAL, DSP, 12 – 28 VAC/11 – 39 VDC, 50 Hz	
LTC 0610/21 DinionXF Color Camera	LTC0610/21
1/2-inch, high performance, 540 TVL, NTSC, DSP, 12 – 28 VAC/11 – 39 VDC, 60 Hz	
LTC 0610/51 DinionXF Color Camera	LTC0610/51
1/2-inch, high performance, 540 TVL, PAL, DSP, 85 – 265 VAC, 50 Hz	
LTC 0610/61 DinionXF Color Camera	LTC0610/61
1/2-inch, high performance, 540 TVL, NTSC, DSP, 85 – 265 VAC, 60 Hz	

Accessories

LTC 3264/30 Varifocal Lens	LTC3264/30
1/2-inch, 4.5 – 10 mm, DC-iris, CS-mount F1.6-360, 4-pin	
LTC 3274/41 Varifocal Lens	LTC3274/41
1/2-inch, 7.5 – 75 mm, DC-iris, C-mount, F1.7-360, 4-pin	
LTC 3283/20 Zoom Lens	LTC3283/20
1/2-inch, 8.0 – 48 mm, Video-iris, CS-mount F1.4-360, 4-pin	
TC 120PS Power Supply Unit	TC120PS
110-120 VAC/15 VDC, 50/60 Hz, 300mA	
TC 220PS Power Supply Unit	TC220PS
230 VAC/12 VDC, 50 Hz, 10 VA	

Ordering Information

TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	
TC 1334 Power Supply Unit	TC1334
120 VAC/24 VAC, 60 Hz, 30 VA	

Software Options

VP-CFGSFT Configuration Software	VP-CFGSFT
for cameras using Bilinx, includes VP-USB Adaptor	

V118xP Bullet Cameras



Features

- ▶ Choice of color or black & white camera
- ▶ Rugged die-cast aluminum housing
- ▶ Mounting bracket supplied
- ▶ Resistant to vandalism
- ▶ Easy to install

The V1180P and V1182P provide a wide range of features. These small, sleek, rugged cameras can be easily installed in almost any architectural design and provide the ultimate in anti-vandalism protection with their diecast aluminum housings. The V1180P and V1182P are even submersible in water to a depth of 3 m.

These cameras provide a variety of features that make choosing the best camera for a particular application easy and affordable.

The Black & White fixed focus (3.6-mm) camera (V1180P) delivers 380 TV lines of horizontal resolution with a signal-to-noise ratio greater than 50 dB at light levels as low as 0.03 lux.

The color fixed focus camera (V1182P) provides 330 TV lines of horizontal resolution with a signal-to-noise ratio greater than 46 dB at light levels as low as 0.3 lux through its 3.6-mm lens.

Technical Specifications

Electrical – V1180P

Power

Input Voltage	12 VDC
Input Current	<160 mA

Video

Pick-up Device	B/W 1/3-in. CCD, CCD Area Sensor; 512 (H) x 582 (V)
SYNC System	Internal
Output	1.0 to 1.1 Vpp CCIR Composite

Electrical – V1180P

Minimum Illumination	0.03 lux (0.003 fc)
Gamma	0.45
Backlight Compensation	On

Lens & Iris

Lens	3.6 mm monofocal
Auto-iris	CCD shutter iris
Iris Speed	1/50–1/50000
Signal-to-Noise-Ratio	>50 dB
Horizontal Resolution	>380 TVL
Submersible Depth	3 m

Mechanical

Dimensions (H x Dia.)	57 x 19 mm (2.24 x 0.75 in.)
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Environmental

Ambient Temperature	-10°C to +50°C
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Electrical – V1182P

Power

Input Voltage	12 VDC
Input Current	<120 mA

Video

Pick-up Device	Color 1/3-inch CCD, Interline Transfer; 512 (H) x 582 (V)
SYNC System	Internal
Output	1 Vpp PAL Composite
Minimum Illumination	0.3 lux (0.03 fc) (F1.2 10 IRE)
Gamma	0.45
Backlight Compensation	On

Lens & Iris

Lens	3.6 mm monofocal
Auto-iris	CCD shutter iris
Iris Speed	1/50–1/100000
Signal-to-Noise-Ratio	>46 dB
Horizontal Resolution	>330 TVL
Submersible Depth	3 m

Mechanical

Dimensions (H x Dia.)	71 x 21 mm (2.8 x 0.83 in.)
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Environmental

Ambient Temperature	-10°C to +50°C
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Ordering Information

V1180P Monochrome Bullet Camera V1180P

1/3-inch, indoor, B/W CCIR, 380 TVL, 3.6 mm,
12 VDC

V1182P Color Bullet Camera V1182P

1/3-inch, indoor, 380 TVL, PAL, 3.6 mm,
12 VDC

1 LTC 0495 Series DinionXF Day Night Cameras



Features

- ▶ 15-bit DSP Technology
- ▶ High sensitivity
- ▶ Mechanically switching IR filter for IR sensitivity at night
- ▶ XF-Dynamic for unsurpassed wide dynamic range
- ▶ Bilinx Communication for remote set-up and control
- ▶ Default Shutter eliminates motion blurring
- ▶ Four area video motion detection
- ▶ 540 TVL resolution

The LTC 0495 High Performance 1/3-inch Digital CCD Day/ Night Camera ensures the highest image quality possible at any time. Depending on the available light the camera will automatically switch from color to monochrome.

A unique combination of 15-bit digital video processing that enhances sensitivity and XF-Dynamic which extends the dynamic range provides a sharper, more detailed image with outstanding accuracy in color reproduction.

All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, then connect power. No tools are required for back focus and power connection. For especially challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). The camera automatically detects the lens type. The Lens Wizard ensures accurate back-focusing for perfectly sharp pictures at all times.

Functions

XF-Dynamic

The highly accurate 15-bit digital signal is automatically processed to optimally capture the detail in both the high and low light areas of the scene simultaneously, maximizing the information visible in the picture.

Bilinx Technology

Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. Technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal while the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature enhances contrast by compensating for reduced contrast (i.e. glare, fog, mist).

Default Shutter

The LTC 0495 features a fast, default shutter speed in sufficient lighting conditions to capture moving objects. When light levels fall and other adjustments have been exhausted, the shutter speed reverts to the standard setting to maintain sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

Programmable Modes

Three independent, preprogrammed operating modes support typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

Day/Night Mode

The Day/Night Mode LTC 0495 provides enhanced night viewing by increasing the IR sensitivity. The IR filter can switch from color to monochrome automatically by either sensing the illumination level or via the alarm input. The filter can be switched manually via the alarm input, through the camera menu or via the Bilinx coaxial control interface. An internal through the lens IR detector enhances the monochrome mode stability, as it prevents reverting to the color mode when IR illumination is dominant.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced. This is especially useful when relying only on moonlight for illumination.

Certifications and Approvals

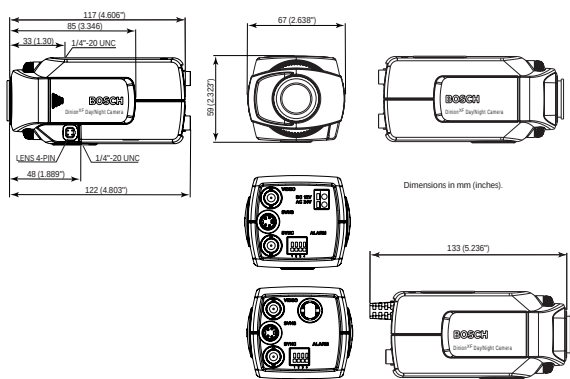
Electro Magnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

LTC 0495/11 and LTC 0495/51: EN60065
LTC 0495/21 and LTC 0495/61: UL6500, cUL CAN/CSA E60065-00

Installation/Configuration Notes



Dimensions in mm (inches)

Parts Included

Quantity	Component
1	LTC 0495 Series Dinion ^{XF} Day/Night Camera
1	C/CS – mount conversion ring
1	Spare male 4 – pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	
LTC 0495/11	12 - 28 VAC	45 - 65 Hz
	11 - 39 VDC	
LTC 0495/21	12 - 28 VAC	45 - 65 Hz
	11 - 39 VDC	
LTC 0495/51	110 - 240 VAC	45 - 65 Hz
LTC 0495/61	110 - 240 VAC	45 - 65 Hz
Power Consumption	4 W	
CCD Type	1/3-inch interline	

Electrical

Active Pixels

PAL Model:	752 x 582
NTSC Model	768 x 492
Sensitivity (3200 k)	
Sensitivity (Full video) ¹⁾	2.4 lux (0.24 fc)
Sensitivity 50 IRE ¹⁾	0.59 lux / 0.08 lux (Monochrome mode)
Minimum illumination ¹⁾	0.24 lux / 0.038 lux (Monochrome mode)
Minimum Illumination with Sens Up	0.024 lux / 0.0038 lux (Monochrome mode)
Horizontal Resolution	540 TVL
Signal-to-Noise Ratio	> 50 dB
Video Output	1 Vpp, 75 ohm
Y/C Output	Y: 1 Vpp / C: 0.3 Vpp
Synchronization	Internal, Line Lock, HV-lock and Genlock (Burst lock) selectable
Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity up	Off, Automatic continuous up to 10x
Auto Black	On, Off selectable
Range	32x dynamic range enhancement
Dynamic Noise Reduction	Auto, Off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, Area and Level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch)
White Balance	ATW (2500 - 10000 K), AWB hold, Manual WB selectable
VMD	4 area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input	Profile switching, +5 V nominal, +40 VDC max (TTL)
Alarm Output Relay	max. 30 VAC or +40 VDC, Max 0,5 A continuous, 10 VA
External Synchronal Input	75 ohm or High Impedance selectable
Cable Compensation	Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-Iris auto-detect with override DC-iris drive: max. 50 mA continuous Video-iris: 11.5 ± 0.5 VDC, max 50 mA continuous
Remote Control	Bilinx coaxial communication

1) F/1.2, 89% reflection, SenseUp off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC

Mechanical

Controls OSD with softkey operation

Environmental

Operating Temperature	-20°C to +50°C (-4°F to 122°F)
Storage Temperature	-25°C to +70°C (-13°F to +158°F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

LTC 0495/11 DinionXF Day Night Camera 1/3-inch, high performance, 540 TVL, PAL, DSP, 12 – 28 VAC/11 – 39 VDC, 50 Hz	LTC0495/11
LTC 0495/21 DinionXF Day Night Camera 1/3-inch, high performance, 540 TVL, NTSC, DSP, 12 – 28 VAC/11 – 39 VDC, 60 Hz	LTC0495/21
LTC 0495/51 DinionXF Day Night Camera 1/3-inch, high performance, 540 TVL, PAL, DSP, 110 – 240 VAC, 50 Hz	LTC0495/51
LTC 0495/61 DinionXF Day Night Camera 1/3-inch, high performance, 540 TVL, NTSC, DSP, 12 – 28 VAC, 60 Hz	LTC0495/61

Accessories

LTC 3364/21 Varifocal Lens IR corrected 1/3-inch, 2.8 – 6 mm, DC-iris, CS-mount F1.4-200, 4-pin	LTC3364/21
LTC 3764/20 Varifocal Lens IR corrected 1/2-inch, 4 – 12 mm, DC-iris, C-mount, F1.2-360, 4-pin	LTC3764/20
LTC 3774/30 Varifocal Lens IR corrected 1/2-inch, 10 – 40 mm, DC-iris, C-mount, F1.4-360, 4-pin	LTC3774/30
LTC 3783/50 Zoom Lens IR corrected 1/2-inch, 8.5 – 85 mm, Video-iris, C-mount F1.6-360, 4-pin	LTC3783/50
LTC 3793/50 Zoom Lens IR corrected 1/2-inch, 8 – 144 mm, Video-iris, C-mount, F1.6-360, 4-pin	LTC3793/50
LTC 3664/40 Varifocal Lens IR corrected 1/3-inch, 2.8 – 11 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3664/40
LTC 3664/30 Varifocal Lens IR corrected 1/3-inch, 3.0 – 8 mm, DC-iris, CS-mount F1.0-360, 4-pin	LTC3664/30
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

Software Options

VP-CFGSFT Configuration Software for cameras using Bilinx, includes VP-USB Adap- tor	VP-CFGSFT
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LTC 0620 Series DinionXF Day Night Cameras



Features

- ▶ 15-bit DSP Technology
- ▶ Superb sensitivity
- ▶ Mechanically switching IR filter for IR sensitivity at night
- ▶ XF-Dynamic for unsurpassed wide dynamic range
- ▶ Bilinx Communication for remote set-up and control
- ▶ Default Shutter eliminates motion blurring
- ▶ Four area video motion detection
- ▶ 540 TVL resolution

The LTC 0620 High Performance 1/2-inch Digital CCD Day/Night Camera ensures the highest image quality possible at any time. Depending on the available light the camera will automatically switch from color to monochrome.

A unique combination of 15-bit digital video processing that enhances sensitivity and XF-Dynamic which extends the dynamic range provides a sharper, more detailed image with outstanding accuracy in color reproduction.

All Dinion cameras are supplied ready to operate. Simply attach and focus the lens, then connect power. No tools are required for back focus and power connection. For especially challenging situations where fine tuning or special settings are required, the camera parameters can be individually set using the control buttons on the side of the camera and On-screen Display (OSD). The camera automatically detects the lens type. The Lens Wizard ensures accurate back-focusing for perfectly sharp pictures at all times.

Functions

XF-Dynamic

The highly accurate 15-bit digital signal is automatically processed to optimally capture the detail in both the high and low light areas of the scene simultaneously, maximizing the information visible in the picture.

Bilinx Technology

Bilinx is a bidirectional communication capability embedded in the video signal of all Bosch Dinion cameras. Technicians can check status, change camera settings and even update firmware from virtually anywhere along the video cable. Bilinx reduces service and installation time, provides for more accurate set-up and adjustment, and improves overall performance. In addition, Bilinx uses the standard video cable to transmit alarm and status messages, providing superior performance without additional installation steps.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden lighting condition changes, such as switching on or off the indoor or security lighting. When motion is detected alarms may be displayed in the video signal while the output relay can be closed in addition to alarm message transmission on Bilinx.

Auto Black

The automatic black level feature enhances contrast by compensating for reduced contrast (i.e. glare, fog, mist).

Default Shutter

The LTC 0620 features a fast, default shutter speed in sufficient lighting conditions to capture moving objects. When light levels fall and other adjustments have been exhausted, the shutter speed reverts to the standard setting to maintain sensitivity.

Back Light Compensation (BLC)

Offering a fully programmable BLC area of interest, and a variable BLC level, the camera can be easily set up for even the most challenging entrance applications.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

Programmable Modes

Three independent, preprogrammed operating modes support typical applications, but are fully programmable for individual situations. Switching between modes is easy via Bilinx or the external alarm input.

Day/Night Mode

The Day/Night Mode LTC 0620 provides enhanced night viewing by increasing the IR sensitivity. The IR filter can switch from color to monochrome automatically by either sensing the illumination level or via the alarm input. The filter can be switched manually via the alarm input, through the camera menu or via the Bilinx coaxial control interface. An internal through the lens IR detector enhances the monochrome mode stability, as it prevents reverting to the color mode when IR illumination is dominant.

SensUp

By increasing the integration time on the CCD up to 10 times, the effective sensitivity is dramatically enhanced. This is especially useful when relying only on moonlight for illumination.

Certifications and Approvals

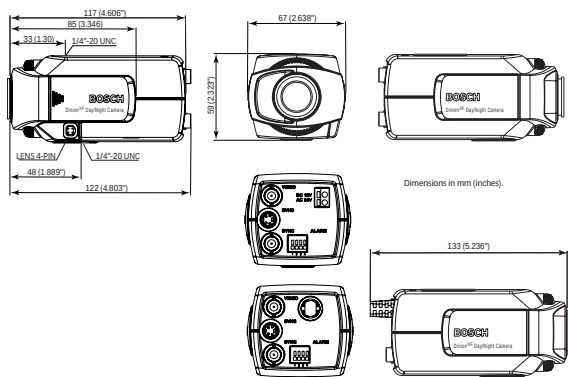
Electro Magnetic Compatibility

Emission	EN55022 class B, FCC class B part 15
Immunity	EN50130-4 Alarm Systems, Part 4
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-27

Safety

LTC 0620/11 and LTC 0620/51: EN60065
LTC 0620/21 and LTC 0620/61: UL6500, cUL CAN/CSA E60065-00

Installation/Configuration Notes



Dimensions in mm (inches)

Parts Included

Quantity	Component
1	LTC 0620 Series Dinion ^{XF} Day/Night Camera
1	C/CS – mount conversion ring
1	Spare male 4-pin lens connector
	Lens not included

Technical Specifications

Electrical

Model No.	Rated Voltage	
LTC 0620/11	12 – 28 VAC	45 – 65 Hz
	11 – 39 VDC	
LTC 0620/21	12 – 28 VAC	45 – 65 Hz
	11 – 39 VDC	
LTC 0620/51	85 – 265 VAC	45 – 65 Hz
LTC 0620/61	85 – 265 VAC	45 – 65 Hz
Power Consumption	4 W	
Imager	Interline transfer CCD	
	1/2-inch image format	

Electrical

Active Pixels

PAL Model	752 H x 582 V
NTSC Model	768 H x 492 V

Sensitivity (3200 k)

Sensitivity (Full video) ¹⁾	1.4 lux (0.14 fc)
Sensitivity 50 IRE ¹⁾	0.31 lux / 0.052 lux (0.031 fc / 0.0052 fc) (Monochrome Mode)
Minimum illumination ¹⁾	0.18 lux / 0.024 lux (0.018 fc / 0.0025 fc) (Monochrome Mode)
Minimum Illumination with Sens Up	0.018 lux / 0.0024 lux (0.0018 fc / 0.00024 fc) (Monochrome Mode)
Horizontal Resolution	540 TVL
Signal-to-Noise-Ratio	> 50 dB
Video Output	1 Vpp, 75 ohm
Y/C Output	Y: 1 Vpp / C: 0.3 Vpp
Synchronization	Internal, Line Lock, HV-lock and Genlock (Burst lock) selectable
Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity up	Off, automatic continuous up to 10x
Auto Black	On, off selectable
Range	32x dynamic range enhancement
Noise Reduction	Auto, off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, area and level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch)
White Balance	ATW (2500 - 10000 K), AWB hold, manual WB selectable
VMD	4 area, sensitivity selectable
Alarm Output	VMD or Bilinx
Alarm Input	Profile switching, +5 V nominal, +40 VDC max. (TTL)
Alarm Output Relay	max. 30 VAC or +40 VDC, max. 0.5 A continuous, 10 VA
External Synchronal Input	75 ohm or high impedance selectable
Cable Compensation	Up to 1000 m (3000 ft) coax without external amplifiers (automatic set-up in combination with coaxial communication)
Camera ID	16 character editable string, position selectable
Lens Types	Manual, DC- and Video-iris auto-detect with override DC-iris drive: max. 50 mA continuous Videoiris: 11.5 ± 0.5 VDC, max. 50 mA continuous
Remote Control	Bilinx coaxial communication

1) F/1.2, 89% reflection, SenseUp off

Mechanical

Dimensions (H x W x L)	59 x 67 x 122 mm (2.28 x 2.6 x 4.8 inch) without lens
Weight	450 g (0.99 lbs) without lens
Tripod Mount	Bottom (isolated) and top 1/4-inch 20 UNC
Controls	OSD with softkey operation

Environmental

Operating Temperature	-20 °C to +50 °C (-4 °F to +122 °F)
Storage Temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Operating Humidity	20% to 93% RH
Storage Humidity	up to 98% RH

Ordering Information

LTC 0620/11 DinionXF Day Night Camera 1/2-inch, high performance, 540 TVL, PAL, DSP, 12 – 28 VAC/11 – 39 VDC, 50 Hz	LTC0620/11
LTC 0620/21 DinionXF Day Night Camera 1/2-inch, high performance, 540 TVL, NTSC, DSP, 12 – 28 VAC/11 – 39 VDC, 60 Hz	LTC0620/21
LTC 0620/51 DinionXF Day Night Camera 1/2-inch, high performance, 540 TVL, PAL, DSP, 85 – 265 VAC, 50 Hz	LTC0620/51
LTC 0620/61 DinionXF Day Night Camera 1/2-inch, high performance, 540 TVL, NTSC, DSP, 85 – 265 VAC, 60 Hz	LTC0620/61

Accessories

LTC 3764/20 Varifocal Lens IR corrected 1/2-inch, 4 – 12 mm, DC-iris, C-mount, F1.2-360, 4-pin	LTC3764/20
LTC 3774/30 Varifocal Lens IR corrected 1/2-inch, 10 – 40 mm, DC-iris, C-mount, F1.4-360, 4-pin	LTC3774/30
LTC 3783/50 Zoom Lens IR corrected 1/2-inch, 8.5 – 85 mm, Video-iris, C-mount F1.6-360, 4-pin	LTC3783/50
LTC 3793/50 Zoom Lens IR corrected 1/2-inch, 8 – 144 mm, Video-iris, C-mount, F1.6-360, 4-pin	LTC3793/50
TC 120PS Power Supply Unit 110-120 VAC/15 VDC, 50/60 Hz, 300mA	TC120PS
TC 220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
TC 1334 Power Supply Unit 120 VAC/24 VAC, 60 Hz, 30 VA	TC1334

Software Options

VP-CFGSFT Configuration Software for cameras using Bilinx, includes VP-USB Adap- tor	VP-CFGSFT
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1 NWC-0455 Dinion IP Cameras



Features

- ▶ Advanced Color CCD Network Camera
- ▶ DVD-quality up to 25/30 IPS at 4CIF
- ▶ Storage efficient tri-streaming: Dual MPEG-4 and JPEG simultaneously
- ▶ Power over Ethernet (IEEE 802.3af compliant)
- ▶ Hybrid IP camera with analog and Ethernet outputs
- ▶ NightSense for lowlight situations
- ▶ Ultra-compact size

The NWC-0455 Dinion IP is a 1/3-inch CCD digital color network camera, designed to ensure the highest possible image quality at all times. This ultra-compact camera provides DVD-like quality MPEG-4 video at up to 25 and 30 images per second (for PAL and NTSC respectively). Dinion IP is a true hybrid camera with both Ethernet and BNC connections capable of providing direct network connection while simultaneously supporting existing analog equipment. Network video signals are sent over IP networks and can be received and displayed on a PC web browser, using the DiBos or VIDOS video management systems, or via a BOSCH Video over IP (BVIP) decoder for viewing on a CVBS or VGA monitor. The BNC connection provides direct input to a conventional analog matrix switcher or DVR, which further enhances Dinion IP's flexible viewing and recording options.

Dinion IP uses MPEG-4 compression, bandwidth throttling, and multicasting capabilities to efficiently manage bandwidth and storage requirements while delivering the best quality image quality and resolution. On-screen Displays (OSD) simplify back focus adjustment and network configuration, leading to lower installation and support costs. Power over Ethernet (PoE) makes installation easier and more cost-effective because cameras can now be installed where there is no AC power outlet.

Functions

MPEG4 video encoding

The Dinion MPEG-4 encoder creates high-quality streaming video at low bit rates, minimizing bandwidth and storage requirements, which further reduces costs. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.

Tri-streaming Video

Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs. For example, BOSCH Video over IP Systems (BVIP) can be configured to record video at one quality setting (e.g. 3.75IPS at 2CIF), while simultaneously providing live images at the best possible image quality (e.g. 30IPS at 4CIF). Alternatively, the system can be configured to deliver a high bandwidth MPEG-4 stream to a local LAN user, while simultaneously streaming a low bandwidth MPEG-4 stream to a remote user over a WAN connection and at the same time using the JPEG stream for remote viewing, for instance, on a PDA.

Power Options

Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0455. Utilizing PoE makes installation easier and more cost-effective since cameras do not require a local AC power source. Additionally, they can use an uninterruptible power supply (UPS), which will allow for continuous operation even when there's a power failure e.g. in emergencies.

OSD-based network set-up

Network parameters and basic camera set-up (e.g. lens set-up and back focus) are quickly and easily performed using the On-screen Displays (OSD) and BNC composite video output. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

NightSense

NightSense is used to further extend the excellent sensitivity by a factor of 3 in monochrome operation. This mode can be automatically activated under low light conditions.

Certifications and Approvals

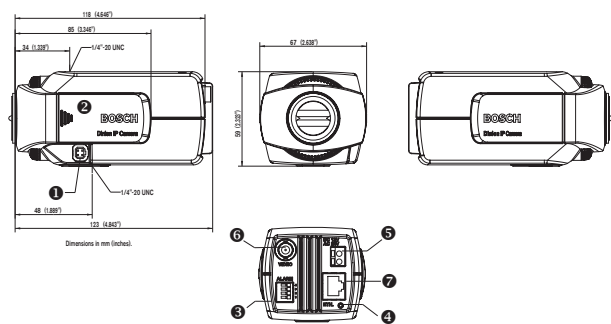
Electro Magnetic Compatibility

Emission EU	EN55022 class B
	EN 61000-3-2, EN 61000-3-3
Emission USA	FCC CFR 47 part 15 class B
Immunity EU	EN50130-4 Alarm Systems
EMC Australian	AS/NZS CISPR 22 (equal to CISPR 22)
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-6

Safety

EU	EN60950-1
USA + Canada	UL60950-1, CAN/CSA E60950-1

Installation/Configuration Notes



Dimensions

1	Lens connector	5	Power supply input
2	Control buttons	6	BNC Video output
3	Alarm in, Relay out	7	10/100 Base-T Fast Ethernet
4	LED (power, link, traffic)		

Parts Included

Quantity	Components
1	Dinion IP camera
1	Spare lens connector
1	Quick installation guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	MPEG-4; M-JPEG
Video Data Rate	9.6 Kbps - 6 Mbps Constant & variable
Image Resolution	752x582 (PAL) 768x494 (NTSC)
Video Resolution	704 x 576/480 (4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay (IP)	MPEG-4: 100 ms
Select. Frame Rate	1-25/30 IPS (PAL/NTSC); Field / frame based coding
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP
Software Update	Flash ROM, remote programmable
Configuration	Via web browser, built-in web server interfaces
Video Out	1x Analog composite: NTSC or PAL; BNC connector 75 Ohm
Sensitivity ¹	0.65 lux (0.065 fc) (color) 0.26 lux (0.026 fc) (NightSense)
Minimum Illumination	0.30 lux (0.03 fc) (color) 0.12 lux (0.012 fc) (NightSense)
Video Signal-to-Noise Ratio	50 dB
Video Signal Gain	21 dB, (max)

Electrical

Electronic Shutter	Automatic, 1/50 to 1/125000 sec. (PAL), 1/60 to 1/150000 sec. (NTSC)
Aperture Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting
White Balance	Automatic sensing (2500 - 9000 K)
Alarm In	+5 V nominal, +40 VDC max
Relay Out	Max. 30 VAC or +40 VDC, Max 0,5 A continuous, 10 VA
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45

1) 50% video signal amplitude, F1.2, scene reflectivity 89%

Environmental

Input Voltage	VDC: 11-36 V (700 mA) VAC: 12-28 V (700 mA) PoE: IEEE 802.3af compliant
Power Consumption	Max. 8 VA
Weight	Approx. 0.45 kg (0.99 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F)
Humidity	20 - 80%, Relative humidity (not condensing)

Ordering Information

NWC-0455-10P Dinion IP Camera 1/3-inch color network camera, PAL, 24 VAC/12 VDC/PoE, 50 Hz	NWC-0455-10P
NWC-0455-20P Dinion IP Camera 1/3-inch color network camera, NTSC, 24 VAC / 12 VDC / PoE, 60 Hz	NWC-0455-20P
Software Options NWC-04X5-FS1 Dinion IP IVMD 1.0 VCA License	NWC04X5FS1

1 NWC-0495 DinionXF Day/Night IP Cameras



Features

- ▶ Advanced Day/Night camera with mechanically switching IR filter
- ▶ 15-bit DSP technology with XF-dynamic extended dynamic range
- ▶ DVD-quality up to 25/30 IPS at 4CIF
- ▶ Storage efficient tri-streaming : Dual MPEG-4 and JPEG simultaneously
- ▶ Power over Ethernet (IEEE 802.3af compliant)
- ▶ Hybrid IP camera with analog and Ethernet outputs
- ▶ Ultra-compact size

The NWC-0495 Dinion IP is a high-performance 1/3-inch CCD Day/Night network camera, designed to ensure the highest possible image quality at all times. This ultra-compact camera provides DVD-like quality MPEG-4 video at up to 25 and 30 images per second (for PAL and NTSC respectively). Dinion IP is a true hybrid camera with both Ethernet and BNC connections capable of providing direct network connection while simultaneously supporting existing analog equipment. Network video signals are sent over IP networks and can be received and displayed on a PC web browser, using the DiBos or VIDOS video management systems, or via a BOSCH Video over IP (BVIP) decoder for viewing on a CVBS or VGA monitor. The BNC connection provides direct input to a conventional analog matrix switcher or DVR, which further enhances Dinion IP's flexible viewing and recording options.

The camera combines 15-bit digital video processing (which enhances sensitivity) and XF-Dynamic (which extends the dynamic range) to provide a sharper, more detailed image with outstanding accuracy in color reproduction. Depending on the available light, the NWC-0495 automatically switches from color to monochrome, enhancing sensitivity for IR illumination to provide high-quality images even in challenging low-light conditions.

Dinion IP uses MPEG-4 compression, bandwidth throttling, and multicasting capabilities to efficiently manage bandwidth and storage requirements while delivering the best image quality and resolution. On-screen Displays (OSD) simplify back focus adjustment and network configuration, leading to lower installation and support costs. Power over Ethernet (PoE) makes installation easier and more cost-effective because cameras can now be installed where there is no AC power outlet.

Functions

Day/Night Mode

In Day/Night Mode, the NWC-0495 provides enhanced night viewing by increasing the IR sensitivity. The IR filter can switch automatically from color to monochrome by either sensing the illumination level or via the alarm input. The filter can be switched manually via the alarm input, or remotely via a web browser. An internal, through-the-lens IR detector enhances monochrome mode stability by preventing the camera returning to the color mode when IR illumination is dominant.

XF-Dynamic

The highly accurate 15-bit digital signal is automatically processed to reveal every detail of the image in both the high-light and low-light areas of the scene simultaneously.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden changes in lighting conditions, such as switching on or off the security lighting.

MPEG-4 Video Encoding

The Dinion MPEG-4 encoder creates high-quality streaming video at low bit rates, minimizing bandwidth and storage requirements, which further reduces costs. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.

Tri-streaming Video

Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs. For example, BOSCH Video over IP Systems (BVIP) can be configured to record video at one quality setting (e.g. 3.75IPS at 2CIF), while simultaneously providing live images at the best possible image quality (e.g. 30IPS at 4CIF). Alternatively, the system can be configured to deliver a high bandwidth MPEG-4 stream to a local LAN user, while simultaneously streaming a low bandwidth MPEG-4 stream to a remote user over a WAN connection and at the same time using the JPEG stream for remote viewing, for instance, on a PDA.

Power Options

Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0495. Utilizing PoE makes installation easier and more cost-effective since cameras do not require a local AC power source. Additionally, they can use an uninterruptible power supply (UPS), which will allow for continuous operation even when there's a power failure e.g. in emergencies.

OSD-based Network Set-up

Network parameters and basic camera set-up (e.g. lens set-up and back focus) are quickly and easily performed using the On-screen Displays (OSD) and BNC composite video output. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

Certifications and Approvals

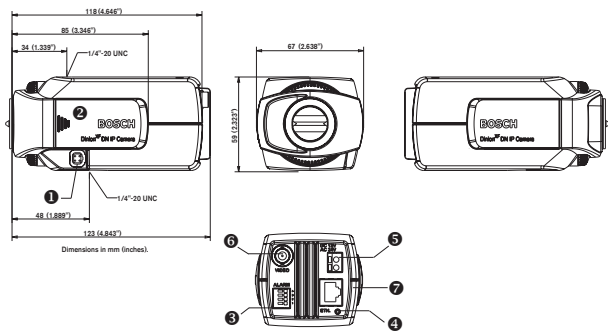
Electro Magnetic Compatibility

Emission EU	EN55022 class B
	EN 61000-3-2, EN 61000-3-3
Emission USA	FCC CFR 47 part 15 class B
Immunity EU	EN50130-4 Alarm Systems
EMC Australian	AS/NZS CISPR 22 (equal to CISPR 22)
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-6

Safety

EU	EN60950-1
USA + Canada	UL60950-1, CAN/CSA E60950-1

Installation/Configuration Notes



Dimensions

1	Lens connector	5	Power supply input
2	Control buttons	6	BNC Video output
3	Alarm in, Relay out	7	10/100 Base-T Fast Ethernet
4	LED (power, link, traffic)		

Parts Included

Quantity	Components
1	Dinion IP camera
1	Spare lens connector
1	Quick installation guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	MPEG-4; M-JPEG
Video Data Rate	9.6 Kbps - 6 Mbps Constant & variable
Imager resolution	752x582 (PAL) 768x494 (NTSC)
Video resolution	704 x 576/480 (4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay (IP)	MPEG-4: 100 ms
Select. Frame Rate	1-25/30 IPS (PAL/NTSC); Field / frame based coding
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP
Software Update	Flash ROM, remote programmable
Configuration	Via web browser, built-in web server interfaces
Video out	1x Analog composite: NTSC or PAL; BNC connector 75 Ohm
Sensitivity ¹	0.59 lux (0.059 fc) (color) 0.08 lux (0.008 fc) (Night mode)
Min Illumination	0.24 lux (0.024 fc) (color) 0.038 lux (0.0038 fc) (Night mode)
Min Illumination with SensUp	0.024 lux (0.0024 fc) (color) 0.0038 lux (0.00038 fc) (Night mode)
Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity up	Off, Automatic continuous up to 10x
Auto Black	On, Off selectable
Range	32x dynamic range enhancement
Dynamic Noise Reduction	Auto, Off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, Area and Level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch)
White Balance	ATW (2500 - 10000 K), AWB hold, Manual WB selectable
VMD	4 area, sensitivity selectable
Alarm In	+5 V nominal, +40 VDC max
Relay Out	max. 30 VAC or +40 VDC, Max 0,5 A continuous, 10 VA
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45

1) 50% video signal amplitude, F1.2, scene reflectivity 89%

Environmental

Input Voltage	VDC: 11-36 V (700 mA)
	VAC: 12-28 V (700 mA)
	PoE: IEEE 802.3af compliant
Power Consumption	Max. 8 VA
Weight	Approx. 0.45 kg (0.99 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F)

Ordering Information

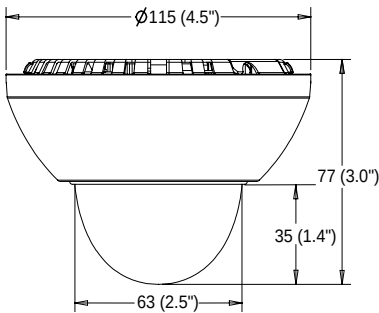
NWC-0495-10P DinionXF Day/Night IP Camera	NWC-0495-10P
1/3-inch, high performance, 24 VAC / 12 VDC / PoE, 50 Hz	
NWC-0495-20P DinionXF Day/Night IP Camera	NWC-0495-20P
1/3-inch, high performance, 24 VAC / 12 VDC / PoE, 60 Hz	
Software Options	
NWC-04X5-FS1	NWC04X5FS1
Dinion IP IVMD 1.0 VCA License	

LTC 13xx and LTC 14xx Series FlexiDome Fixed Dome Cameras



The backlight compensation and wide dynamic range, combined with the many other image enhancement features of the proprietary DSP ensure optimum contrast and a clear picture of the object at any time. Enhanced picture quality, true color reproduction, and outstanding reliability make these domed cameras an excellent choice for indoor applications in retail, casinos, museums, malls, and bank or hotel lobbies.

Installation/Configuration Notes



Dimensions

Features

- ▶ Fixed Cameras in 64 mm (2.5-inch) Domes
- ▶ 1/4-inch Format Standard and High Resolution
- ▶ Full range of color and monochrome models
- ▶ Available with 2.1 mm, 3 mm or 6 mm Lenses
- ▶ All Models with advanced DSP
- ▶ Backlight Compensation
- ▶ 24 VAC Supply with Line-Lock

The FlexiDome I and II Series are fixed compact cameras in stylish surveillance domes: FlexiDome I for standard resolution and FlexiDome II for high resolution applications. The high performance 1/4-inch monochrome or color CCD cameras come in a choice of 2.1 mm, 3 mm or 6 mm integral lenses for super-wide angle or standard view. Wide AC voltage ranges allow flexibility in both PAL and NTSC versions.

The FlexiDome I & II cameras are easily surface mounted on ceilings or walls to elegantly blend with their environment. The lightly tinted dome masks the camera without significant f-stop loss. With its 24 VAC supply and line-lock capabilities, this camera is not sensitive to the color interaction between the shutter and fluorescent lighting common to DC-supplied cameras. Various configuration possibilities are available via the easily accessible switches for white balance, line-lock, phase adjustment, and backlight compensation. The camera's viewing direction can be manually adjusted, and the ball mounted construction ensures a stable camera view.

Parts Included

Quantity	Components
1	LTC 13xx or LTC 14xx Series FlexiDome Fixed Dome Camera with lens

Technical Specifications

Electrical

Models:	FlexiDome I		
	Monochrome	Color	Lens type
LTC 1311		LTC 1411	2.1 mm F/2.0
LTC 1312		LTC 1412	3 mm F/2.0
LTC 1313		LTC 1413	6 mm F/2.0
FlexiDome II			
	LTC 1321	LTC 1421	2.1 mm F/2.0
	LTC 1322	LTC 1422	3 mm F/2.0
	LTC 1323	LTC 1423	6 mm F/2.0

Model No.	Voltage Range	Mono/Color Systems
Monochrome		
LTC 131x/10, 132x/10	12 to 28 VAC or VDC	CCIR
LTC 131x/20, 132x/20	12 to 28 VAC or VDC	EIA
Color		
LTC 141x/10, 142x/10	12 to 28 VAC or VDC	PAL
LTC 141x/20, 142x/20	12 to 28 VAC or VDC	NTSC

Power is 2 W for all models.

Imager: Interline transfer CCD; 1/4-inch image format.

	FlexiDome I	FlexiDome II
Active Picture Elements:		
PAL/CCIR	500 H x 582 V	752 H x 582 V
NTSC/EIA	510 H x 492 V	768 H x 492 V

Electrical**Horizontal Resolution:**

Color	330 TVL	470 TVL
Monochrome	380 TVL	570 TVL

Signal to noise ratio (Min. AGC)	>46 dB	>48 dB
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AGC	18 dB	20 dB
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Sensitivity (3200 K):

	Usable Picture (50IRE)	Full Video
Monochrome		
Scene illumination	0.5 lux (0.05 fc)	2.5 lux (0.25 fc)
Color		
Scene illumination	4.5 lux (0.45 fc)	22 lux (2.2 fc)

F/2 lens, 89.9% scene reflectance.

Electronic Shutter

PAL/CCIR Models: 1/50 to 1/100,000 sec.

NTSC/EIA Models: 1/60 to 1/100,000 sec.

White Balance (Color Models Only)

Continuous Tracking (ATW): 2500 K to 9000 K.

White Balance Store (AWB): 2500 K to 9000 K.

Video Output 1.0 Vpp, 75 ohm.**Aperture Correction** Horizontal and vertical.**Synchronization**

Line-lock (when powered by AC): Synchronizes camera to power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be externally adjusted (continuously) to allow vertical synchronization in multiphase power installations.

Controls

Line-Lock Selectable On/Off.

Phase Adjust Range 330°

White balance ATW or AWB (color models only)

Backlight Compensation On/Off.

Connectors

Video Out BNC.

Power Terminal block, power supply terminals are isolated from video output BNC.

Mechanical**Cable Entry** Internal connections.**Mounting**

Mounts on wall or ceiling.

Adjustable camera viewing position:

360° Horz; 70° Vertical; 360° Rotation.

Viewing angle: 2.1mm lens - 90° Horz., 68° Vert.

Viewing angle: 3mm lens - 53° Horz., 38° Vert.

Viewing angle: 6mm H lens - 36° x Horz., 27° Vert.

Construction/Finish

Polycarbonate (PC) dome on molded PC/ABS housing.

Dimensions: 115 mm (4.5 in) diameter x 77 mm (3 in) height.**Weight:** 0.4 kg (0.9 lb).**Environmental**

Rated for indoor use.

Operating Temperature -10 °C to +45 °C (+14 °F to +113 °F)

Storage Temperature -25 °C to +70 °C (-4 °F to +158 °F)

Environmental**Humidity** 0% to 93% relative, non condensing**Electromagnetic Compatibility****EMC Requirements** CE Immunity, CE Emission Class B, FCC Class B.**Safety** CE, UL, cUL.**Ordering Information**

LTC 1311/10 FlexiDome I LTC1311/10
1/4-inch B/W CCIR, 380 TVL, 12 VDC/24 VAC,
50 Hz, w/2.1 mm fixed iris lens

LTC 1311/20 FlexiDome I LTC1311/20
1/4-inch B/W EIA, 380 TVL, 12 VDC/24 VAC,
60 Hz, w/2.1 mm fixed iris lens

LTC 1312/10 FlexiDome I LTC1312/10
1/4-inch B/W CCIR, 380 TVL, 12 VDC/24 VAC,
50 Hz, w/3 mm fixed iris lens

LTC 1312/20 FlexiDome I LTC1312/20
1/4-inch B/W EIA, 380 TVL, 12 VDC/24 VAC,
60 Hz, w/3 mm fixed iris lens

LTC 1313/10 FlexiDome I LTC1313/10
1/4-inch B/W CCIR, 380 TVL, 12 VDC/24 VAC,
50 Hz, w/6 mm fixed iris lens

LTC 1313/20 FlexiDome I LTC1313/20
1/4-inch B/W EIA, 380 TVL, 12 VDC/24 VAC,
60 Hz, w/6 mm fixed iris lens

LTC 1411/10 FlexiDome I LTC1411/10
1/4-inch color PAL, 330 TVL, 12 VDC / 24 VAC,
50 Hz, w/2.1 mm fixed iris lens

LTC 1411/20 FlexiDome I LTC1411/20
1/4-inch color NTSC, 330 TVL, 12 VDC /
24 VAC, 60 Hz, w/2.1 mm fixed iris lens

LTC 1412/10 FlexiDome I LTC1412/10
1/4-inch color PAL, 330 TVL, 12 VDC / 24 VAC,
50 Hz, w/3 mm fixed iris lens

LTC 1412/20 FlexiDome I LTC1412/20
1/4-inch color NTSC, 330 TVL, 12 VDC /
24 VAC, 60 Hz, w/3 mm fixed iris lens

LTC 1413/10 FlexiDome I LTC1413/10
1/4-inch color PAL, 330 TVL, 12 VDC / 24 VAC,
50 Hz, w/6 mm fixed iris lens

LTC 1413/20 FlexiDome I LTC1413/20
1/4-inch color NTSC, 330 TVL, 12 VDC /
24 VAC, 60 Hz, w/6 mm fixed iris lens

LTC 1321/10 FlexiDome II LTC1321/10
1/4-inch B/W CCIR, 570 TVL, 12 VDC / 24 VAC,
50 Hz, w/2.1 mm fixed iris lens

LTC 1321/20 FlexiDome II LTC1321/20
1/4-inch B/W EIA, 570 TVL, 12 VDC / 24 VAC,
60 Hz, w/2.1 mm fixed iris lens

LTC 1322/10 FlexiDome II LTC1322/10
1/4-inch B/W CCIR, 570 TVL, 12 VDC/24 VAC,
50 Hz, w/3 mm fixed iris lens

LTC 1322/20 FlexiDome II LTC1322/20
1/4-inch B/W EIA, 570 TVL, 12 VDC/24 VAC,
60 Hz, w/3 mm fixed iris lens

LTC 1323/10 FlexiDome II LTC1323/10
1/4-inch B/W CCIR, 570 TVL, 12 VDC / 24 VAC,
50 Hz, w/6 mm fixed iris lens

Ordering Information

LTC 1323/20 FlexiDome II 1/4-inch B/W EIA, 570 TVL, 12 VDC / 24 VAC, 60 Hz, w/6 mm fixed iris lens	LTC1323/20
LTC 1421/10 FlexiDome II 1/4-inch color PAL, 470 TVL, 12 VDC/24 VAC, 50 Hz, w/2.1 mm fixed iris lens	LTC1424/10
LTC 1421/20 FlexiDome II 1/4-inch color NTSC, 470 TVL, 12 VDC/24 VAC, 60 Hz, w/2.1 mm fixed iris lens	LTC1421/20
LTC 1422/10 FlexiDome II 1/4-inch color PAL, 470 TVL, 12 VDC/24 VAC, 50 Hz, w/3 mm fixed iris lens	LTC1422/10
LTC 1422/20 FlexiDome II 1/4-inch color NTSC, 470 TVL, 12 VDC/24 VAC, 60 Hz, w/3 mm fixed iris lens	LTC1422/20
LTC 1423/10 FlexiDome II 1/4-inch color PAL, 470 TVL, 12 VDC/24 VAC, 50 Hz, w/6 mm fixed iris lens	LTC1423/10
LTC 1423/20 FlexiDome II 1/4-inch color NTSC, 470 TVL, 12 VDC/24 VAC, 60 Hz, w/6 mm fixed iris lens	LTC1423/20

1

LTC 1361, 146x Series FlexiDomeXT Vandal Resistant Cameras



Features

- ▶ Vandal resistant camera in weatherproof housing
- ▶ Endures the equivalent of 50 kg (120 lbs) of force
- ▶ High resolution monochrome and 540 TVL color models
- ▶ Extended sensitivity with NightSense
- ▶ Auto-iris varifocal lenses
- ▶ Line-Lock with phase adjustment
- ▶ Flush mount appearance
- ▶ Conduit compatible hard surface mount option

The FlexiDome^{XT} line of vandal resistant, fixed Dome cameras with varifocal lens options provide the ultimate solution for virtually any indoor and outdoor security application. Providing a full-featured integrated camera in a cast aluminum housing, polycarbonate dome, and hardened inner liner these units can withstand the equivalent of 50 kg (120 lbs) of force. FlexiDome^{XT} cameras are also sealed for outdoor use with protection against water and dust to IP66, (NEMA-4) standards.

Functions

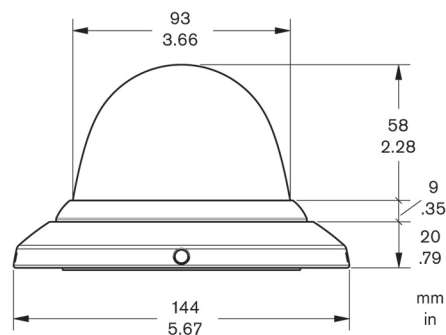
The FlexiDome^{XT} Series incorporates the latest technology found in an integrated camera with the option of 540 TVL resolution color and monochrome cameras that feature an integrated varifocal DC iris lens. The choice of varifocal lenses makes the application of these cameras extremely versatile, covering standard and telephoto as well as low light applications. AC and DC compatible, users get an added benefit of Line-Locking and phase adjustment capabilities when AC voltage is employed. Backlight compensation can also be selected on all models. NightSense is used to further extend the excellent sensitivity by a factor of 3 in monochrome operation. This mode is automatically activated in color cameras under low light conditions.

For quick and easy installation, the FlexiDome^{XT} Series cameras come completely assembled, and ready to use. Using the proprietary pan/tilt/rotation mechanism, camera adjustments are simple. Cameras can be rotated 360° and tilted more than 90° to choose precisely the camera angle you need for installation.

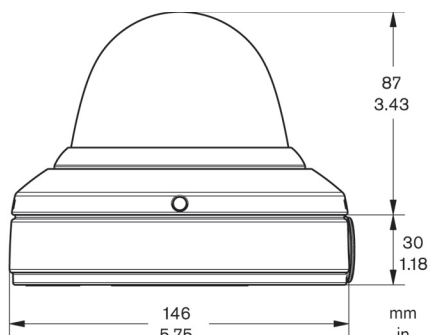
Each unit is supplied with an adaptor plate compatible with single, double, or 4S electrical box installations. For solid wall or ceiling mounting, the optional LTC 1347 Hard Surface Mount Adaptor box is offered. This adaptor can be wired through the side of the housing via a standard 3/4in. conduit opening, or wired through the back of the unit. For hassle-free on-site setup and adjustments, an optional Video Service cable (S1460) is available.

FlexiDome^{XT} is an ideal, no compromise solution for numerous surveillance applications, especially over conventional camera limitations. The small, sleek design and virtually flush mount appearance allow for an attractive look that compliments various decors, and at the same time providing the extra protection necessary for applications such as schools, banks, hotels, prisons, parking garages, retail, and commercial installations.

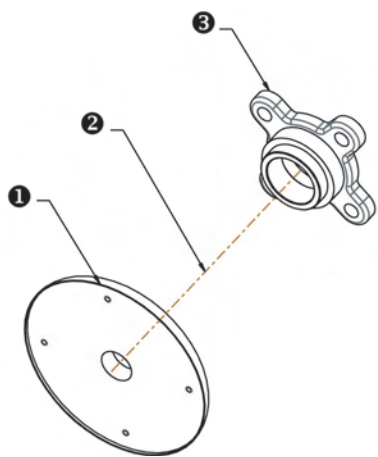
Installation/Configuration Notes



Dimensions

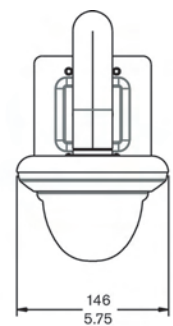
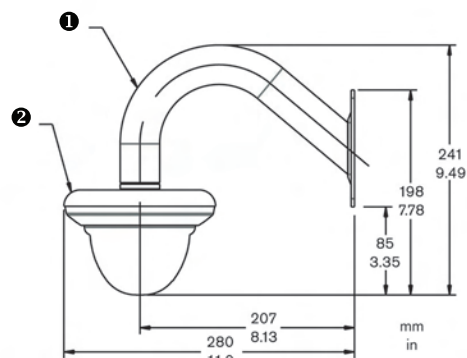


with LTC 1347 connection box



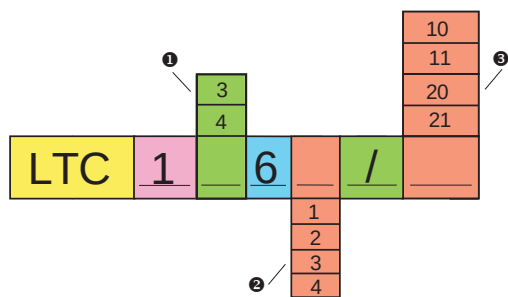
Pipe Mount Dimensions LTC 1349/00

1	Pendant Cap
2	3/4-inch pipe with 3/4-inch -14 NPSM threads or EMT conduits both ends (not included)
3	Flange Assembly



Pendant Mount Dimensions LTC 1348/00

1	Wall Mount Assembly
2	Pendant Cap



1	3 - B/W 4 - Color
2	1 - 2.8-6 mm F1.4 Varifocal 2 - 2-4 mm F1.4 Varifocal 3 - 3-6 mm F 1.2 Varifocal 4 - 4-9 mm F1.4 Varifocal
3	10 - CCIR 20 - EIA 11 - PAL 21 - NTSC

Parts Included

Quantity	Component
1	LTC 1361 or 146x Series FlexiDome ^{XT} Vandal Resistant Camera

Technical Specifications

Electrical

Model No.	Lens	System
LTC 1361/10	2.8 – 6mm, F1.4	B&W, CCIR, 50Hz
LTC 1361/20	2.8 – 6mm, F1.4	B&W, EIA, 60Hz
LTC 1461/11	2.8 – 6mm, F1.4	Color, PAL, 50Hz
LTC 1461/21	2.8 – 6mm, F1.4	Color, NTSC, 60Hz
LTC 1462/11	2 – 4mm, F1.4	Color, PAL, 50 Hz
LTC 1462/21	2 – 4mm, F1.4	Color NTSC, 60 Hz
LTC 1463/11	3 – 6mm, F1.2	Color, PAL, 50Hz
LTC 1463/21	3 – 6mm, F1.2	Color, NTSC, 60Hz
LTC 1464/11	4 – 9mm, F1.4	Color, PAL, 50Hz
LTC 1464/21	4 – 9mm, F1.4	Color, NTSC, 60Hz

Voltage Range

/11 & /10 versions	12 to 24VAC, 50Hz or 12 to 33VDC, 2 W	
/21 & /20 versions	12 to 24VAC, 60Hz or 12 to 33VDC, 2 W	
Lens	DC-iris Integrated Varifocal	
2 – 4 mm	Viewing angle	105° - 53°
2.8 – 6 mm	Viewing angle	76° - 35°
3 – 6 mm	Viewing angle	72° - 35°
4 – 9 mm	Viewing angle	52° - 24°
Imager	Interline transfer CCD, 1/4-inch. image format	

Horizontal Resolution

LTC 136x B&W Series	570 TVL
LTC 146x Color Series	540 TVL
Electronic Shutter	1/50 (1/60) to 1/100,000 sec

Sensitivity		Usable picture		Full Video
		30 IRE	50 IRE	
LTC 1361	fc	0.01	0.02	0.08
	lux	0.1	0.2	0.8

LTC 1461, 1462 & 1464

Color	fc	0.1	0.2	0.8
	lux	1	2	8
NightSense	fc	0.03	0.07	0.27
	lux	0.3	0.7	2.7

LTC 1463

Color	fc	0.07	0.15	0.6
	lux	0.7	1.5	6
NightSense	fc	0.02	0.05	0.2
	lux	0.2	0.5	2

At 89% scene reflection and 3200K illumination

Signal-to-Noise Ratio	48dB
Automatic Gain Control	18dB
White Balance	(Color Models Only)

Automatic Sensing through the Lens: 2500K to 9000K
Continuous (ATW) or Hold (AWB)

Aperture Correction	Horizontal and vertical
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Synchronization

Line-Lock (When powered by AC)	Synchronizes camera to power line zero crossings for roll-free interval switching. Vertical phase delay can be continuously adjusted to allow vertical synchronization in multiphase power installations
Crystal-Lock	selected when DC supplied or Line-Lock OFF

Electrical**Controls**

Automatic White Balance	On (ATW) / Off(AWB)
Backlight Compensation	On / Off
NightSense	On / Off
Line-Lock	On / Off, with phase adjustment of

Connectors

Video Out	BNC on coax cable
Power	Stripped leads
Internal Video Monitor Connector	2.5 mm mono jack S1460 required

Mechanical

Cable Entry	Through back, optional connection box available for side entry (1/2 - inch conduit or 22 mm gland, PG16)
Mounting	On wall or ceiling using up to 4 screws
Construction	Polycarbonate clear dome on aluminum housing
Color	White trim ring with black inner liner, /10 includes gray trim ring
Dimensions	See drawing
Weight	500g (1.1lb)

Environmental

Operating Temp.	-30°C to +50°C (-22°F to +122°F)
Storage Temp.	-40°C to +70°C (-40°F to +158°F)
Humidity	0% to 90% relative humidity, non condensing
Water & Dust Protection	IP66 (NEMA 4), when mounted on a flat surface
Impact Protection	IEC 60068-2-75 test Eh ≥50 Joules EN 50102, exceeding IK10
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	CE Immunity, FCC Class B
Safety	UL, cUL, CE

Ordering Information

LTC 1361/10 FlexiDome XT	LTC1361/10
vandal resistant, 1/4-inch B/W CCIR, 570 TVL, 12 VDC/24 VAC, 50 Hz, w/2.8-6 mm F1.4 varifocal lens, white/grey	
LTC 1361/20 FlexiDome XT	LTC1361/20
vandal resistant, 1/4-inch B/W EIA, 570 TVL, 12 VDC / 24 VAC, 60 Hz, w/2.8 – 6 mm F1.4 varifocal lens, white	
LTC 1461/11 FlexiDome XT	LTC1461/11
vandal resistant, 1/4-inch color PAL, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.8 – 6 mm F1.4 varifocal lens, white/grey	
LTC 1461/21 FlexiDome XT	LTC1461/21
vandal resistant, 1/4-inch color NTSC, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.8 – 6 mm F1.4 varifocal lens, white	
LTC 1462/11 FlexiDome XT	LTC1462/11
vandal resistant, 1/4-inch color PAL, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2 – 4 mm F1.4 varifocal lens, white/grey	

Ordering Information

LTC 1462/21 FlexiDome XT	LTC1462/21
vandal resistant, 1/4-inch color NTSC, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2 – 4 mm F1.4 varifocal lens, white	
LTC 1463/11 FlexiDome XT	LTC1463/11
vandal resistant, 1/4-inch color PAL, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3 – 6 mm F1.2 varifocal lens, white/grey	
LTC 1463/21 FlexiDome XT	LTC1463/21
vandal resistant, 1/4-inch color NTSC, 540 TV, 12 VDC/24 VAC, 60 Hz, w/3 – 6 mm F1.2 varifocal lens, white	
LTC 1464/11 FlexiDome XT	LTC1464/11
vandal resistant, 1/4-inch color PAL, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4 – 9 mm F1.4 varifocal lens, white/grey	
LTC 1464/21 FlexiDome XT	LTC1464/21
vandal resistant, 1/4-inch color NTSC, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4 – 9 mm F1.4 varifocal lens, white	
Accessories	
TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	
LTC 1347/00 Surface Mount Box	LTC1347/00
for FlexiDome XT, side entry conduit, white	
LTC 1347/01 Surface Mount Box	LTC1347/01
for FlexiDome XT, side entry conduit, grey	
LTC 1348/00 Pendant Wall Mount Kit	LTC1348/00
for FlexiDome XT, white	
LTC 1349/00 Pendant Pipe Mount Kit	LTC1349/00
for FlexiDome XT, white	
S1460 Service/Monitor Cable	S1460
for FlexiDome XT (2.5 mm connector to BNC), 1 m	

1

VDM-3x5 and VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



Features

- ▶ Low-impact and impact-resistant models
- ▶ 1/3-inch format CCD imager
- ▶ Superior picture clarity in virtually all situations
- ▶ 540 TVL color resolution
- ▶ AC or DC operation
- ▶ Patented dome shape for 90° vertical view
- ▶ Extended sensitivity with NightSense
- ▶ Bilinx bi-directional communication

The FlexiDome^{VF} and FlexiDome^{XT+} series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome^{XT+} version can withstand the equivalent of 120 lbs of force. The FlexiDome^{VF} utilizes a standard indoor enclosure. These units contain full-featured color and monochrome cameras, with 1/3-inch CCD and integral varifocal lenses.

Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome^{VF} and FlexiDome^{XT+} cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

Functions

Technology

The FlexiDome^{VF} and FlexiDome^{XT+} series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense, available in FlexiDome color versions, is a feature that can extend its excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

Controls and Indicators

- OSD
- 5-key operation

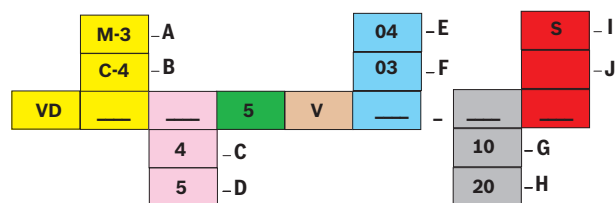
Interconnections

- Video connection BNC on flying lead
- Power connection on flying leads

Certifications and Approvals

Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)
Immunity	EN 50130-4 (CE)
Emission	EN 50022 class B (CE); FCC, class B part 15
Water/dust protection	IP 66 and NEMA-4X (VDM-355 and VDC-455 models only)

Installation/Configuration Notes



A	Monochrome	F	2.6 to 6 mm F1.4
B	Color (with NightSense)	G	PAL color or CCIR mono
C	Low impact	H	NTSC color or EIA mono
D	High impact	I	Surface mount
E	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)	J	Flush mount

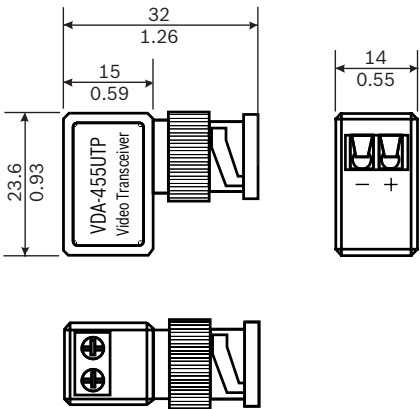
FlexiDome^{VF} model overview

Model	Standard	Lens
Monochrome		
VDM-345V03-10	CCIR	2.6 to 6 mm F1.4
VDM-345V03-20	EIA	2.6 to 6 mm F1.4
VDM-345V04-10	CCIR	4 to 9 mm F1.6
VDM-345V04-20	EIA	4 to 9 mm F1.6
Color		
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6

FlexiDome^{XT+} model overview

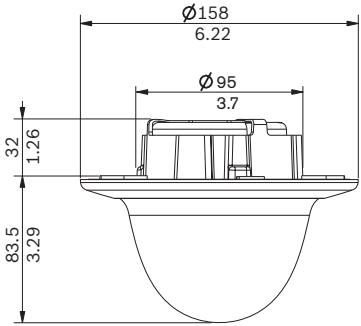
Model	Standard	Lens
Monochrome		
VDM-355V03-10	CCIR	2.6 to 6 mm F1.4
VDM-355V03-20	EIA	2.6 to 6 mm F1.4
VDM-355V04-10	CCIR	3.7 to 12 mm F1.6
VDM-355V04-20	EIA	3.7 to 12 mm F1.6
Color		
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6

BNC to UTP Transceiver



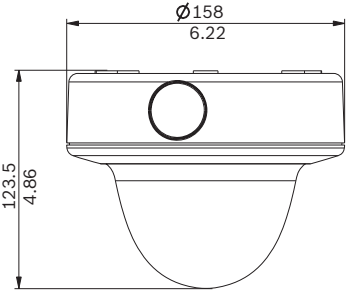
Dimensions in mm (in.)

FlexiDome^{VF} Low Impact, Indoor Flush Mounting Model



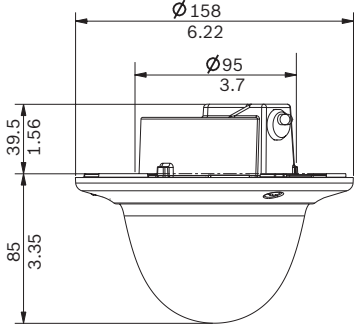
Dimensions in mm (in.)

VDA-445SMB–Surface Mount Box



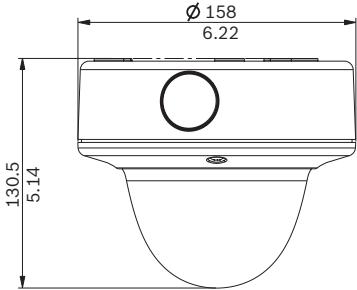
Dimensions in mm (in.) for the FlexiDome^{VF} low-impact, indoor surface mounting model

FlexiDome^{XT+} Impact-resistant, Indoor Flush Mounting Model

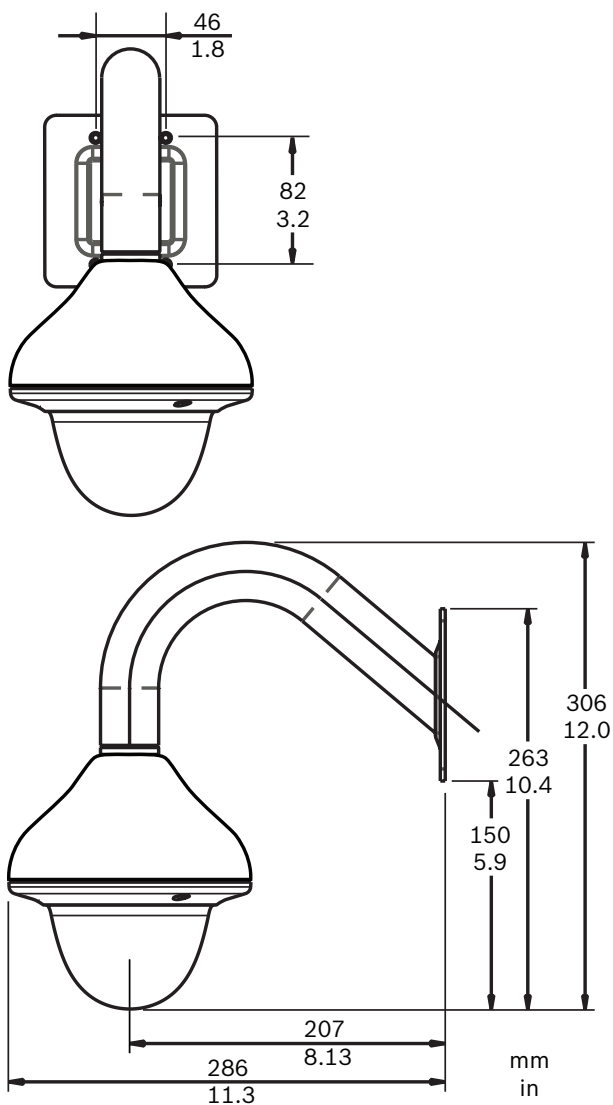


Dimensions in mm (in.)

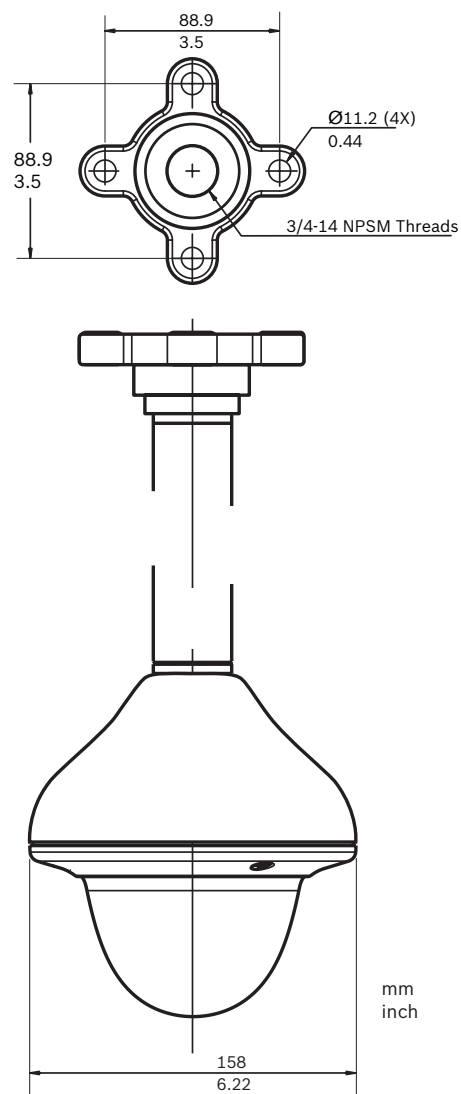
VDA-455SMB–Hardened Surface Mount Box



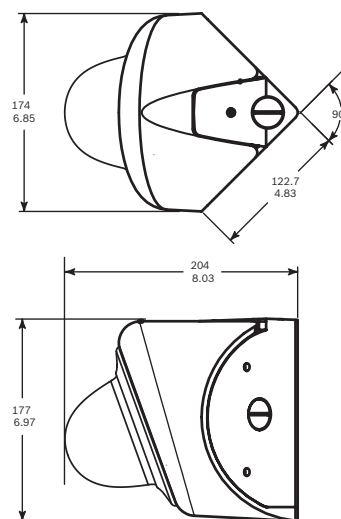
Dimensions in mm (in.) for the FlexiDome^{XT+} impact-resistant, surface mounting model

VDA-445WMT-Pendant Wall Mount

Dimensions in mm (in.) for wall mounting

VDA-455PMT-Pendant Pipe Mount

Dimensions in mm (in.) for pipe mounting

VDA-455CMT-Corner Mount

Dimensions in mm (in.) for corner mounting

Technical Specifications

Electrical

Power supply

Rated voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz

Power consumption

VDM-345 and VDC-445	4 W
VDM-355 and VDC-455	4 W (6 W with heater operation)

Imager	Interline transfer CCD, 1/3-inch image format
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Active picture elements

PAL models	752 H x 582 V
NTSC models	768 H x 494 V

Sensitivity (3200 K)

Model	Usable picture (30 IRE)	Usable picture (50 IRE)	Full video (100 IRE)
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Monochrome

VDM-345V03	0.09 lx	0.2	0.78
VDM-355V03	(0.008 fc)	(0.019)	(0.074)
VDM-345V04	0.12 lx	0.26	1.0
VDM-355V04	(0.011 fc)	(0.024)	(0.095)

Color

VDC-445V03	Color	0.44 lx	0.98	3.9
VDC-455V03		(0.041 fc)	(0.091)	(0.36)
	NightSense	0.18 lx	0.39	1.6
		(0.016 fc)	(0.036)	(0.15)
VDC-445V04	Color	0.58 lx	1.3	5.1
VDC-455V04		(0.053 fc)	(0.12)	(0.48)
	NightSense	0.23 lx	0.5	2.0
		(0.021 fc)	(0.048)	(0.19)

Horizontal Resolution

color models	540 TVL
monochrome models	570 TVL

Signal-to-noise ratio	>50 dB
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AGC	20 dB (max)
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Auto black	On/off selectable
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Electronic shutter	Flickerless, on/off
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NightSense	Auto, forced, off selectable
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Sharpness correction	Horizontal and vertical, symmetrical
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Backlight compensation	Center window weighting, off selectable
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White balance	Automatic sensing (2500 to 9000 K) and hold
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Video output	Composite video 1.0 Vpp, 75 ohm
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Synchronization	Internal or LineLock*
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Connector	Flying leads (through the back)
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* *LineLock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.*

Optical

Varifocal	Manual zoom and focus adjustment
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Iris control	Automatic iris control
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Viewing angle	
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Optical

2.6 to 6 mm	Wide 98.5° x 75.3° (H x V) Tele 48.1° x 36.2° (H x V)
4 to 9 mm	Wide 68° x 50.2° (H x V) Tele 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide 76.1° x 55.8° (H x V) Tele 23.8° x 17.9° (H x V)

Mechanical

Dimensions	See drawings
Weight	
VDM-345 and VDC-445	440 g (1.1 lb)
VDM-355 and VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment range	360° pan, 90° tilt, ±90° azimuth
Dome bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim ring	Vandal resistant models: aluminum Low impact models: polycarbonate

Environmental

Operating temperature	
VDM-345 and VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDM-355 and VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

Ordering Information

VDM-345V03-10 indoor monochrome model	VDM-345V03-10
1/3 inch, B/W CCIR, 570 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	
VDM-345V03-20 indoor monochrome model	VDM-345V03-20
1/3-inch, B/W EIA, 570 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	
VDM-345V04-10 indoor monochrome model	VDM-345V04-10
1/3-inch, B/W CCIR, 570 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white.	
VDM-345V04-20 indoor monochrome model	VDM-345V04-20
1/3-inch, B/W EIA, 570 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white.	
VDC-445V03-10 indoor color model	VDC-445V03-10
1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	
VDC-445V03-20 indoor color model	VDC-445V03-20
1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	
VDC-445V04-10 indoor color model	VDC-445V04-10
1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	

Ordering Information

VDC-445V04-20 indoor color model 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	VDC-445V04-20
VDM-355V03-10 vandal resistant monochrome model 1/3-inch, B/W CCIR, 570 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	VDM-355V03-10
VDM-355V03-20 vandal resistant monochrome model 1/3-inch, B/W EIA, 570 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	VDM-355V03-20
VDM-355V04-10 vandal resistant monochrome model 1/3-inch, B/W CCIR, 570 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	VDM-355V04-10
VDM-355V04-20 vandal resistant monochrome model 1/3-inch, B/W EIA, 570 TVL, 12 VDC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	VDM-355V04-20
VDC-455V03-10 vandal resistant color model 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	VDC-455V03-10
VDC-455V03-20 vandal resistant color model 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	VDC-455V03-20
VDC-455V04-10 vandal resistant color model 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	VDC-455V04-10
VDC-455V04-20 vandal resistant color model 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	VDC-455V04-20

Accessories

VDA-445SMB Surface mount box, indoor for VDM-345 and VDC-445	VDA-445SMB
VDA-455SMB Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495	VDA-455SMB
VDA-445WMT Wall mounting bracket	VDA-445WMT
VDA-455PMT Pendant pipe mount	VDA-455PMT
VDA-455CMT Corner mounting bracket for interior corner	VDA-455WMT
VDA-455UTP Adaptor for UTP twisted pair output	VDA-455UTP
TC220PSX-24 Power Supply Unit 230 VAC/24 VAC, 50 Hz, 20 VA	TC220PSX-24
TC220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC24PS Power Supply Unit 24 VAC/15 VDC, 50/60 Hz, 9 VA	TC24PS
S1460 Service/Monitor Cable for FlexiDome XT (2.5 mm connector to BNC), 1 m	S1460

Ordering Information**Software Options**

VP-CFGSFT Configuration Software for cameras using Bilinx, includes VP-USB Adap- tor	VP-CFGSFT
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VDC-485 and VDN-495 Series Dome Cameras FlexiDome XF and DN



Features

- ▶ High impact, vandal-resistant, weatherproof housing
- ▶ True Day/Night and NightSense versions
- ▶ 15-bit DSP technology
- ▶ XF-Dynamic for wide dynamic range
- ▶ 540 TVL color resolution
- ▶ SensUp 10 x extended sensitivity
- ▶ Bilinx bi-directional communication
- ▶ Patented dome shape for 90° vertical view

The FlexiDome^{XF} and FlexiDome^{DN} series are the ultimate solutions for virtually any indoor or outdoor surveillance application. These color dome cameras are high-performance, vandal-resistant units with Day/Night capability.

The cast-aluminum housing, polycarbonate dome, and hardened inner liner can withstand the equivalent of 55 kg (120 lbs) of force. The enclosure contains full-featured Day/Night and color cameras with 1/3-inch CCD and integral varifocal lenses. Ideal for outdoor use, the cameras are protected against water and dust to IP 66 (NEMA-4X) standards.

Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select the exact field of view. Mounting options are numerous, including surface, 4S (USA), wall, corner and suspended ceiling.

The FlexiDome^{XF} and FlexiDome^{DN} cameras are an ideal solution for many surveillance applications, even under the most challenging lighting conditions. Their compact, sleek design and virtually flush-mount appearance will complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and industrial buildings.

Functions

Technology

The FlexiDome^{XF} and FlexiDome^{DN} series incorporate the latest technology adopted from the high-performance Dinion^{XF} Color and true Day/Night cameras. This technology ensures the highest possible image quality at all times and under all conditions. Based on a unique combination of 15-bit digital video processing and XF-dynamic, these cameras provide excellent sensitivity, with up to 32 x extended dynamic range. This delivers a sharper, more detailed image with outstanding accuracy in color reproduction.

Operation

The Day/Night model switches automatically from color to monochrome to provide enhanced IR-sensitive night viewing. All cameras feature video motion detection, auto black, default shutter and back light compensation for optimum performance in all lighting conditions. The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras incorporate Bilinx, a technology that allows technicians to set up, control the camera settings, and even update firmware remotely over the video cable.

Controls and Indicators

- OSD
- 5-key operation

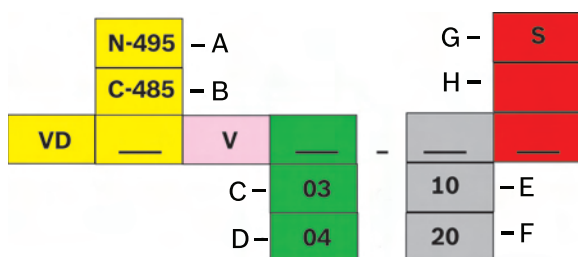
Interconnections

- Video connection BNC on flying lead
- Power connection on flying leads

Certifications and Approvals

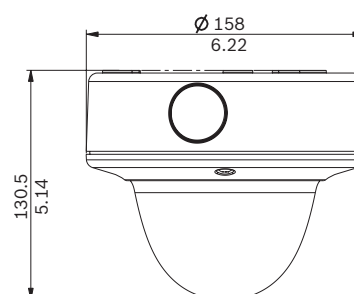
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)
Immunity	EN 50130-4 (CE)
Emission	EN 50022 class B (CE); FCC, class B part 15
Water/dust protection	IP 66 and NEMA-4X

Flush Mounting



Dimensions in mm (in.)

VDA-455SMB-Surface Mount Box



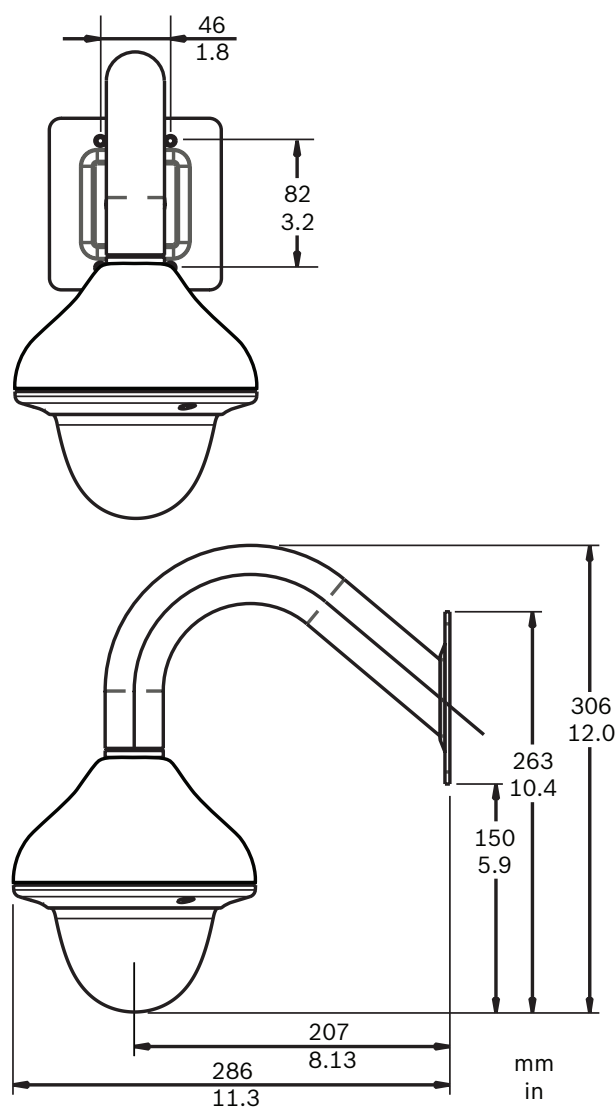
Dimensions in mm (in.) for surface mounting

Model	Standard	Lens
VDC-485V03-10	PAL	3 to 9.5 mm F1.0
VDC-485V03-20	NTSC	3 to 9.5 mm F1.0
VDC-485V04-10	PAL	3.7 to 12 mm F1.6
VDC-485V04-20	NTSC	3.7 to 12 mm F1.6

Model	Standard	Lens
VDN-495V03-10	PAL	3 to 9 mm F1.4
VDN-495V03-20	NTSC	3 to 9 mm F1.4

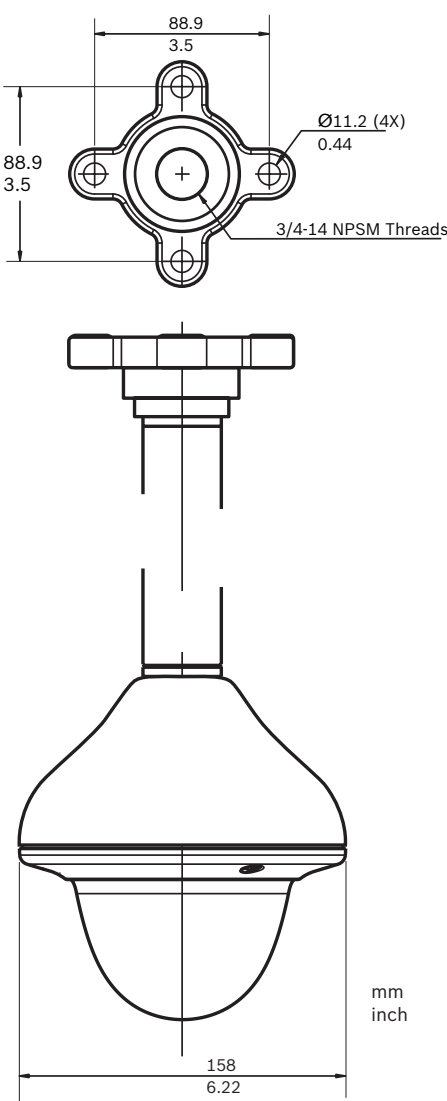
Dimensions in mm (in.)

VDA-445WMT-Pendant Wall Mount



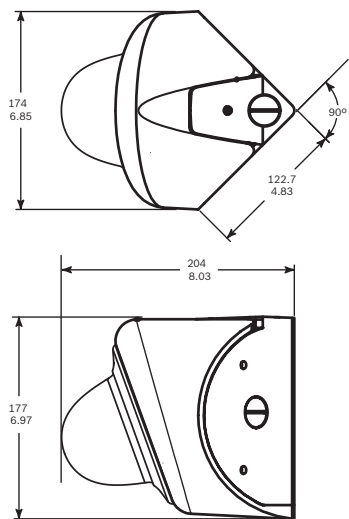
Dimensions in mm (in.)

VDA-455PMT-Pendant Pipe Mount



Dimensions in mm (in.)

VDA-455CMT-Corner Mount



Dimensions in mm (in.) for corner mounting

Technical Specifications

Electrical

Power supply	
Rated voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power consumption	4 W (6 W with heater operating)
Imager	Interline transfer CCD, 1/3-inch image format
Active picture elements	
PAL models	752 H x 582 V
NTSC models	768 H x 494 V

Sensitivity (3200 K)

Model		Usable picture (30 IRE)	Usable picture (50 IRE)	Full video (100 IRE)
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Color

VDC-485V03	Color	0.16 lx (0.015 fc)	0.35 (0.033 fc)	1.4 (0.13)
	Color + 10 x SensUp	0.016 lx (0.0015 fc)	0.035 (0.0033)	0.14 (0.013)
	NightSense	0.056 lx (0.0052 fc)	0.13 (0.012)	0.5 (0.046)
	NightSense+ 10 x SensUp	0.0056 lx (0.00052 fc)	0.013 (0.0012)	0.05 (0.0046)
VDC-485V04	Color	0.4 lx (0.037 fc)	0.9 (0.083)	3.6 (0.33)
	Color + 10 x SensUp	0.04 lx (0.0037 fc)	0.09 (0.0083)	0.36 (0.033)
	NightSense	0.14 lx (0.013 fc)	0.32 (0.03)	1.3 (0.12)
	NightSense+ 10x SensUp	0.014 lx (0.0013 fc)	0.032 (0.003)	0.13 (0.012)

Day/Night

VDN-495V03	Color	0.32 lx (0.03 fc)	0.69 (0.064)	2.7 (0.26)
	Color + 10 x SensUp	0.032 lx (0.003 fc)	0.069 (0.0064)	0.27 (0.026)
	Mono	0.11 lx (0.01 fc)	0.27 (0.026)	1.1 (0.1)
	Mono + 10 x SensUp	0.011 lx (0.001 fc)	0.027 (0.0026)	0.11 (0.01)

SensUp	Automatic continuous up to 10 x, off selectable
Horizontal resolution	540 TVL
Signal-to-noise ratio	>50 dB
AGC	Auto, maximum level selectable 28 dB
Auto black	On/off selectable
Electronic shutter	Flickerless, on/off, default shutter
NightSense (XF only)	Auto, forced, off selectable
Day/Night (DN only)	Auto, monochrome, color selectable
Dynamic range	32 x dynamic range enhancement
Dynamic noise reduction	Automatic, off, selectable
Sharpness correction	Horizontal and vertical, symmetrical
Backlight compensation	Off, programmable window and level selectable
White balance	Automatic sensing (2500 to 9000 K), AWB hold and manual
Video motion detector	Four (4) areas, sensitivity selectable
Camera ID	16-character editable string, position selectable

Electrical

Video output	Composite video 1.0 Vpp, 75 ohm
Remote control	Bi-directional coaxial communication
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

* LineLock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

Optical

Varifocal	Manual zoom and focus adjustment
Iris control	Automatic iris control
Viewing angle	
3 to 9 mm	Wide 90.3° x 66.4° (H x V) Tele 31.9° x 23.9° (H x V)
3 to 9.5 mm	Wide 95° x 69° (H x V) Tele 30.2° x 22.6° (H x V)
3.7 to 12 mm	Wide 76.1° x 55.8° (H x V) Tele 23.8° x 17.9° (H x V)

Mechanical

Dimensions	See drawings
Weight	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment range	360° pan, 90° tilt, ±90° azimuth
Dome bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim ring	Aluminum

Environmental

Operating temperature	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J EN 50102, exceeding IK 10

Ordering Information

VDC-485V03-10 Vandal Resistant Color Model VDC-485V03-10
1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC,
50 Hz, w/3-9.5 mm F1.0 Varifocal lens, white

VDC-485V03-20 Vandal Resistant Color Model VDC-485V03-20
1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC,
60 Hz, w/3-9.5 mm F1.0 Varifocal lens, white

VDC-485V04-10 Vandal Resistant Color Model VDC-485V04-10
1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC,
50 Hz, w/3.7-12 mm F1.4 Varifocal lens, white

VDC-485V04-20 Vandal Resistant Color Model VDC-485V04-20
1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC,
60 Hz, w/3.7-12 mm F1.4 Varifocal lens, white

Ordering Information

VDN-495V03-10 Vandal Resistant Day/Night Model	VDN-495V03-10
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1/3-inch, PAL D/N, 540 TVL, 12 VDC/24 VAC,
50 Hz, w/3-9 mm F1.4 Varifocal lens, white

VDN-495V03-20 Vandal Resistant Day/Night Model	VDN-495V03-20
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1/3-inch, NTSC D/N, 540 TVL, 12 VDC/24 VAC,
60 Hz, w/3-9 mm F1.4 Varifocal lens, white

Accessories

VDA-455SMB Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495	VDA-455SMB
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VDA-445WMT Wall mounting bracket	VDA-445WMT
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VDA-455PMT Pendant pipe mount	VDA-455PMT
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VDA-455CMT Corner mounting bracket for interior corner	VDA-455WMT
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VDA-455UTP Adaptor for UTP twisted pair output	VDA-455UTP
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TC220PSX-24 Power Supply Unit 230 VAC/24 VAC, 50 Hz, 20 VA	TC220PSX-24
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TC220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
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TC24PS Power Supply Unit 24 VAC/15 VDC, 50/60 Hz, 9 VA	TC24PS
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S1460 Service/Monitor Cable for FlexiDome XT (2.5 mm connector to BNC), 1 m	S1460
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LTC 003x - LTC 004x Series Indoor Camera Kits



Features

- ▶ Pre-assembled units with camera, varifocal lens and bracket included
- ▶ Reduces installation time to the absolute minimum
- ▶ Range of color and monochrome units
- ▶ Choice of high performance cameras
- ▶ Varifocal lenses for on-site adjustment of field-of-view

The LTC 0033, LTC 0035, LTC 0043 and LTC 0045 series Indoor Camera kits provide the most economical package available for indoor applications. These units reduce the required installation time to the absolute minimum. Only the supply and video cables need to be connected to obtain superior picture performance in virtually all indoor applications.

Even a wall bracket is included in the package.

The Indoor Cameras kits are based on the LTC 0335, LTC 0355, LTC 0435 and LTC 0455 series of cameras, which are recognized as the performance reference in the CCTV market. The camera range covers standard and high resolution as well as monochrome and color versions. For the monochrome version the varifocal lens LTC 3361/40 is supplied. For the color version the varifocal lens LTC 3361/50 is supplied. With this 2.8 – 10 mm or 2.8 – 12 mm varifocal lenses the Field-of-View can be adjusted on site, allowing optimum area coverage.

The camera kit can be used in a large variety of places such as city centers, petrol stations, industrial environments and travel and transport areas, in fact any general indoor and outdoor use.

Certifications and Approvals

Electromagnetic Compatibility

EMC Immunity	According EN50130-4
EMC Emission	According EN505022 class B, According FCC, class B part 15
Safety	CE

Parts Included

Quantity	Components
1	CCTV camera with lens, mounted and adjusted
1	Mounting bracket

Technical Specifications

Electrical

Model No.	Camera Type	Lens	Description
LTC0033/31	LTC0335/50	LTC3361/40	Standard Res. Mono CCIR, 2.8 – 12 mm
LTC0035/31	LTC0355/50	LTC3361/40	High Res. Mono CCIR, 2.8 – 12 mm
LTC0043/31	LTC0435/50	LTC3361/50	Standard Res. Color PAL, 2.8 – 10 mm
LTC0045/31	LTC0455/51	LTC3361/50	High Res. Color PAL, 2.8 – 10 mm

Voltage	230 VAC +/- 10%
Power Consumption	4 W, excluding lens
Imager	Interline transfer CCD 1/3-inch image format
Sensitivity (F1.4, 50 IRE)	LTC 0033: 0.16 lux (0.016 fc) LTC 0035: 0.12 lux (0.012 fc) LTC 0043: 0.53 lux (0.053 fc) LTC 0045: 0.88 lux (0.088 fc)
Horizontal Resolution	LTC 0033: 380 TVL LTC 0035: 570 TVL LTC 0043: 330 TVL LTC 0045: 540 TVL

Lenses

Type Number	LTC 3361/40	LTC 3361/50
Focal Length	2.8 – 12 mm	2.8 – 10 mm
Iris Control Range	F1.4 – 360	F1.4 – 360
Iris Control	Manual-iris	Manual-iris

Mechanical

Connectors

Power	plug
Video	BNC –connector
Camera Dimensions (H x W x L)	58 x 67 x 122 mm (2.28 x 2.64 x 4.80 in)
Weight	0.4 kg approx.
Mounting Bracket	MTC-G1001

Environmental

Temperature Range

Operating Temperature	-20°C to 50°C (-4°F to 122 °F)
Storage Temperature	-25°C to 70°C (-13°F to 158 °F)

Electromagnetic Compatibility

EMC Immunity	According EN50130-4
EMC Emission	According EN505022 class B, Accord- ing FCC, class B part 15

Safety

Delivery	CE
	The standard delivery includes: CCTV camera with lens, mounted and ad- justed Mounting bracket

Ordering Information

LTC 0033/31 Indoor Camera Kits	LTC0033/31
1/3-inch B/W CCIR, 380 TVL, 2.8 - 12 mm lens, wall mount, 230 VAC, 50 Hz	
LTC 0035/31 Indoor Camera Kits	LTC0035/31
1/3-inch B/W CCIR, 570 TVL, 2.8 - 12 mm lens, wall mount, 230 VAC, 50 Hz	
LTC 0043/31 Indoor Camera Kits	LTC0043/31
1/3-inch color PAL, 330 TVL, 2.8 - 10 mm lens, wall mount, 230 VAC, 50 Hz	
LTC 0045/31 Indoor Camera Kits	LTC0045/31
1/3-inch color PAL, 540 TVL, 2.8 - 10 mm lens, wall mount, 230 VAC, 50 Hz	

1 LTC 003xB - LTC 004xB Series Outdoor Cameras



Features

- ▶ Pre-assembled units with housing, camera, sunshield, varifocal lens and bracket included
- ▶ The preinstalled easy to use connectors reduces installation time to a minimum
- ▶ Range of color and monochrome units
- ▶ Choice of high performance cameras
- ▶ Varifocal lenses for on-site adjustment of field-of-view
- ▶ High voltage and low voltage versions

The LTC 0033, LTC 0035, LTC 0043 and LTC 0045 series Outdoor Cameras provide the most economical package available for outdoor applications. These units reduce the required installation time to the absolute minimum. Only the supply and video cables need to be connected to the easy to use connectors to obtain superior picture performance in virtually all outdoor applications. Even a wall bracket is included in the package.

Functions

The Outdoor Cameras are based on the LTC 0335, LTC 0355, LTC 0435 and LTC 0455 series of cameras, which are recognized as the performance reference in the CCTV market. The camera range covers standard and high resolution as well as monochrome and color versions.

The varifocal lenses supplied with the monochrome versions are the LTC 3364/40 and LTC 3374/20. The varifocal lenses supplied with the color versions are the LTC 3364/50 and LTC 3374/50.

They give you a choice for tele and wide-angle applications. With these DC-Iris varifocal lenses the Field-of-View can be adjusted on site, allowing optimum area coverage.

The modern compact housing is a proven design that provides good protection against the elements and hostile environments. It can be used in a large variety of places such as city centers, petrol stations, industrial environments and travel and transport areas, in fact any general indoor and outdoor use.

Certifications and Approvals

Electromagnetic Compatibility

EMC immunity	According EN50130-4
EMC emission	According EN505022 class B, According FCC, class B part 15
Safety	CE

Parts Included

Quantity	Components
1	CCTV camera with lens mounted, fitted in outdoor housing
1	Mounting bracket

Technical Specifications

Electrical

LTC 003xB - LTC 004xB Series Outdoor Cameras

Model No:	Camera Type	Lens	Description
LTC 0033/53B	LTC 0335/50	LTC 3364/40	Standard Res. Mono CCIR, 2.8 – 12 mm
LTC 0033/57B	LTC 0335/50	LTC 3374/20	Standard Res. Mono CCIR, 5 – 50 mm
LTC 0035/53B	LTC 0355/50	LTC 3364/40	High Res. Mono CCIR, 2.8 – 12 mm
LTC 0035/57B	LTC 0355/50	LTC 3374/20	High Res. Mono CCIR, 5 – 50 mm
LTC 0043/53B	LTC 0435/50	LTC 3364/50	Standard Res. Color PAL, 2.8 – 10 mm
LTC 0043/57B	LTC 0435/50	LTC 3374/50	Standard Res. Color PAL, 5 – 50 mm
LTC 0045/53B	LTC 0455/51	LTC 3364/50	High Res. Color PAL, 2.8 – 10 mm
LTC 0045/57B	LTC 0455/51	LTC 3374/50	High Res. Color PAL, 5–50mm
Voltage		230 VAC +/- 10%	
LTC 0043/13	LTC 0435/10	LTC 3364/50	Standard Res. Color PAL, 2.8 – 10 mm
LTC 0043/17	LTC 0435/10	LTC 3374/50	Standard Res. Color PAL, 5 – 10 mm
LTC 0045/13	LTC 0455/11	LTC 3364/50	High Res. Color PAL 2.8 – 10 mm
LTC 0045/17	LTC 0455/11	LTC 3374/50	High Res. Color PAL 5 – 50 mm

Electrical

Voltage	24VAC / 12 VDC
Power Consumption	30 W, excluding lens
Imager	Interline transfer CCD, 1/3-inch image format
Sensitivity (F1.4, 50 IRE)	
LTC 0033:	0.16 lux (0.016 fc)
LTC 0035:	0.12 lux (0.012 fc)
LTC 0043:	0.53 lux (0.053 fc)
LTC 0045:	0.88 lux (0.088 fc)
Horizontal Resolution	
LTC 0033:	380 TVL
LTC 0035:	570 TVL
LTC 0043:	330 TVL
LTC 0045:	540 TVL

Lenses

LTC 00xx/53B versions	Color	Monochrome
Type Number	LTC 3364/50	LTC 3364/40
Focal Length	2.8 – 10 mm	2.8 – 12 mm
Iris Control Range	F1.4 – 360	F1.4 – 360
Iris Control	DC-iris	DC-iris
LTC 00xx/57B versions	Color	Monochrome
Type Number	LTC 3374/50	LTC 3374/20
Focal Length	5 – 50 mm	5 – 50 mm
Iris Control Range	F1.7 – 360	F1.4 – 185
Iris Control	DC-iris	DC-iris
LTC 00xx/13 versions	Color	
Type Number	LTC 3364/50	
Focal Length	2.8 – 10 mm	
Iris Control Range	F1.4 – 360	
Iris	DC-iris	
LTC 00xx/17 versions	Color	
Type Number	LTC 3374/50	
Focal Length	5 – 50 mm	
Iris Control Range	F 1.7 – 360	
Iris	DC-iris	

Mechanical

Power	4-pin connector
Video	BNC –connector

Construction

Aluminum cover, aluminum base, aluminum mounting foot, aluminum sunshield, polycarbonate faceplate, polycarbonate end caps, neoprene gasket, ethylene propylene seal and all stainless steel hardware.

Finish	Dark Mushroom Gray
Dimensions	138 x 148 x 480 mm (5,4 x 5,8 x 18,9 inch)
Weight	2.5 kg approx.
Mounting Bracket	LTC 9215/00 (included)

Environmental

Operating Temperature	-20°C to 50°C (-4°F to 122 °F)
Storage Temperature	-25°C to 70°C (-13°F to 158 °F)

Ordering Information

LTC 0033/53B Outdoor Camera 380 TVL B/W CCIR, 2.8 – 12 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC00335/3B
LTC 0033/57B Outdoor Camera 380 TVL, B/W CCIR, 5,0 – 50 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0033/57B
LTC 0035/53B Outdoor Camera 570 TVL, B/W CCIR, 2.8 – 12 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0035/53B
LTC 0035/57B Outdoor Camera 570 TVL, B/W CCIR, 5.0 – 50 mm lens, with housing, mount sunshield, 230 VAC, 50 Hz	LTC0035/57
LTC 0043/53B Outdoor Camera 330 TVL, color PAL, 2.8 – 10 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0043/53B
LTC 0043/57B Outdoor Camera 330 TVL, color PAL, 5.0 – 50 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0043/57B
LTC 0045/53B Outdoor Camera 540 TVL, color PAL, 2.8 – 10 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0045/53B
LTC 0045/57B Outdoor Camera 540 TVL, color PAL, 5.0 – 50 mm lens, with housing, mount, sunshield, 230 VAC, 50 Hz	LTC0045/57B
LTC 0043/13 Outdoor Camera 330 TVL, color PAL, 2.8 – 10 mm lens, with housing, mount, sunshield, 24VAC/12 VDC, 50 Hz	LTC0043/13
LTC 0043/17 Outdoor Camera 330 TVL, color PAL, 5 – 50 mm lens, with housing, mount, sunshield, 24VAC/12 VDC, 50 Hz	LTC0043/17
LTC 0045/13 Outdoor Camera 540 TVL, color PAL, 2,8 mm – 10 mm lens, with housing, mount, sunshield, 24 VAC/12 VDC	LTC0045/13
LTC 0045/17 Outdoor Camera 540 TVL, color PAL, 5 - 50 mm lens, with housing, mount, sunshield, 24 VAC/12 VDC	LTC0045/17

LTC 9409 Series Outdoor Pan/Tilts



Features

- ▶ Low Profile, Compact Size
- ▶ Economical
- ▶ 100% Duty Cycle Motors
- ▶ Upright or Inverted Operation
- ▶ Permanently Lubricated
- ▶ Pre-Position Models Available

The LTC 9409 Series Weatherproof Outdoor Pan/Tilts are low profile, economical, compact units constructed with corrosion-resistant hardware. These remote positioning devices are fully system compatible with CCD cameras, lenses, and housing combinations.

Functions

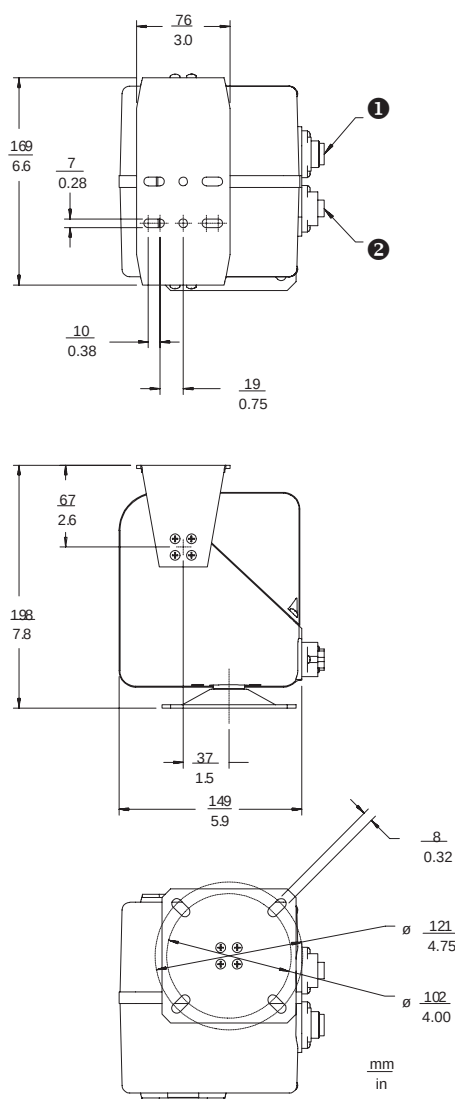
The 100% duty cycle motors permit continuous operation on all models. The modular gear-motors allow for "no alignment service". All-metal gearing, hardened steel drive shafts, and direct drive output offer superior reliability. Use of impedance protected motors, long life limit switches, and permanent lubricated bearings and gears reduce maintenance and provide trouble-free operation.

1 Power Connector (P-1)

2 Positioning Connector (P-2)*

*"-P" units only

Installation/Configuration Notes



Dimensions

Technical Specifications

Electrical

Model No.¹⁾ **Rated Motor Voltage** **Operational Voltage Range** **Total Pan Angle (No Fixed Stop)**

Standard Models

LTC 9409/60	115 VAC	60 Hz	103 to 126 VAC	15° to 355°
LTC 9409/20	24 VAC	60 Hz	21.6 to 26.4 VAC	15° to 355°
LTC 9409/10	24 VAC	50 Hz	21.6 to 26.4 VAC	15° to 355°
LTC 9409/50	230 VAC	50 Hz	198 to 265 VAC	15° to 355°

Pre-position Models

LTC 9409/61	115 VAC	60 Hz	103 to 126 VAC	15° to 355°
LTC 9409/21	24 VAC	60 Hz	21.6 to 26.4 VAC	15° to 355°
LTC 9409/11	24 VAC	50 Hz	21.6 to 26.4 VAC	15° to 355°
LTC 9409/51	230 VAC	50 Hz	198 to 265 VAC	15° to 355°

Connectors

Power Via 7-pin connector on unit

Positioning Via 7-pin connector on unit

Mating connectors provided with unit

Electrical**Recommended Maximum Cable Lengths**

Model	Wire Size		Distance	
	mm ²	AWG	Meters	Feet
Voltage²⁾				
24 VAC	0.5	20	58	190
	1	18	91	300
	1.5	16	145	475
	2.5	14	236	775
	4	12	381	1250
115 VAC	0.5	20	1402	4600
	1	18	2256	7400
	1.5	16	3537	11600
	2.5	14	5762	18900
	4	12	9146	30000
230 VAC	6	10	14146	46600
	0.5	20	7622	25000
	1	18	12043	39500
	1.5	16	18172	59600
	2.5	14	30701	100700
	4	12	48872	160300

1) The total power for all models with both motors running, is 18W. Single phase power sources only.

2) Values calculated at 20°C (68°F) using stranded copper wire, a single conductor Pan/Tilt common (neutral) wire, and with both PAN and TILT motors operating simultaneously.

Mechanical

Pan/Tilt Speed	7.5°/sec at 60Hz (6.3°/sec at 50Hz)
Tilt	Movement in vertical plane + 20° to -90° from horizontal
Maximum Load	65 kg-cm (56.5 in-lb) torque or 5.0kg (11 lb) at a distance of 63.5mm (2.5 inch) from the center to of mass of the camera/lens/housing assembly to the center of the tilt table to
Construction	Aluminum, with corrosion-resistant hardware
Finish	Mushroom
Dimensions	See Dimensional Outline
Weight	4.8kg (10.5 lb)

Environmental

Temperature	
Operating	-20°C to +60°C (-4°F to +140°F)
Storage	-40°C to +60°C (-40°F to +140°F)
Vibration	3 g swept sine wave, 15Hz to 2000Hz
Shock	50 g, 11 ms, 1/2 sine

Enclosure Protection

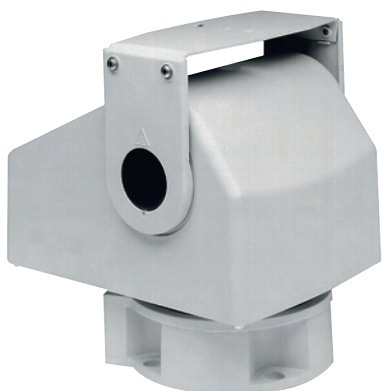
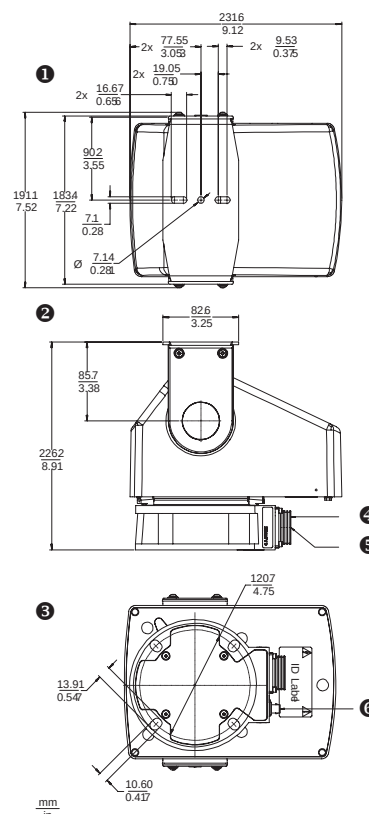
	Designed to NEMA-4, IP65/UL50, (Watertight) Enclosure Type 4X
Product Regulatory Compliance	
Electromagnetic Compatibility (EMC)	
	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Ordering Information

LTC 9409/60 Weatherproof Standard Pan/Tilts Max. load 5 kg, 115 VAC, 60 Hz	LTC 9409/60
LTC 9409/20 Weatherproof Standard Pan/Tilts Max. load 5 kg, 24 VAC, 60 Hz	LTC9409/20
LTC 9409/10 Weatherproof Standard Pan/Tilts Max. load 5 kg, 230 VAC, 50 Hz	LTC9409/10
LTC 9409/50 Weatherproof Standard Pan/Tilts Max. load 5 kg, 24 VAC, 50 Hz	LTC9409/50
LTC 9409/61 Weatherproof Pre-position Pan/Tilts Max. load 5 kg, 120 VAC, 60 Hz	LTC9409/61
LTC 9409/21 Weatherproof Pre-position Pan/Tilts Max. load 5 kg, 24 VAC, 60 Hz	LTC9409/21
LTC 9409/11 Weatherproof Pre-position Pan/Tilts Max. load 5 kg, 230 VAC, 50 Hz	LTC9409/11
LTC 9409/51 Weatherproof Pre-position Pan/Tilts Max. Load 5 kg, 24VAC, 50Hz	LTC9409/51

Accessories

LTC 9214/00 Versatile Mount for 14-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9214/00
LTC 9224/00 Versatile Mount for 24-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9224/00
LTC 9216/00 Versatile Mount for 16-inch, 45,3 kg (100 lb) max load, light gray finish	LTC9216/00
LTC 9222/00 Versatile Mount for 22-inch, 90,6 kg (200 lb) max load, light gray finish	LTC9222/00
LTC 9227/00 Versatile Mount for LTC 9216 & 92220 , 45,3 kg (100 lb) max load, adjustable head, light gray finish	LTC9227/00
LTC 9228/00 Versatile Mount for LTC 9216/00 & LTC 9222/00 wall mounts, 45,3 kg (100 lb) max load, flange bracket	LTC9228/00
LTC 9225/00 Pole Mount 45,3 kg (100 lb) max load, pole mount, light gray finish	LTC9225/00
LTC 9226/00 Versatile Mount for LTC 9216 & LTC 9222, 45,3 kg (100 lb) max load, corner mount bracket, light gray finish	LTC9226/00
LTC 9222/00 Versatile Mount for 22-inch, 90,6 kg (200 lb) max load, light gray finish	LTC9222/00



Electrical**Recommended Maximum Cable Lengths:**

Model	Wire Size		Distance	
Voltage ²⁾	Mm2	AWG	Feet	Meters
24 VAC	0.5	20	140	43
	1	18	230	70
	1.5	16	360	110
	2.5	14	590	180
	4	12	940	287
115 VAC	0.5	20	2200	671
	1	18	3500	1067
	1.5	16	5500	1677
	2.5	14	9000	2744
230 VAC	0.5	20	13400	4085
	1	18	21200	6463
	1.5	16	33300	10152
	2.5	14	54400	16585

1) The total power for all models, with both motors running, is 24 W.

2) Values calculated at 20° C (68° F) using stranded tinned copper wire, a common ground (neutral), and with both pan and tilt motors operating simultaneously.

Mechanical

Mounting These units are designed for either upright or inverted installations. To maintain weatherproof integrity when mounting outdoors in an inverted position, the unit must be installed in a weatherproof enclosure (e.g., weatherproof domed housing), or a protected outside area. They can only be mounted upright or inverted; never horizontally.

Pan Range (Movement in horizontal plane)	0° to 345° maximum
Pan Speed	7°/seconds
Tilt (Movement in vertical plane)	+30° to -90° from horizontal
Tilt Speed	3.5°/seconds
Maximum Load	149 kg-cm (129 lb-in) torque or 10 kg (22 lb) at a distance of 63.5 mm (2.5 inch) from the center of mass of the camera/lens/housing assembly to the center of the tilt table
Construction	Cast aluminum base and yoke, corrosion resistant plastic cover
Finish	Light gray
Dimensions	See Dimensional Outline
Weight	6.21 kg (13.7 lb)

Environmental

Temperature	Operating: -30°C to +60°C Storage: -40° to +60°C
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 ms, 1/2 sine
Enclosure	Tested to IP54 requirements (upright mounting). UL 50 Type 3/NEMA-3 design.

Product Regulatory Compliance

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

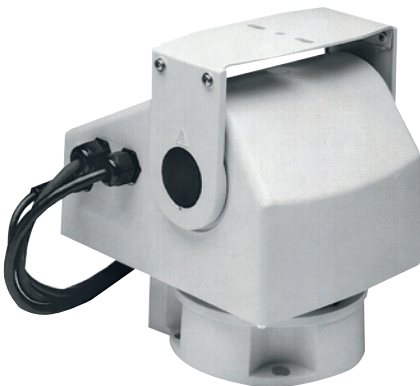
Ordering Information

LTC 9418/10 Weatherproof Standard Pan/Tilts Max Load 10 kg, 24 VAC, 50 Hz	LTC9418/10
LTC 9418/11 Weatherproof Pre-Position Pan/Tilts Max. load 10 kg, 24 VAC, 50 Hz	LTC9418/11
LTC 9418/20 Weatherproof Standard Pan/Tilts Max. load 10 kg, 24 VAC, 60 Hz	LTC9418/20
LTC 9418/21 Weatherproof Pre-Position Pan/Tilts Max. load 10 kg, 24 VAC, 60 Hz	LTC9418/21
LTC 9418/50 Weatherproof Standard Pan/Tilts Max. load 10 kg, 230 VAC, 50 Hz	LTC9418/50
LTC 9418/51 Weatherproof Pre-Position Pan/Tilts Max. load 10 kg, 230 VAC, 50 Hz	LTC9418/51
LTC 9418/60 Weatherproof Standard Pan/Tilts Max. load 10 kg, 120 VAC, 60 Hz	LTC9418/60
LTC 9418/61 Weatherproof Pre-Position Pan/Tilts Max. load 10 kg, 120 VAC, 60 Hz	LTC9418/61

Accessories

LTC 9216/00 Versatile Mount for 16-inch, 45,3 kg (100 lb) max load, light gray finish	LTC9216/00
LTC 9214/00 Versatile Mount for 14-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9214/00
LTC 9226/00 Versatile Mount for LTC 9216 & LTC 9222, 45,3 kg (100 lb) max load, corner mount bracket, light gray finish	LTC9226/00
LTC 9222/00 Versatile Mount for 22-inch, 90,6 kg (200 lb) max load, light gray finish	LTC9222/00
LTC 9227/00 Versatile Mount for LTC 9216 & 92220 , 45,3 kg (100 lb) max load, adjustable head, light gray finish	LTC9227/00
LTC 9228/00 Versatile Mount for LTC 9216/00 & LTC 9222/00 wall mounts, 45,3 kg (100 lb) max load, flange bracket	LTC9228/00
LTC 9224/00 Versatile Mount for 24-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9224/00
LTC 9225/00 Pole Mount 45,3 kg (100 lb) max load, pole mount, light gray finish	LTC9225/00

LTC 9420 Series Outdoor Pan/Tilts



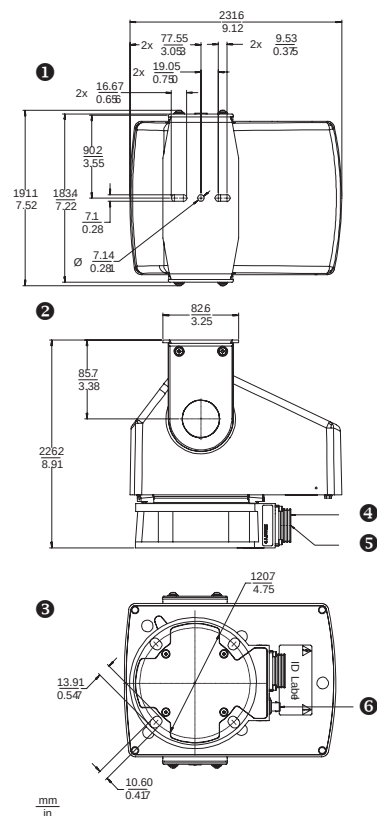
Features

- ▶ Maximum Load - 10 kg (22 lb)
- ▶ Low Profile, Compact Size
- ▶ Feed-through Wiring
- ▶ 100% Duty Cycle Motors
- ▶ Upright or Inverted Operation
- ▶ Pre-position and 345° Models Available

The LTC 9420 Series Weatherproof Pan/Tilts are low profile, compact units constructed with corrosion resistant hardware. Featuring feed-through wiring for lens and camera power, video, and external sync connections, these remote positioning devices are rated for a maximum load of 10 kg (22 lb) and are fully system compatible with CCD cameras, lenses, and housing combinations

The 100% duty cycle motors permit continuous operation on all models. Low speed worm drives and flexible motor mounts offer quiet, smooth motion. The use of impedance and overload protected motors, long life limit switches, and permanently lubricated bearings reduce maintenance and provide reliable operation.

Installation/Configuration Notes



Dimensional Outline

1	Top view
2	Side view
3	Bottom view
4	Ground screw (on other side of multipin connector)
5	Multipin connector
6	BNC Connector

Technical Specifications

Electrical		
Model No. ¹⁾	Rated Motor Voltage	Operational Voltage Range
Standard Models -0° to 345°		
LTC 9420/60	110 VAC, 60 Hz	108 to 132 VAC
LTC 9420/20	24 VAC, 60 Hz	21.6 to 26.4 VAC
LTC 9420/10	24 VAC, 50 Hz	21.6 to 26.4 VAC
LTC 9420/50	220 VAC, 50 Hz	207 to 253 VAC
Pre-position Models -0° to 345°		
LTC 9420/61	110 VAC, 60 Hz	108 to 132 VAC
LTC 9420/21	24 VAC, 60 Hz	21.6 to 26.4 VAC
LTC 9420/11	24 VAC, 50 Hz	21.6 to 26.4 VAC
LTC 9420/51	220 VAC, 50 Hz	207 to 253 VAC

Electrical**Connectors:**

Power:	Via 24-pin connector on base through to 3-conductor cable on pan head
Lens and Accessories:	Via 24-pin connector on base through to 10-conductor cable on pan head
Video:	Via BNC connector on base through to Flying Lead coax on pan head
Ground:	Screw connection for grounding on base

Recommended Maximum Cable Lengths:

Model	Wire Size		Distance	
	Voltage ²⁾	mm ²	AWG	Feet Meters
24 VAC		0.5	20	140 43
		1	18	230 70
		1.5	16	360 110
		2.5	14	590 180
115 VAC		4	12	940 287
		0.5	20	2200 671
		1	18	3500 1067
		1.5	16	5500 1677
230 VAC		2.5	14	9000 2744
		0.5	20	13400 4085
		1	18	21200 6463
		1.5	16	33300 10152
		2.5	14	54400 16585

1) The total power for all models, with both motors running, is 24 W.

2) Values calculated at 20°C (68°F) using stranded tinned copper wire common ground (neutral), and with both pan and tilt motors operating simultaneously.

Mechanical

Mounting These units are designed for either upright or inverted installations. to 345° To maintain weatherproof integrity when mounting outdoors in an inverted position, the unit must be installed in a weather-proof enclosure (e.g., weatherproof domed housing) or a protected outside to 345° area. They can only be mounted upright or inverted; never horizontally.

Pan Range (Movement in horizontal plane)	
Pan Speed	7°/sec
Tilt (Movement in vertical plane)	
	+30° to -90° against the horizontal
Tilt Speed	3.5°/sec
Maximum Load	149 kg-cm (129 lb-in) torque or 10 kg (22 lb) at a distance of 63.5 mm (2.5 inch) from the center of mass of the camera/lens/housing assembly to the center of the tilt table
Construction	Cast aluminum base and yoke, corrosion resistant plastic cover
Finish	Light gray
Dimensions	See Dimensional Outline
Weight	6.67 kg (14.7 lb)

Environmental

Temperature	
Operating	-30°C to +60°C (-22°F to +140°F)
Storage	-40°C to +60°C (-40°F to +140°F)
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 ms, 1/2 sine

Environmental

Enclosure Tested to IP54 requirements. UL 50 Type 3/NEMA-3 design (upright mounting)

Product Regulatory Compliance**Electromagnetic Compatibility (EMC)**

C (68° Complies with FCC Part 15, ICES-003, F) using stranded and CE regulations

Product Safety Complies with CE regulations, UL, CSA, EN, and IEC Standards

Ordering Information

LTC 9420/10 Weatherproof Standard Pan/Tilts	LTC9420/10
Max. load 10 kg, 24 VAC, 50 Hz, feed-through wiring	
LTC 9420/11 Weatherproof Pre-position Pan/Tilts	LTC9420/11
Max. load 10 kg, 24 VAC, 50 Hz, feed-through wiring	
LTC 9420/12 Weatherproof Continuous Pan Pan/Tilts	LTC9420/12
Max. load 10 kg, 24 VAC, 50 Hz, feed-through wiring	
LTC 9420/13 Weatherproof Continuous Pan Models with Pre-position	LTC9420/13
Max. load 10 kg, 24 VAC, 50 Hz, feed-through wiring	
LTC 9420/20 Weatherproof Standard Pan/Tilts	LTC9420/20
Max. load 10 kg, 24 VAC, 60 Hz, feed-through wiring	
LTC 9420/21 Weatherproof Pre-position Pan/Tilts	LTC9420/21
Max. load 10 kg, 24 VAC, 60 Hz, feed-through wiring	
LTC 9420/22 Weatherproof Continuous Pan Pan/Tilts	LTC9420/22
Max. load 10 kg, 24 VAC, 60 Hz, feed-through wiring	
LTC 9420/23 Weatherproof Continuous Pan Models with Pre-position	LTC9420/23
Max. load 10 kg, , 24 VAC, 60 Hz, feed-through wiring	
LTC 9420/50 Weatherproof Standard Pan/Tilts	LTC9420/50
Max. load 10 kg, 230 VAC, 50 Hz, feed-through wiring	
LTC 9420/51 Weatherproof Pre-position Pan/Tilts	LTC9420/51
Max. load 10 kg, 230 VAC, 50 Hz, feed-through wiring	
LTC 9420/60 Weatherproof Standard Pan/Tilts	LTC9420/60
Max. load 10 kg, 120 VAC, 60 Hz, feed-through wiring	
LTC 9420/61 Weatherproof Pre-position Pan/Tilts	LTC9420/61
Max. load 10 kg, 120 VAC, 60 Hz, feed-through wiring	

Ordering Information

Accessories

LTC 9214/00 Versatile Mount for 14-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9214/00
LTC 9224/00 Versatile Mount for 24-inch, 90.6 kg (200 lb) max load upright, light gray finish	LTC9224/00
LTC 9216/00 Versatile Mount for 16-inch, 45.3 kg (100 lb) max load, light gray finish	LTC9216/00
LTC 9222/00 Versatile Mount for 22-inch, 90.6 kg (200 lb) max load, light gray finish	LTC9222/00
LTC 9227/00 Versatile Mount for LTC 9216 & 92220 , 45.3 kg (100 lb) max load, adjustable head, light gray finish	LTC9227/00
LTC 9228/00 Versatile Mount for LTC 9216/00 & LTC 9222/00 wall mounts, 45.3 kg (100 lb) max load, flange bracket	LTC9228/00
LTC 9225/00 Pole Mount 45.3 kg (100 lb) max load, pole mount, light gray finish	LTC9225/00
LTC 9226/00 Versatile Mount for LTC 9216 & LTC 9222, 45.3 kg (100 lb) max load, corner mount bracket, light gray finish	LTC9226/00

Monitors

2

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LTC 2009, LTC 2012, and LTC 2017 Series Monochrome Video Monitor



Features

- ▶ Choice of 9-, 12- and 17-in. (23-, 30- and 43-cm) monitors
- ▶ High quality pictures
- ▶ Auto-termination
- ▶ Supply 120/230 VAC with selectable selection between EIA and CCIR formats
- ▶ Robust metal case to minimize interference
- ▶ Optional rack mounting

Bosch offers a range of high performance monitors which reflects the high standards of other associated units in the Bosch CCTV system, such as cameras, transmission and control equipment. Included in this range of Bosch units are the LTC 2009, LTC 2012 and LTC 2017 Series of monochrome monitors. These monitors offer high performance pictures, with a resolution of 900 TVL, making them ideal for remote observation and video applications.

Functions

The monitor housing consists of a robust rectangular metal case, which minimizes interference from external signals and allows "stacking" of monitors when used in large numbers.

Designed for ease of installation and operation, the monitors will accept a voltage supply of 120 or 230 VAC, without the need for any switching or adjustments. The monitors are setup for standard composite video signals.

Controls and Features

Most controls are located on the front panel for easy adjustment of the picture image. Monitor features include loop through connection; electrical circuits provide safe guards against interference, noise and changing signal strengths to maintain a clear and stable picture.

Additional features of the LTC 2017 monitors include switchable scanning size (over scan and under scan) and switchable DC restoration. An optional rack mounting is available for these monitors.

Certifications and Approvals

Electromagnetic Compatibility (EMC) Requirements	Complies with FCC Part 15, ICES-003, and CE Regulations
Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards; Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2009/90	120/230 VAC, 50/60 Hz	90 to 264	18 W	EIA/CCIR
LTC 2012/90	120/230 VAC, 50/60 Hz	90 to 264	18 W	EIA/CCIR
LTC 2017/90	120/230 VAC, 50/60 Hz	90 to 264	27 W	EIA/CCIR

Monochrome System

EIA/CCIR, selectable

Video Input

Composite video: 0.5 to 2.0 Vp-p. sync negative. Auto switching from 75 Ohm unbalanced termination to Hi-Z with looped through operation.

Controls

Power, Contrast, Brightness, V-Hold, H-Hold, EIA/CCIR switch, V-Height, V-Line

Connectors

Power input socket, 2 BNC Video input

Power Cord

Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet

Material: Steel with plastic front; Finish: Charcoal

Dimensions (H x W x D)

LTC 2009	234 x 220 x 248 mm (9.2 x 8.7 x 9.6 in.)
LTC 2012	287 x 305 x 306 mm (11.3 x 12 x 12 in.)
LTC 2017	386 x 419 x 381 mm (15.2 x 16.5 x 15 in.)

Weight

LTC 2009	4.3 kg (9.5 lb)
LTC 2012	8.9 kg (19.6 lb)
LTC 2017	14 kg (31 lb)

Display Tube

Measured diagonally, -90° deflection angle

LTC 2009	9 in. (23 cm)
LTC 2012	12 in. (30 cm)
LTC 2017	17 in. (43 cm)

Mechanical**Viewable Picture Area**

LTC 2009	9 in. (22 cm)
LTC 2012	11 in. (29 cm)
LTC 2017	16 in. (41 cm)

Linearity

Horizontal	10% max.
Vertical	10% max.

Horizontal Resolution

All Models	900 TVL
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Environmental

Operation Temp.	-10°C to 50°C (14°F to 122°F)
Storage Temp.	-10°C to 50°C (14°F to 122°F)
Humidity	Operating: 30 to 90% non-condensing

Ordering Information

9-inch Monochrome Monitor 9 in. (23 cm), B/W EIA/CCIR, 900 TVL, 120/ 230 VAC, 50/60 Hz	LTC 2009/90
12-inch Monochrome Monitor 12 in. (30 cm), B/W EIA/CCIR, 900 TVL, 120/ 230 VAC, 50/60 Hz	LTC 2012/90
17-inch Monochrome Monitor 17 in. (43 cm), B/W EIA/CCIR, 900 TVL, 120/ 230 VAC, 50/60 Hz	LTC 2017/90

Accessories

LTC 9009/00 Rack Kit for up to two (2) LTC 2009, 26.67 cm (10.5 in.) high	LTC9009/00
LTC 9009/01 Blank Panel for LTC 2009	LTC9009/01
LTC 9012/00 Rack Kit for one (1) LTC 2012, 31.12 cm (12.25 in.) high	LTC9012/00
LTC 9017/00 Rack Kit for one (1) LTC 2017, 44.45 cm (17.5 in.) high	LTC9017/00

LTC 2810/91 10-inch Color Video Monitor



Features

- ▶ 25 cm (10 in.) Screen size
- ▶ Provides 300 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Selectable composite video and Y/C inputs
- ▶ Auto-termination
- ▶ Audio capability
- ▶ Wide range power supply
- ▶ Compact, space-saving design
- ▶ Optional rack-mounting

The LTCv2810/91 is a standard resolution color monitor with a 23.6 cm (9.3 in.) viewable picture area and multi-standard compatibility. With a built-in loudspeaker and inputs able to accept NSTC and PAL standards, the LTC 2810/91 Monitor offers maximum flexibility for a wide variety of applications.

This monitor incorporates a 25 cm (10 in.) diagonally measured display tube with a stripe pitch of 0.63 mm (0.024 in.), which delivers standard color reproduction and picture clarity with 300 TV lines of horizontal resolution.

The LTC 2810/91 includes two loop-through composite video inputs, using BNC connectors with auto-termination, and one set of loop-through Y/C connectors for S-video signals. The monitor also features an auto-detect function to identify NTSC or PAL input signals, and automatically switch mode accordingly. A universal power supply is included to handle a wide range of power sources.

Monitor adjustments are made via the front controls. Using these controls, selections and adjustments can be made to monitor functions such as contrast, brightness, color, and tint. The loudspeaker volume is also adjustable, and is conveniently located on the front panel.

The LTC 2810/91 Monitor is housed in a compact, space-saving metal cabinet for rugged reliability. It may be rack-mounted in a standard EIA rack using the optional rack-mount kit.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240 VAC
Power	55 W
Sync Format	PAL/NTSC
Display Tube	25 cm (10 in.) measured diagonally 90° deflection angle, stripe pitch 0.63 mm, in-line guns, integral implosion protection
Viewable Picture	23.6 cm (9.3 in.) measured diagonally
Linearity	
Horizontal	Within +5%
Vertical	Within +5%
Horizontal Resolution	250 TVL minimum, 300 TVL typical
Video Input	
Composite Video	1.0 Vp-p, sync negative automatic switching from 75 Ohm unbalanced termination to Hi-Z with looped through operation
Y/C (S-video)	1.0 Vp-p (Y), 0.3 Vp-p (C); manual switching from 75 Ohm unbalanced to Hi-Z with loop-through operation via the impedance switch
Audio Input	
Line Level	300 mV
Impedance	47 kOhm
Audio Output	
Loop-through line level, monaural	
Speaker	1.0 W
Controls	
Front Panel	Volume, Contrast, Brightness, Color, Tint (NTSC only), Video Selector Switches (A/B, Y/C), Power On/Off
Rear Panel	Y/C impedance switch
Indicators	
LED's	Three (3) green; indicate Video A, Video B and Y/C (S-video) when power is on
Connectors	
Power Input Socket	
Video A	Composite Video: Two (2) BNC (1 in, 1 out)
Video B	Composite Video: Two (2) BNC (1 in, 1 out)
Audio A	Two (2) RCA phono jacks (1 in, 1 out)

Electrical

Audio B	Two (2) RCA phono jacks (1 in, 1 out)
Y/C (S-video)	Two (2) Mini-DIN 4-pin (1 in, 1 out)
Power Cord	Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet	Material: Steel with plastic front
Finish	Charcoal
Dimensions (W x H x D)	260 x 245 x 332 mm (10.2 x 9.7 x 13.1 in.)
Weight	7.8 kg (17.1 lb)

Environmental

Temperature Operating	0°C to 40°C (32°F to 104°F)
Temperature Storage	-10°C to 50°C (14°F to 122°F)
Humidity	10% to 90% relative, non-condensing

Ordering Information

LTC 2810/91 10-inch Color Video Monitor 25 cm (10 in), PAL/NTSC, 300 TVL with audio, 120/230 VAC, 50/60 Hz	LTC 2810/91
LTC 9110/00 Rack Kit for one (1) LTC 2810, 31.12 cm (12.25 in.) high	LTC 9110/00

LTC 2813/90 Color Video Monitor



Features

- ▶ 36 cm (14 in.) Screen size
- ▶ Provides 400 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Wide range power supply
- ▶ Front panel controls
- ▶ Metal case minimizes interference
- ▶ Audio capability
- ▶ Optional rack mounting

The LTC 2813/90 is a standard resolution color display monitor whose price/performance ratio provides an optimum solution for any low cost color system.

Housed in a compact, space-saving metal cabinet, the LTC 2813/90 can be rack mounted in a 48.26 cm (19 in.) standard EIA rack using the optional LTC 9113/00 Rack Mount Kit.

Functions

This monitor incorporates a 36 cm (14 in.), measured diagonally, CRT which delivers excellent color reproduction and picture clarity with more than 400 TV lines of resolution.

The LTC 2813/90 includes two loop-through composite video inputs, using BNC connectors and impedance switches. Video inputs are selected via a front panel slide switch. Single line level audio is also available. Additional front panel controls allow for adjustment of volume, sharpness, brightness, contrast, color, and tint.

The LTC 2813/90 features an auto sensing function which automatically identifies whether input signals are PAL or NTSC. A universal power supply handles a wide range of power sources.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Volt.	Sync Format
LTC 2813/90	120/230 VAC	90-264	65 W	
PAL/NTSC	50/60 Hz			

Display Tube

35.6 cm (14 in.), measured diagonally, 90° deflection stripe pitch 0.65 mm, in-line guns, integral implosion protection

Viewable Picture Area

33.2 cm (13.1 in.) measured diagonally

Linearity

Horizontal	7%
Vertical	7%

Horizontal Resolution

350 TVL (minimum)

400 TVL (typical)

Video Input

Composite Video: 0.3 to 1.5 Vp-p, sync negative. Manual switching from 75 Ohm unbalanced to Hi-Z with loop-through operation via the impedance switch.

Audio Input	1 V line level
Audio Output	Loop-through line level, 1 W speaker

Controls

Front Panel	Volume Sharpness Brightness Contrast Color Tint (NTSC only) Video input A/B selector switch Power: On / Off switch
Rear Panel	75 Ohm / Hi-Z impedance switch (loop through)

Indicators (Front Panel)	Power on LED
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Mechanical

Connectors

Video A	Composite Video: two (2) BNC (1 in, 1 out)
Video B	Composite Video: two (2) BNC (1 in, 1 out)
Audio	Two (2) RCA phono jacks (1 in, 1 out)
Power Cord	Two (2) detachable, 3-wire IEC connectors with grounded plug, 1.5 m (5 ft) long. One (1) with a European/Continental plug type and one with a U.S. plug type

Mechanical

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x H x D)	356 x 380 x 333 mm (14 x 15 x 13.1 in.)
Weight	13.2 kg (29 lb)

Environmental

Operating temperature	0°C to 40°C (32°F to 104°F)
Storage temperature	-10°C to 50°C (14°F to 122°F)
Humidity	10%–90%, non-condensing

Accessories

LTC 9113/00 Rack Kit: For mounting one LTC 2813/90 monitor in a 48.26 cm (19 in.) standard EIA rack. One rack unit wide by 8 rack units high.

Ordering Information

LTC 2813/90 Color Video Monitor 36 cm (14 in.), 400 TVL with audio, 120/ 230 VAC, 50/60 Hz	LTC2813/90
LTC 9113/00 Rack Kit for one (1) LTC 2813, LTC 2914, or LTC 2915, 14-in. high	LTC 9113/00

LTC 2814/90 Color Video Monitor



Features

- ▶ 34 cm (13.4 in.) Viewable picture area
- ▶ PAL and NTSC formats with composite video and Y/C signal inputs
- ▶ Automatic termination
- ▶ Metal case minimizes interference
- ▶ Audio capabilities
- ▶ Wide range power supply
- ▶ Optional rack mounting
- ▶ Ease of installation and operation

The LTC 2814/90 color monitor offers a cost effective option for CCTV applications. The monitor is housed in an attractive styled case with convenient front controls and recessed handle and can be used as a desktop unit or can be rack mounted with a design-matched, easy-to-assemble rackmount kit.

Functions

The monitor needs only to be connected to the main power supply and have a standard color video signal applied to the input connector for a color image to be produced. Apart from the power on/off switch and LED indicator, there is a range of controls that allow color picture optimization.

Range of application, the monitor features an auto-detect function which identifies whether input signals are PAL or NTSC and automatically switches mode accordingly. The monitor accepts either two composite video inputs via BNC connectors or one Y/C input via a four-pole connector on the rear panel. BNC output connectors allow loop-through connection to a second monitor or video recorder. The impedance is automatically set to 75 Ohms by the input signal. For the two CVBS video inputs, a selection switch allows display of the video A or B input signal. An additional switch enables selection of CVBS or Y/C input. Sharp, stable pictures and an enhanced display tube make the LTC 2814/90 monitor the professional's choice.

Enhancement of picture quality is provided by front panel controls for sharpness, contrast, brightness, color, and tint (NTSC). Audio connectors are provided at the rear for those applications where audio can be used, with a volume control for adjustment to the appropriate audio level.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	70 W
Sync Format	PAL/ NTSC
Display Tube	35 cm (14 in.), measured diagonally, 90° deflection stripe pitch 0.66 mm, in-line guns, integral implosion protection.
Viewable Picture Area	34 cm (13.4 in.), measured diagonally
Linearity	Horizontal 10%
	Vertical 10%
Horizontal Res.	350 TV lines (CVBS)
Video Inputs	
Composite Video	0.5 to 1.5 Vp-p, sync negative. Automatic switching from 75 Ohm unbalanced termination to Hi-Z with looped-through operation
Y/C	Impedance: 75 Ohm unbalanced
	Y signal: 0.7 Vp-p
	C signal: 0.3 Vp-p
Audio Input	Line level: 300 mV, Impedance: 47 kOhm
Audio Output	Loop-through line level, Speaker: 1 W
Controls (Front Panel)	Volume, Sharpness, Contrast, Brightness, Color, Tint (applicable to NTSC only), Composite Video-A,B/Y/C switch, Video Input Selection switch, Power On/Off
(Rear panel)	Y/C impedance switch

Mechanical

Connectors

Composite Video	Four (4) BNC (2 in, 2 out); Y/C Video: two (2) mini-DIN
Audio	Four (4) RCA phono jacks (2 in, 2 out)
Power Cord	Two (2), 3-wire with grounded plug; 1.5 m (5 ft). One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	353 x 390 x 330 mm (13.9 x 15.4 x 13 in.)
Weight	14 kg (30.9 lb)

Environmental

Operating Temp.	0°C to 40°C (32°F to 104°F)
Storage Temp.	-10°C to 50°C (14°F to 122°F)
Humidity	90% relative, non-condensing

Ordering Information

LTC 2814/90 Color Video Monitor	LTC2814/90
35 cm (14 in.), PAL/NTSC, 350 TVL with audio, two (2) video inputs, 230 VAC, 50 Hz	
LTC 9114/00 Rack Kit	LTC 9114/00
48.26 cm (19 in.), for one (1) LTC 2814, 36 cm (14 in.) high	

LTC 2821/91 Color Video Monitor



Features

- ▶ 53 cm (21 in.) Screen size
- ▶ Provides 550 TV lines of resolution
- ▶ Auto-sensing of NTSC and PAL signals
- ▶ Two loop-through composite video and audio inputs
- ▶ On-screen display (OSD) for setup and adjustment
- ▶ Wide range power supply

The LTC 2821/91 is a high resolution, high performance color video display monitor, with a 51 cm (20 in.) viewable picture area and multi-standard compatibility. With a built-in loudspeaker and inputs able to accept NTSC and PAL standards, the LTC 2821/91 monitor offers maximum flexibility for a wide variety of applications. The monitor incorporates a 53 cm (21 in.), measured diagonally, flat display tube, with a stripe pitch of 0.74 mm (0.029 in.). It delivers outstanding color reproduction and picture clarity, with more than 500 TV lines of horizontal resolution

Functions

Designed for the CCTV security marketplace, the LTC 2821/91 monitor includes two sets of composite video inputs, and two audio inputs. Each of these video and audio inputs has passive loop-through outputs that provide auto-termination.

Monitor adjustments are made via front panel controls. Selections and adjustments can be made to monitor functions such as picture sharpness, tint, color, brightness, and contrast. An on-screen display provides feedback information of the selected settings.

The monitor also features an auto-sensing function, which identifies input signals as either NTSC or PAL, and automatically switches mode accordingly. It also provides a no input on-screen indication in the event of loss of video signal. Additionally, the versatile design accepts a wide range of power sources, and is housed in a compact, space-saving metal cabinet for rugged reliability.

Certifications and Approvals

Electromagnetic Compatibility (EMC)

Complies with FCC Part 15, ICES-003, and CE regulations

Safety

Complies with CE regulations, UL, CSA, EN, and IEC Standards

Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	90 W
Sync Format	PAL/NTSC
Display Tube	Flat square, 53 cm (21 in.), measured diagonally, 90° deflection stripe pitch 0.74 mm (0.029 in.), in-line guns, integral implosion protection
Viewable Picture Area	51 cm (20 in.) measured diagonally
Linearity	Horizontal 3% typical Vertical 3% typical
Horizontal Res.	500 TVL (minimum) 550 TVL (typical)

Video Inputs

Composite Video	1.0 Vp-p, sync negative passive loop-through video signal output terminal (auto-termination)
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Audio Input	500 mV line level, 47 kOhm, Hi-Z
Audio Output	Loop-through line level, 1.5 W speaker
Controls (Front Panel)	VCR, Sharpness, Tint (NTSC only), Color, Brightness, Contrast, Volume, Data (2), Video, Power

Indicators

Front Panel LED	One (1); video A (red), video B (green), VCR (orange)
On-screen Display	Adjustment level, video input selection, loss of video signal

Mechanical

Connectors	
Video A	Composite video: two (2) BNC (1 in, 1 out)
Video B	Composite video: two (2) BNC (1 in, 1 out)
VCR IN	Composite video: one (1) BNC
Audio A	Two (2) RCA phono jacks (1 in, 1 out)
Audio B	Two (2) RCA phono jacks (1 in, 1 out)
Audio In (VCR)	One (1) RCA phono jack
Power Cord	Two (2) detachable, 3-wire IEC connectors with a grounded plug, 1.83 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	490 x 482 x 444 mm (19.3 x 19.0 x 17.5 in.)
Weight	26.3 kg (58 lb)

Environmental

Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-25°C to 50°C (13°F to 122°F)
Humidity	20%–80%, non-condensing

Ordering Information

LTC 2821/91 Color Video Monitor	LTC2821/91
53 cm (21 in.), PAL/NTSC, 550 TVL with audio, 120/230 VAC, 50/60 Hz	

LTC 2910/90 Color Video Monitor



Features

- ▶ 23 cm (9 in.) Screen size
- ▶ Provides 350 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Wide range power supply
- ▶ Front panel controls
- ▶ Metal case minimizes interference
- ▶ Audio capability
- ▶ Optional rack mounting

The LTC 2910/90 is a standard resolution color display monitor designed for a variety of CCTV surveillance applications including industrial, educational, and medical installations where clear, high quality images and proven system reliability are required. This monitor incorporates a 23 cm (9 in.), measured diagonally, CRT which delivers excellent color reproduction and picture clarity with more than 350 TVL of resolution.

Functions

The LTC 2910/90 includes two loop-through composite video inputs, using auto-terminating BNC connectors, and RCA phone jacks for single line level audio. Video inputs are selected via a front panel slide switch. Additional front panel controls allow for adjustment of volume, sharpness, brightness, contrast, color, and tint.

The LTC 2910/90 features an auto sensing function which automatically identifies whether input signals are PAL or NTSC. It also includes a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2910/90 can be rack mounted in a 48.26 cm (19 in.) standard EIA rack using the optional TC210AMK Rack Mount Kit. This kit allows for two units to be rack mounted side-by-side. When only one monitor is rack mounted, a blanking panel is included to cover the unused opening.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	45 W
Sync Format	PAL/NTSC
Display Tube	23 cm (9 in.) measured diagonally, 90° deflection, deflection stripe pitch 0.50 mm, in-line guns, and integral implosion protection.
Viewable Picture Area	22.3 cm (8.8 in.) measured diagonally
Linearity	Horizontal 7% typical Vertical 7% typical
Horizontal Res.	300 TVL (minimum) 350 TVL (typical)

Video Inputs

Composite Video	Composite Video: 0.3 to 1.5 Vp-p, sync negative. Automatic switching from 75 Ohm unbalanced termination to Hi-Z with loop-through operation
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Audio Input	1 V line level
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Audio Output	Loop-through line level, 1 W speaker
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Controls (Front Panel)

Volume, Sharpness, Contrast, Brightness, Color, Tint (NTSC only), Composite Video A/B switch, Video Input Selection switch, Power On/Off.

Indicators

Front Panel LED	Power on LED
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Mechanical

Connectors

Video A	Composite video: two (2) BNC (1 in, 1 out), auto-terminating
Video B	Composite video: two (2) BNC (1 in, 1 out), auto-terminating
Audio	Two (2) RCA phono jacks (1 in, 1 out)
Power Cord	Two (2) detachable, 3-wire IEC connectors with a grounded plug, 1.5 m (5 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	222 x 303 x 227.5 mm (8.75 x 11.9 x 8.9 in.)
Weight	6.8 kg (14.9 lb)

Environmental

Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	–10°C to 50°C (14°F to 122°F)
Humidity	10%–90%, non-condensing
Accessories	
TC210AMK Rack Kit	For mounting one or two LTC 2910/90 monitors in a 48.26 cm (19 in.) standard EIA rack; 1 rack unit wide by 6 rack units high

Ordering Information

LTC 2910/90 Color Video Monitor	LTC2910/90
23 cm (9 in.), PAL/NTSC, 350 TVL with audio, 120/230 VAC, 50/60 Hz	
TC210AMK Rack Kit	TC210AMK
for up to two (2) LTC 2910 units, 26.67 cm (10.5 in.) high	

LTC 2915/91 15-inch Color Video Monitor



Features

- ▶ 39 cm (15 in.) Screen size
- ▶ Provides 700 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Switchable composite video and Y/C signal inputs
- ▶ On-screen menus for monitor adjustments
- ▶ Wide range power supply
- ▶ Audio capability
- ▶ Optional rack mounting

The LTC 2915/91 is a high performance, high resolution color display monitor which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 39 cm (15 in.), measured diagonally, CRT which, together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustment of display parameters are made via user-friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Functions

The LTC 2915/91 includes two loop-through composite video inputs, using BNC connectors with auto termination, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these three inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A input and composite B or Y/C input.

The LTC 2915/91 features an auto-sensing function, which automatically identifies whether input signals are PAL or NTSC, an underscan function to ensure no loss or distortion of multi-screen pictures when connected to a multiplexer device and to a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2915/91 can be rack mounted in a 48 cm (19 in.) standard EIA rack using the optional LTC 9113/00 Rack Mount Kit.

Certifications and Approvals

Electromagnetic Com- patibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	80 W
Sync Format	PAL/NTSC
Display Tube	39 cm (15 in.) measured diagonally, 90° deflection dot triad pitch 0.28 mm integral implosion protection
Viewable Picture Area	35.6 cm (14 in.) measured diagonally
Linearity	2 to 3% typical
	7% maximum
Horizontal Resolution	700 TVL (minimum)

Video Inputs

Composite Video	0.35 to 1.5 Vp-p, sync negative, auto-terminating 75 Ohm unbalanced to Hi-Z with pas- sive loop-through operation
Y/C	Y-Signal: 0.7 Vp-p; C-signal: 0.3 Vp-p, auto- terminating 75 Ohm unbalanced to Hi-Z with loop-through operation

Audio Input	1 V line level
Audio Output	Loop-through line level, 1 W speaker

Controls (Front Panel)

OSD	Selects on-screen display menu
^	Brightness adjustment increase, up cursor
V	Brightness adjustment decrease, down cur- sor
<	Contrast adjustment decrease, adjustment decrease OSD
>	Contrast adjustment increase, adjustment increase OSD
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C
SEQ	Select video input A, B, and Y/C in se- quence
Power	On/off switch

Electrical

Indicators Front Panel Power on LED

On-Screen Display (7 Languages)

Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Underscan, Sharpness

Mechanical

Connectors

Video A	Composite video: two (2) BNC (1 in, 1 out)
Video B	Composite video: two (2) BNC (1 in, 1 out)
Audio A	Two (2) RCA phono jacks (1 in, 1 out)
Audio B	Two (2) RCA phono jacks (1 in, 1 out)
Y/C Video	Two (2) mini-DIN, (1 in, 1 out)
Power Cord	Two (2) detachable, 3-wire IEC connectors with a grounded plug, 1.83 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type.

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	356 x 382 x 333 mm (14 x 15 x 13.1 in.)
Weight	13.2 kg (29.0 lb)

Environmental

Operating Temp.	0°C to 55°C (32°F to 131°F)
Storage Temp.	-10°C to 60°C (14°F to 140°F)
Humidity	10%–90%, non-condensing

Ordering Information

LTC 2915/91 15-inch Color Video Monitor	LTC2915/91
39 cm (15 in.), PAL/NTSC, 700 TVL with audio, 120/230 VAC, 50/60 Hz	
LTC 9113/00 Rack Kit	LTC 9113/00
for one (1) LTC 2813, LTC 2914, or LTC 2915, 14-in. high	

LTC 2917/91 17-inch Color Video Monitor



Features

- ▶ 44 cm (17 in.) Screen size
- ▶ Provides 700 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Switchable composite video and Y/C signal inputs
- ▶ On-screen menus for monitor adjustments
- ▶ Wide range power supply
- ▶ Audio capability
- ▶ Optional rack mounting

The LTC 2917/91 is a high performance, high resolution color display monitor which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 44 cm (17 in.), measured diagonally, CRT which, together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustment of display parameters are made via user friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Functions

The LTC 2917/91 includes two loop through composite video inputs, using BNC connectors and impedance switches, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these three inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A and composite video B-Y/C inputs.

The LTC 2917/91 features an auto-sensing function which automatically identifies whether input signals are PAL or NTSC, an underscan function to ensure no loss or distortion of multi-screen pictures when connected to a multiplexer device and a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2917/91 can be rack mounted in a 48 cm (19 in.) standard EIA rack using the optional LTC 9117/00 Rack Mount Kit.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	90 W
Sync Format	PAL/NTSC
Display Tube	44 cm (17 in.), measured diagonally, 90° deflection dot triad pitch 0.27 mm in-line guns, integral implosion protection
Viewable Picture Area	41 cm (16 in.) measured diagonally
Linearity	2 to 3% typical 7% maximum
Horizontal Resolution	700 TV lines (minimum)
Video Inputs	
Composite Video	
0.35 to 1.5 Vp-p, sync negative auto-terminating 75 Ohm unbalanced to Hi-Z with passive loop-through.	
Y/C	
Y-signal: 0.7 Vp-p, C-signal: 0.3 Vp-p. Manual switching from 75 Ohm unbalanced to Hi-Z with loop-through.	
Audio Input	1 V line level
Audio Output	Loop-through line level, 1 W speaker
Controls (Front Panel)	
OSD	Selects on-screen display menu
^	Brightness adjustment increases, up cursor control
V	Brightness adjustment decreases, down cursor control OSD
^	Contrast adjustment decrease, and adjustment decrease OSD
V	Contrast adjustment increase, and adjustment increase OSD
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C
SEQ	Select video input A, B, and Y/C in sequence
Power	On/off switch

Electrical

On-screen Display (7 Languages)

	Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Under-scan, Sharpness
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Indicators (Front Panel)	Power on LED
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Mechanical

Connectors

Video A	Composite video: two (2) BNC (1 in, 1 out)
Video B	Composite video: two (2) BNC (1 in, 1 out)
Audio A	Two (2) RCA phono jacks (1 in, 1 out)
Audio B	Two (2) RCA phono jacks (1 in, 1 out)
Y/C Video	Two (2) mini-DIN, (1 in, 1 out)
Power Cord	Two (2) detachable, 3-wire IEC connectors with a grounded plug, 1.83 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	405 x 406 x 370 mm (15.9 x 16 x 14.6 in.)
Weight	19.4 kg (42.7 lb)

Environmental

Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Humidity	10%–90%, non-condensing

Ordering Information

LTC 2917/91 17-inch Color Video Monitor	LTC2917/91
44 cm (17 in.), PAL/NTSC 700 TVL with audio, 120/230 VAC, 50/60 Hz	
LTC 9117/00 Rack Kit	LTC 9117/00
for one (1) LTC 2917, 40 cm (15.75 in.) high	

LTC 2919/90 19-inch Color Video Monitor



Features

- ▶ 48.3 cm (19 in.) Screen size
- ▶ Provides 700 TV lines of resolution
- ▶ Auto-sensing of PAL and NTSC signals
- ▶ Switchable composite video and Y/C signal inputs
- ▶ On-screen menus for monitor adjustments
- ▶ Wide range power supply
- ▶ Audio capability
- ▶ Optional rack mounting

The LTC 2919/90 is a high performance, high-resolution, color display monitor, which includes a comprehensive lineup of professional features, offering maximum flexibility for a wide variety of applications. This monitor incorporates a 48 cm (19 in.), measured diagonally, CRT, which together with a specially designed comb filter circuit, delivers outstanding color reproduction and picture clarity with more than 700 TV lines of resolution. Adjustments to display parameters are made via user friendly on-screen menus, offering a choice of default or customized settings selectable in seven languages.

Functions

The LTC 2919/90 includes two loop through composite video inputs, using BNC connectors and impedance switches, and one set of loop-through Y/C connectors for S-video signals. Using front panel controls, each of these three inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A and composite video B-Y/C inputs.

The LTC 2919/90 features an auto sensing function to automatically identify whether input signals are PAL or NTSC and a universal power supply to handle a wide range of power sources. Also included is an underscan function, which allows for compensation of extended picture content, associated with multiscreen video displays, and a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2919/90 can be flush mounted in a 48.26 cm (19 in.) standard EIA rack using the optional LTC 9119/00 Rack Mount Kit.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards Complies with DHHS Rules 21 CFR

Technical Specifications

Electrical	
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	100 W
Sync Format	PAL/NTSC
Display Tube	48.3 cm (19 in.) measured diagonally, 90° deflection dot triad pitch 0.27 mm integral implosion protection
Viewable Picture Area	45.7 cm (18 in.) measured diagonally
Linearity	2 to 3% typical 7% maximum
Horizontal Resolution	700 TVL (minimum)
Video Inputs	
Composite Video	0.3 to 1.5 Vp-p, sync negative. Auto-terminating 75 Ohm unbalanced to Hi-Z with passive loop-through operation via the impedance switch.
Y/C	Y-signal: 0.7 Vp-p C-signal: 0.3 Vp-p, auto-terminating 75 Ohm unbalanced to Hi-Z with loop-through operation.
Audio Input	1 V line level
Audio Output	Loop-through line level, 1 W speaker
Controls (Front Panel)	
OSD	Selects on-screen display menu
^	Brightness adjustment increase, up cursor
V	Brightness adjustment decrease, down cursor
<	Contrast adjustment decrease, and adjustment decrease OSD
>	Contrast adjustment increase, and adjustment increase OSD
A	Select video input A
B	Select video input B
Y/C	Select video input Y/C

Electrical

SEQ	Select video input A, B, and Y/C in sequence
Power	On / off switch
Indicators Front Panel	Power on LED

On-Screen Display (7 Languages)

Brightness, Contrast, Tint (NTSC only), Color, Default, Language (English, Chinese, French, German, Spanish, Italian, Dutch), Channel title, Dwell time, Volume, Underscan

Mechanical

Connectors

Video A	Composite video: two (2) BNC (1 in, 1 out)
Video B	Composite video: two (2) BNC (1 in, 1 out)
Audio A	Two (2) RCA phono jacks (1 in, 1 out)
Audio B	Two (2) RCA phono jacks (1 in, 1 out)
Y/C Video	Two (2) mini-DIN, (1 in, 1 out)
Power Cord	Two detachable, 3-wire IEC connectors with a grounded plug, 1.83 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Cabinet

Material	Steel with plastic front
Finish	Charcoal
Dimensions (W x D x H)	442 x 445 x 410 mm (17.4 x 17.5 x 16.1 in.) with footpads 405 H mm (15.82 in.) without footpads. 10U rack space required.
Weight	24 kg (52.9 lb)

Environmental

Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	-10°C to 60°C (14°F to 140°F)
Humidity	10%–90%, non-condensing

Ordering Information

LTC 2919/90 19-inch Color Video Monitor	LTC2919/90
48 cm (19 in.), PAL/NTSC, 700 TVL with audio, 120/230 VAC, 50/60 Hz	
LTC 9119/00 Rack Kit	LTC 9119/00
for one (1) LTC 2919/90, 40 cm (15.75 in.) high	

MON150CL 15-inch Color LCD Flat Panel Display Monitor



Features

- ▶ Provides 450 TV lines of resolution
- ▶ Y/C (S-video) and composite video inputs
- ▶ Analog DVI-I/VGA input
- ▶ Space saving, compact design
- ▶ 50% Less power consumption than conventional CRT monitors
- ▶ NTSC and PAL formats
- ▶ Universal power source
- ▶ On-screen display (OSD) for setup and adjustment

The MON150CL is a high resolution liquid crystal display (LCD) video display monitor.

Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 38 cm (15 in.) color thin film transistor (TFT) active matrix 1024 x 768 pixel LCD panel. Designed for the CCTV security marketplace, the MON150CL Monitor includes inputs for composite video, audio, and Y/C.

Additionally, this model includes an analog DVI-I/VGA input to accommodate the increasing use of PCs and digital video devices in security applications.

Adjustment of standard monitor display parameters is made user-friendly via on-screen menus (available in several languages), and front panel controls.

Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 100 to 240 VAC.

Its compact styling, including an LCD panel width of 64 mm (2.5 in.), makes the MON150CL the color monitor of choice for large screen, space limited applications. With its wide range viewing angle, 130° in the horizontal and 110° in the vertical direction, the unit can be properly viewed in a variety of positions.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, IC-ES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	23 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size (H x V)	304.1 x 228.1 mm (12 x 9 in.)
Viewable Picture Area	38 cm (15 in.), measured diagonally
Pixel Pitch (H x V)	0.297 x 0.297 mm
Resolution (H x V)	1024 x 768 pixels; 450 TV lines typical
Aspect Ratio	4:3
Display Colors	6 bit interface; 16 million colors
Response Time	12 ms
Backlight	Two (2) cold cathode fluorescent tubes, rated life 30,000 hours, at 50% brightness

Optical Characteristics

Luminance	250 cd/m ²
Contrast Ratio	500:1
Viewing Angle	130° horizontal, 110° vertical

Video Input

Composite Video (CVBS)	1.0 Vp-p (1.0-1.5 Vp-p)
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ohm termination

DVI-I/VGA Input

Analog RGB	0.7 Vrms
DVI-I/VGA Timing Modes	640 x 480, 60/72/75 Hz 800 x 600, 60/72/75 Hz 1024 x 768, 60/70/75 Hz
Audio Input	Line input 1.0 Vp-p
Audio Output	Speaker: Two (2), 1 W

Controls

Front Panel	Push-buttons
Auto	CVBS, S-VIDEO, DVI-I/VGA Input
-	Adjustment decrease
+	Adjustment increase
Menu	Selects on-screen display (OSD)
Power	On/Off

Controls**On-Screen Display**

Video Mode	Luminance, Color Temp., Input Select, OSD Setup, Language, Information, Reset, Exit
DVI-I/VGA Mode	Luminance, Image Setup, Image Position, Color Temp., Input Select, OSD Setup, Language, Information, Reset, Exit
OSD Setup	H & V Position, OSD Timeout

Indicators

LED	Power On (green) Standby (amber)
On-Screen	"No Signal" (flashing)

Connectors

Composite Video In	One (1) RCA jack
Audio In	One (1) 1/8 in. 3-cond. mini phone jack
Y/C (S-video)	One (1) mini-DIN, 4-pin (in only)
DVI-I/VGA	One (1) 15-pin D-sub
Power Input	5.5 mm DC input jack
Power Adapter (Included)	Input: 100-240 VAC, 50/60 Hz Output: 12 VDC, 3.4 A

Mechanical

Cabinet	Material: ABS94V0 plastic Finish: charcoal
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Dimensions

LCD Panel with Base (H x D x W)	325 x 160 x 347 mm (12.8 x 6.3 x 13.7 in.)
LCD Panel Only (H x D x W)	319 x 64 x 347 mm (12.6 x 2.5 x 13.7 in.)
Weight	LCD Panel with Base: 3.1 kg (6.8 lb) LCD Panel Only: 2.6 kg (5.7 lb)

Environmental

Temperature	Operating: 0°C to 50°C (32°F to 122°F) Storage: -20°C to 60°C (-4°F to 140°F)
Humidity	95%, non-condensing at 40°C (104°F)

Ordering Information

MON150CL 15-inch Color LCD Flat Panel Display Monitor	MON150CL
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38 cm (15 in.), PAL/NTSC, 450 TVL with audio,
1024 x 768 resolution, CVBS, S-VIDEO, RGB,
120/230 VAC, 50/60 Hz

MON152CL30 15-inch Color LCD Flat Panel Display Monitor



Features

- ▶ Y/C (S-video) and loop-through video and audio inputs
- ▶ High resolution (500 TVL or XGA, 1024 x 768)
- ▶ High brightness (400 cd/m²)
- ▶ High contrast ratio (500:1)
- ▶ 3-D comb filter for high quality video
- ▶ PIP (3 sizes, up to 7.4 in.)
- ▶ Analog VGA / digital DVI input
- ▶ Auto power-on after power interruption
- ▶ Front panel control lockout
- ▶ 50% less power consumption than conventional CRT monitors

The MON152CL30 is a high resolution, high performance liquid crystal display (LCD) video display monitor. Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 38 cm (15 in.) color thin film transistor (TFT) active matrix LCD panel with 1024 by 768 pixels. Designed for the CCTV security marketplace, the MON152CL30 monitor includes two looping composite video inputs, two looping audio inputs, and one Y/C input.

Functions

Additionally, this model includes an analog VGA / digital DVI input to accommodate the increasing use of PC's and digital video devices in security applications. To enhance the multi-input capability, a "picture-in-picture" function has been added, allowing any of the composite video or Y/C inputs to be inserted into each other, or into the VGA/DVI input display when operating in the VGA/DVI mode.

Adjustment of standard monitor display parameters is made user-friendly via on-screen menus (available in several languages), and front panel controls. For additional security, the MON152CL30 includes a front panel lockout feature that disables the front panel control buttons.

Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 90 to 264 VAC.

Its compact styling, including an LCD panel width of 70 mm (3 in.), makes the MON152CL30 the color monitor of choice for large screen, space limited applications. With its wide range viewing angle, 140° in horizontal and 125° in the vertical direction, the unit can be properly viewed whether installed on a desktop, wall mounted, or rack mounted in a standard 48 cm (19 in.) EIA rack.

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	42 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size (H x V)	304.1 x 228.1 mm (12 x 9 in.)
Viewable Picture Area	38 cm (15 in.) measured diagonally
Pixel Pitch (H x V)	0.297 x 0.297 mm (0.01 x 0.01 in.)
Resolution	1024 x 768 pixels; 500 TVL typical
Aspect Ratio	4:3
Display Colors	8 bits interface; 16.2 million colors
Response Time	16 ms
Backlight	Four (4) cold cathode fluorescent tubes, rated life 50,000 hours, at 50% brightness

Optical Characteristics

Luminance	400 cd/m ²
Contrast Ratio (CR)	500:1
Viewing Angle	140° horizontal, 125° vertical @ CR ≥ 10

Video Input

Composite Video (CVBS)	1.0 Vp-p (0.5–1.5 Vp-p), automatic switching from 75 Ohm unbalanced termination to Hi-Z with loop-through operation
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ohm termination
Picture-in-Picture	Video 1, Video 2, S-Video

VGA Input

Analog RGB	0.7 Vp-p (0.5–1 Vrms)
Picture-in-Picture	Video 1, Video 2, S-Video

Electrical

VGA Timing Modes	640 x 480, 60/72/75 Hz 800 x 600, 56/60/72/75 Hz 1024 x 768, 60/70/75/85 Hz
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Audio Input	1.0 V line level
Audio Output	Loop-through line level Speakers: two (2), 1 W

Controls

Front Panel	Push-buttons
Input	Selects Video 1, Video 2, S-Video, VGA, or DVI input
Menu	Selects On-screen Display (OSD) Up cursor, brightness select Down cursor, contrast select Adjustment decrease Adjustment increase
Power	On / Off
Front Panel Lockout	Multiple push-button combination

On-screen Display

Video	Tint (NTSC only), Color, Default, Language, Channel Title, Underscan, PIP Menu, Power-on Options, Volume, Exit
VGA/DVI	Auto Set, Display Setting, Color Temperature, Language, Volume, Default, PIP Menu, Power-on Options, Information, Exit

Indicators

LED	Power On (green), Standby (amber), Sleep Mode (flashing amber)
On-Screen	"No Signal" (flashing)

Connectors

Video 1	Composite video: two (2) BNC (1 in, 1 out) audio: two (2) RCA (1 in, 1 out)
Video 2	Composite video: two (2) BNC (1 in, 1 out) audio: two (2) RCA (1 in, 1 out)
Y/C (S-video)	One (1) mini-DIN, 4-pin (in only)
DVI	One (1) VGA to DVI-I cable included
Power Cord	Two (2), 3-wire with grounded plug, 1.8 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet	Material: ABS94V0 plastic Finish: Charcoal Wall mounting compatible with standard bracket, 75 mm centers, M4 thread
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Dimensions

LCD Panel with Base (W x D x H)	391 x 183 x 395 mm (15.4 x 7.2 x 15.6 in.)
LCD Panel Only (W x D x H)	391 x 70 x 306 mm (15.4 x 2.75 x 12 in.)

Weight	LCD panel with base: 4.9 kg (10.8 lb) LCD panel only: 3.6 kg (8.0 lb)
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Environmental

Operating Temp.	0°C to 45°C (32°F to 122°F)
Storage Temp.	-20°C to 60°C (-4°F to 140°F)
Humidity	10%–95%, non-condensing

Environmental**Product Regulatory Compliance****Electromagnetic Compatibility (EMC)**

Complies with FCC Part 15, ICES-003, and CE regulations

Product Safety

Complies with CE regulations, CUL US, EN, and IEC Standards

Accessories

MON151PS Power Supply	120/220 VAC, 50/60 Hz input, 12 VDC, 4.0 A output. Used for operation away from the base.
MON151RK Rack Mount Kit	For mounting one MON152CL monitor in an EIA standard 48.26 cm (19 in.) rack 1-rack unit wide by 7-rack units high

Ordering Information

MON152CL30 15-inch Color LCD Flat Panel Display Monitor	MON152CL/30
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38 cm (15 in.), PAL/NTSC, 500 TV lines of high resolution, PIP, CVBS, VGA and audio, 120/230 VAC, 50/60 Hz

MON170CL 17-inch Color LCD Flat Panel Display Monitor



Features

- ▶ Provides 500 TV lines of resolution
- ▶ Y/C (S-video), composite video and audio inputs
- ▶ Analog DVI-I/VGA input
- ▶ Space saving, compact design
- ▶ 50% less power consumption than conventional CRT monitors
- ▶ PAL and NTSC formats
- ▶ Universal power source
- ▶ On-screen display (OSD) for setup and adjustment

The MON170CL is a high resolution, high performance liquid crystal display (LCD) video display monitor.

Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 43 cm (17 in.) color thin film transistor (TFT) active matrix 1280 x 1024 pixel LCD panel. Designed for the CCTV security marketplace, the MON170CL Monitor includes inputs for composite video, audio, and Y/C.

Additionally, this model includes an analog DVI-I/VGA input to accommodate the increasing use of PCs and digital video devices in security applications.

Adjustment of standard monitor display parameters is made user-friendly via on-screen menus (available in several languages), and front panel controls.

Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 100 to 240 VAC.

Its compact styling, including an LCD panel depth of 48 mm (1.9 in.), makes the MON170CL the color monitor of choice for large screen, space limited applications. With its wide range viewing angle, 140° in the horizontal and 130° in the vertical direction, the unit can be properly viewed in a variety of positions.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	100 to 240
Power at Rated Voltage	34 W
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size (H x V)	338.0 x 270.3 mm (13.3 x 10.6 in.)
Viewable Picture Area	43 cm (17 in.) measured diagonally
Pixel Pitch (H x V)	0.264 x 0.264 mm
Resolution	1280 x 1024 pixels, 500 TV lines, typical
Aspect Ratio	4:3 (composite video); 5:4 (DVI-I/VGA)
Display Colors	8 bits interface; 16 million colors
Response Time	8 ms
Backlight	Four (4) cold cathode fluorescent tubes, rated life 50,000 hours, at 50% brightness

Optical Characteristics

Luminance	300 cd/m ²
Contrast Ratio	500:1
Viewing Angle	140° horizontal, 130° vertical

Video Input

Composite Video (CVBS)	1.0 Vp-p (0.5–1.5 Vrms)
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ohm termination

DVI-I/VGA Input

Analog RGB	0.7 Vp-p (0.5–1 Vrms)
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DVI-I/VGA Timing Modes

Fh: 30 K–80 KHz	
Fv: 60–75 Hz	
640 x 480	60/72/75 Hz
800 x 600	60/72/75 Hz
1024 x 768	60/70/75 Hz
1280 x 1024	60/75 Hz

Audio Input

Line input 1.0 Vp-p	
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Audio Output

Speaker: Two (2), 1 W

Controls

Front Panel	Push-buttons
I (Input)	Selects CVBS, S-Video, DVI-I/VGA Input
M (Menu)	Selects on-screen display (OSD)
-	Adjustment decrease
+	Adjustment increase
Power	On/Off

On-Screen Display

Video Mode	Luminance, Color Temp., Input Select, OSD Setup, Language, Information, Reset, Exit
DVI-I/VGA Mode	Luminance, Image Setup, Image Position, Color Temp., Input Select, OSD Setup, Language, Information, Reset, Exit
OSD Setup	H & V Position, OSD Timeout

Indicators

LED	Power On (green)
On-Screen	"Attention No Signal"

Connectors

Composite Video In	One (1) RCA jack, BNC adapter included
Audio In	One (1) 1/8-in. 3-cond. mini phone jack
Y/C (S-video)	One (1) mini-DIN, 4-pin (in only)
DVI-I/VGA	One (1) 15-pin D-sub
Power Input	5.5 mm DC input jack
Power Adapter (Included)	Input: 100–240 VAC, 50/60 Hz, Output: 12 VDC, 4.2 A

Mechanical

Cabinet	Material: ABS94V0 plastic Finish: Charcoal
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Dimensions

LCD Panel with Base (W x D x H)	372 x 170 x 386 mm (14.6 x 6.7 x 15.2 in.)
LCD Panel Only (W x D x H)	372 x 48 x 320 mm (14.6 x 1.9 x 12.6 in.)
Weight	LCD Panel with Base: 3.8 kg (8.4 lb) LCD Panel Only: 2.9 kg (6.4 lb)

Environmental

Temperature	Operating: 0°C to 40°C (32°F to 104°F) Storage: –20°C to 60°C (–4°F to 140°F)
Humidity	95%, non-condensing at 40°C (104°F)

Ordering Information

MON170CL 17-inch Color LCD Flat Panel	MON170CL
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Display Monitor

43 cm (17 in.), PAL/NTSC, 500 TVL with audio,
1280 x 1024 resolution, CVBS, VGA, Y/C,
S-video, 100/240 VAC, 50/60 Hz

MON172CL20 17-inch Color LCD Flat Panel Display Monitor



Features

- ▶ Y/C (S-video) and loop-through video and audio inputs
- ▶ High resolution (500 TVL or SXGA, 1280 x 1024)
- ▶ High brightness (400 cd/m²)
- ▶ High contrast ratio (500:1)
- ▶ 3-D comb filter for high quality video
- ▶ PIP (3 sizes, up to 8.4 in.)
- ▶ Analog VGA / digital DVI input
- ▶ Auto power-on after power interruption
- ▶ Front panel control lockout
- ▶ 50% less power consumption than conventional CRT monitors

The MON172CL20 is a high resolution, high performance liquid crystal display (LCD) video display monitor. Available in an ergonomic, aesthetically pleasing design, this state-of-the-art monitor includes a 43 cm (17 in.) color thin film transistor (TFT) active matrix LCD panel with 1280 by 1024 pixels. Designed for the CCTV security marketplace, the MON172CL20 monitor includes two looping composite video inputs, two looping audio inputs, and one Y/C input.

Functions

Additionally, this model includes an analog VGA / digital DVI input to accommodate the increasing use of PC's and digital video devices in security applications. To enhance the multi-input capability, a "picture-in-picture" function has been added, allowing any of the composite video or Y/C inputs to be inserted into each other, or into the VGA/DVI input display when operating in the analog VGA/DVI mode.

Adjustment of standard monitor display parameters is made user-friendly via on-screen menus (available in several languages), and front panel controls. For additional security, the MON172CL20 includes a front panel lockout feature that disables the front panel control buttons.

Using long-life fluorescent backlights, the brightness level is maintained over time, because the LCD monitor design avoids the brightness degradation experienced with aging CRT-type monitors. It also provides a sharp display, free of the annoying flicker prevalent in CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain. The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 90 to 264 VAC.

Its compact styling, including an LCD panel width of 84 mm (3 in.), makes the MON172CL20 the color monitor of choice for large screen, space limited applications. With its wide range viewing angle, 140° in horizontal and 130° in the vertical direction, the unit can be properly viewed whether installed on a desktop, wall mounted, or rack mounted in a standard 48 cm (19 in.) EIA rack.

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	90 to 264
Power at Rated Voltage	51 W (max.)
Sync Format	PAL/NTSC
LCD Panel	TFT LCD
Screen Size (H x V)	337.9 x 270.3 mm (13.3 x 10.6 in.)
Viewable Picture Area	17 in. (43 cm) measured diagonally
Pixel Pitch (H x V)	0.264 x 0.264 mm (0.01 x 0.01 in.)
Resolution	1280 x 1024 pixels; 500 TV lines typical
Aspect Ratio	5:4
Display Colors	8-bit interface; 16.2 million colors
Response Time	8 ms
Backlight	Four (4) cold cathode fluorescent tubes, rated life 50,000 hours, at 50% brightness

Optical Characteristics

Luminance	400 cd/m ²
Contrast Ratio (CR)	500:1
Viewing Angle	140° horizontal, 130° vertical @ CR ≥ 10

Video Input

Composite Video (CVBS)	1.0 Vp-p (0.5–1.5 Vp-p), automatic switching from 75 Ohm unbalanced termination to Hi-Z with loop-through operation
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ohm termination
Picture-in-Picture	Video 1, Video 2, S-Video

VGA Input

Analog RGB	0.7 Vp-p (0.5–1 Vrms)
Picture-in-Picture	Video 1, Video 2, S-Video

VGA Timing Modes

640 x 480, 60/72/75 Hz
800 x 600, 56/60/72/75 Hz
1024 x 768, 60/70/75 Hz
1280 x 1024, 60/75 Hz

Electrical

Audio Input	1.0 V line level
Audio Output	Loop-through line level Speaker: two (2), 1 W

Controls

Front Panel	Push-buttons
Input	Selects Video 1, Video 2, S-Video, DVI, or VGA input
Menu	Selects on-screen display (OSD) Up cursor, brightness select Down cursor, contrast select Adjustment decrease Adjustment increase
Power	On/Off
Front Panel Lockout	Multiple push-button combination

On-Screen Display

Video	Tint (NTSC only), Color, Default, Language, Channel Title, Underscan, PIP Menu, Power-on Options, Volume, Exit
VGA / DVI	Auto Set, Display Setting, Color Temperature, Language, Volume, Default, PIP Menu, Power-on Options, Information, Exit

Indicators

LED	Power On (green), Standby (amber), Sleep Mode (flashing amber)
On-Screen	"No Signal" (flashing)

Connectors

Video 1	Composite video: two (2) BNC (1 in, 1 out) Audio: two (2) RCA (1 in, 1 out)
Video 2	Composite video: two (2) BNC (1 in, 1 out) audio: two (2) RCA (1 in, 1 out)
Y/C (S-video)	Two (2) mini-DIN, 4-pin (1 in, 1 out)
DVI-I	One (1) VGA to DVI-I cable included
Power Cord	Two (2), 3-wire with a grounded plug, 1.8 m (6 ft) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet	Material: ABS94V0 plastic Finish: Charcoal Wall mounting compatible with standard bracket, 75 mm centers, M4 thread
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Dimensions

LCD Panel with Base (W x D x H)	440 x 196 x 428 mm (17.3 x 7.7 x 16.9 in.)
LCD Panel Only (W x D x H)	440 x 84 x 375 mm (17.3 x 3.3 x 14.8 in.)

Weight	LCD panel with base: 7 kg (15.42 lb) LCD panel only: 5.4 kg (11.9 lb)
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Environmental

Operating Temp.	0°C to 45°C (32°F to 104°F)
Storage Temp.	-20°C to 60°C (-4°F to 140°F)
Humidity	10%-95%, non-condensing

Environmental

Product Regulatory Compliance

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Accessories

MON151PS Power Supply	120/220 VAC, 50/60 Hz input, 12 VDC, 4.0 A output. Used for operation away from the base.
MON171RK Rack Mount Kit	For mounting one MON172CL20 monitor in an EIA standard 48 cm (19 in.) rack 1 unit wide by 9 rack units high

Ordering Information

MON172CL20 17-inch Color LCD Flat Panel Display Monitor	MON172CL/20 43 cm (17 in.), PAL/NTSC, 500 TVL high resolution with audio, PIP, CVBS, VGA, 120/230 VAC, 50/60 Hz
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MON201CL 20-inch Color LCD Flat Panel Display Monitor



Features

- ▶ Provides 500 TV lines of resolution
- ▶ Loop-through composite video, Y/C (S-video) and audio inputs
- ▶ Analog VGA input 800 x 600 max. Software scalable to 1024 x 768
- ▶ NTSC and PAL formats
- ▶ Universal power source
- ▶ Front panel control lockout
- ▶ On-screen display (OSD) for setup and adjustment
- ▶ 12 VDC power outlet for public view monitoring

Designed for the CCTV security marketplace, the MON201CL monitor includes two looping composite video inputs, two looping audio inputs, and one looping Y/C input. Additionally, this model includes an analog VGA input to accommodate the increasing use of 'PCs' and digital video devices in security applications.

The MON201CL has been tested for compatibility of operation with analog output devices such as the Allegiant Matrix Switcher System, the Divar Digital Recorder, and standard multiplexers. It is also recommended for use with devices and systems with VGA output of 800 x 600 maximum resolution. In addition, in applications where required, the MON201CL is scalable via on-board software to be compatible with a 1024 x 768 resolution VGA source.

The versatile design allows it to automatically accept NTSC and PAL signal formats, and power supply voltages from 96 to 256 VAC. When connected to multiplexer devices, the underscan function provides a multi-screen display of individual cameras without loss or distortion of images.

Its compact styling, including an LCD panel width of 86 mm (3.4 in.) and wide range viewing angle, makes the MON201CL an excellent choice for space limited and public view applications. Specific features to support public view monitoring include a DC power outlet for a 12 VDC camera; user friendly on-screen menus accessible via front panel controls or a remote control transmitter; and a front panel lockout feature to prevent access once monitor set up is completed.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, cUL, EN, and IEC standards

Technical Specifications

Electrical

Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	96 to 256 VAC
Power at Rated Voltage	55 W
Sync Format	Auto-sensing
NTSC	525 lines, 60 fields/sec.
PAL	625 lines, 50 fields/sec.
LCD Panel	TFT LCD
Screen Size (H x V)	408 x 306 mm (16.1 x 12.0 in.)
Viewable Picture Area	51 cm (20.1 in.) measured diagonally
Pixel Pitch: (H x V)	0.51 x 0.51 mm (0.02 x 0.02 in.)
Resolution	500 TVL
Aspect Ratio	4:3
Display Colors	16.8 million colors
Response Time	16 ms
Backlight	Four (4) cold cathode fluorescent tubes, rated life 50,000 hours, at 50% brightness

Optical Characteristics

Luminance	500 cd/m ²
Contrast Ratio	500:1
Viewing Angle	160° horizontal, 120° vertical

Video Input

Composite Video (CVBS)	1.0 Vp-p (0.5–2.0 Vp-p), automatic switching from 75 Ohm unbalanced termination to Hi-Z with loop-through operation
Y/C (S-video)	1.0 Vp-p (0.5–2.0 Vp-p), automatic switching from 75 Ohm unbalanced termination to Hi-Z with loop-through operation

VGA Input

Analog RGB	0.707 Vp-p/75 Ohm
VGA Timing Modes	640 x 480 60/72/75 Hz 800 x 60 56/70/72/75 Hz 1024 x 768 60 Hz (scalable)
Audio Input	Level: 1.0 Vp-p/1 kHz
Audio Output	Loop-through line level Speaker: two (2), 4 W

Controls

Front Panel	Push-button
Input	Select CVBS 1, CVBS 2, Y/C, or VGA input
Menu	Selects on-screen display (OSD)
Select	Selects sub-menu item
Adjust	Adjustment decrease Adjustment increase
Power	On/Off
Front Panel Lockout	Select from General OSD menu
Remote Control	Controls monitor functions

On-screen Display

General	Language, Backlight, Power-on Option, Key Lock, Volume, Treble, Ban Balance
Video	Brightness, Contrast, Color, Tint (NTSC only), Sharpness, Color Temperature, Video System, Comb Filter, Scan Mode, Display, Default
VGA	Auto, Brightness, Contrast, H-position, V-position, Clock, Phase, Color Temperature, White Balance, Display, Default

Indicators

LED	Power-on (green), standby, (amber)
On-screen	Video loss

Connectors

Input 1	Composite Video: two (2) BNC (1 in, 1 out) audio: four (4) RCA (2 in, 2 out; left, right)
Input 2	Composite Video: Two (2) BNC (1 in, 1 out) audio: four (4) RCA (2 in, 2 out; left, right)
Y/C (S-video)	Two (2) mini-DIN, 4-pin (1 in, 1 out)
VGA	One (1) 15-pin D-sub
DC Power Output	Bayonet connector, 12 VDC regulated, 500 mA
Power Cord	Two (2), 3-wire with grounded plugs, 1.8 m (6 ft.) long. One (1) with a European/Continental plug type and one (1) with a U.S. plug type

Mechanical

Cabinet	Material: metal, Finish: charcoal, Wall-mounting: compatible with VESA standard bracket, 100 mm (3.94 in.) centers
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Dimensions

LCD Panel with Base (W x D x H)	461 x 178 to 229 x 397 mm (18.12 x 7 to 9 x 15.62 in.)
LCD Panel Only (W x D x H)	461 x 86 x 397 mm (18.12 x 3.38 x 15.62 in.)
Weight	7.3 kg (16.1 lb)

Environmental

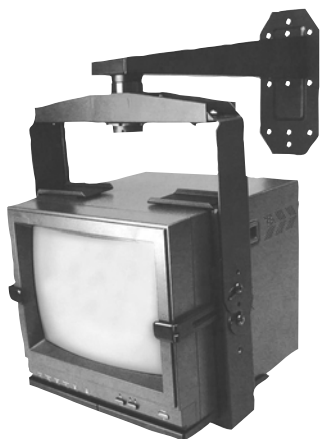
Temperature	Operating: 0°C to 60°C (32°F to 140°F) Storage: -20°C to 60°C (-4°F to 140°F)
Humidity	10% to 95%, non-condensing

Ordering Information

MON201CL 20-inch Color LCD Flat Panel Display Monitor	MON201CL
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51 cm (20 in.), PAL/NTSC, 500 TVL with audio,
800 x 600 resolution, CVBS, VGA, Y/C, 120/
230 VAC, 50/60 Hz

TC9209MM-W, MM3000, TC9217MM, TC9220MM Series Monitor Mounts



Features

- For mounting a 23 cm (9 in.) to a 53 cm (21 in.) monitor
- Wide range of sizes
- For wall and ceiling installations
- Adjustable tilt up to 30° and 360° swivel
- Top and front roll-out protection
- Sturdy construction

This series of monitor mounts provides a convenient method of mounting most monitors to ceilings and walls. Units are available for mounting 23 cm (9 in.) to 53 cm (21 in.) monitors. The trays on all units swivel and are adjustable for tilt; monitors are easily mounted to the random hole patterns on the adjustable width trays.

See the compatibility chart for the correct monitor mount for your Bosch monitor.

Functions

The **MM3000** is a ceiling mount for 23 cm (9 in.) to 30 cm (12 in.) monitors. It is designed to mount to a ceiling or flat overhead surface. Its lightweight aluminum construction offers fast and easy installation. The tray locks with an Allen wrench.

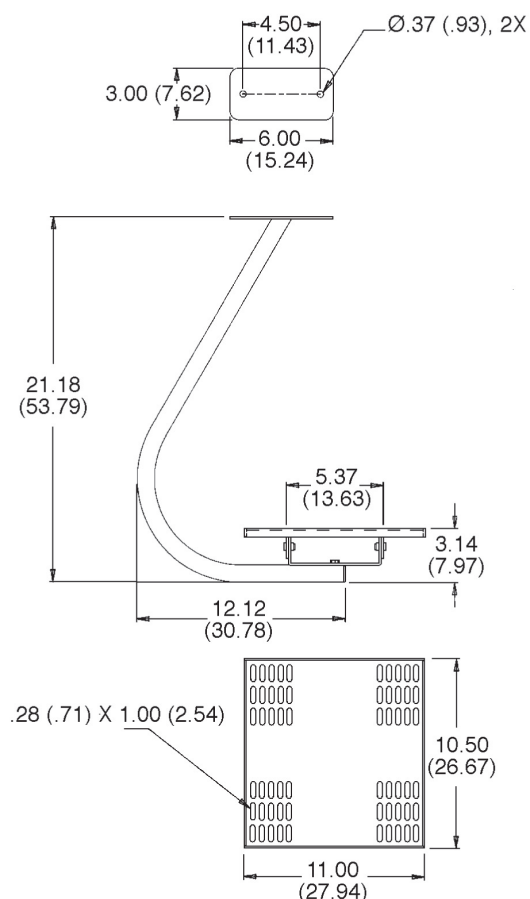
The **TC9209MM-W** is designed to mount 23 cm (9 in.) to 33 cm (13 in.) monitors to a flat wall. These units have a locking mounting tray with a key-type lock.

The **TC9200MM** series have all been redesigned to incorporate anti-roll-out brackets to provide an extra measure of safety and support to prevent a monitor from falling forward when mounted in the tilt-down position. Maximum tilt-down angle has been increased to 30°.

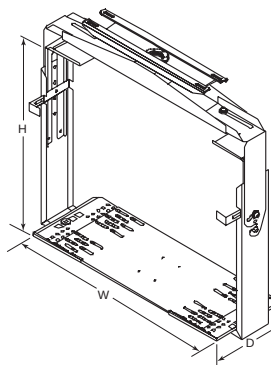
All parts are included in the **TC9200MM-C** series to mount various monitor sizes to a structural ceiling. The TC9220EC series extension columns can be used to increase clearance from the ceiling by 610 mm (2 ft) and 1219 mm (4 ft) lengths.

The **TC9200MM-W** series are used to mount monitors to a flat wall. Mounting arms are included and allow for 360° swivel of the mounted monitor.

Installation/Configuration Notes

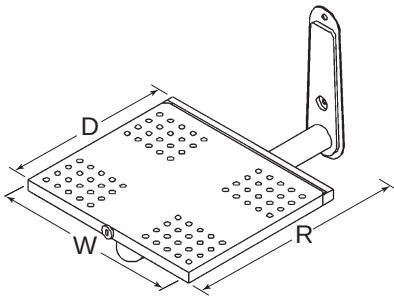


MM3000



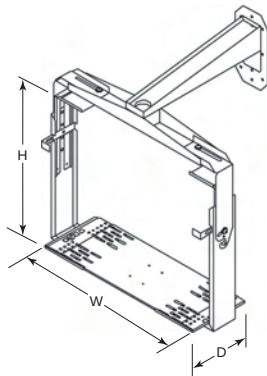
TC9217MM-C / TC9220MM-C

Model No.	Width	Height	Depth
	mm (in.)	mm (in.)	mm (in.)
TC9217MM-C	343 to 534 (13.5 to 21)	324 to 457 (12.8 to 18)	254 (10)
TC9220MM-C	457 to 660 (18 to 26)	400 to 533 (15.8 to 21)	356 (14)



Wall Mount: TC9209MM-W

Width	Depth	Reach
mm (in.)	mm (in.)	mm (in.)
267 (10.5)	292 (11.5)	368 (14.5)



Suspended Wall Mounts: TC9217MM-W / TC9220MM-W

Model No.	Width	Height	Depth	Reach
	mm (in.)	mm (in.)	mm (in.)	mm (in.)
TC9217MM-W	343 to 533 (13.5 to 21)	324 to 457 (12.8 to 18)	254 (10)	457 (18)
TC9220MM-W	457 to 660 (18 to 26)	400 to 533 (15.8 to 21)	356 (14)	457 (18)

Technical Specifications

MM3000

Monitor Size	23 cm (9 in.) to 30 cm (12 in.)
Maximum Load	18 kg (40 lb)
Pan	360°
Tilt	45° maximum forward
Finish	Off-white
Dimensions	See drawing ¹
Weight	3.62 kg (8 lb)

1. Dimensions are shown in inches; dimensions in parenthesis are in centimeters.

TC9217MM-C

Monitor Size	33 cm (13 in.) to 43 cm (17 in.)
Maximum Load	
Concrete Ceiling	65 kg (150 lb)
Wood Stud Ceiling	57 kg (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	14.2 kg (31.3 lb)

TC9220MM-C

Monitor Size	48 cm (19 in.) to 53 cm (21 in.)
Maximum Load	
Concrete Ceiling:	65 kg (150 lb)
Wood Stud Ceiling	57 kg (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	16.7 kg (36.7 lb)

TC9209MM-W

Monitor Size	23 cm (9 in.) to 33 cm (13 in.)
Maximum Load	22.7 kg (50 lb)
Pan	360°
Tilt Range	0°/5°/10°
Finish	Black
Dimensions	See drawing
Weight	3.9 kg (8.5 lb)

TC9217MM-W

Monitor Size	33 cm (13 in.) to 43 cm (17 in.)
Maximum Load	
Concrete Wall	68 kg (150 lb)
Wood Stud Wall	56.7 kg (125 lb)
Pan	360°
Tilt Range	30°
Finish	Black
Dimensions	See drawing
Weight	18.4 kg (40.5 lb)

TC9220MM-W**Monitor Size** 48 cm (19 in.) to 53 cm (21 in.)**Maximum Load**

Concrete Wall 68 kg (150 lb)

Wood Stud Wall 56.7 kg (125 lb)

Pan 360°**Tilt Range** 30°**Finish** Black**Dimensions** See drawing**Weight** 21.3 kg (46.9 lb)**Monitor Mount Compatibility Chart**

Bosch Monitor Model No.	Ceiling Mount	Wall Mount
Monochrome		
LTC 2009/51, /61	MM3000	TC9209MM-W
LTC 2012/51, /61	MM3000	TC9209MM-W
LTC 2017/50, /60	TC9217MM-C	TC9217MM-W
LTC 2020/91	TC9220MM-C	TC9220MM-W
Color		
LTC 2810/91	TC9217MM-C	TC9217MM-W
LTC 2813/60, /90	TC9217MM-C	TC9217MM-W
LTC 2814/90	TC9217MM-C	TC9217MM-W
LTC 2821/91	TC9220MM-C	TC9220MM-W
LTC 2910/50, /60, /90	MM3000	TC9209MM-W
LTC 2915/91	TC9217MM-C	TC9217MM-W
LTC 2917/90, /91	TC9217MM-C	TC9217MM-W
LTC 2919/90	TC9220MM-C	TC9220MM-W

Ordering Information

MM3000 Monitor Mount ceiling, for LTC 2009, 2012, 2910	MM3000
TC 9217MM-C Monitor Mount ceiling, for LTC 2017, 2810, 2813, 2915, 2917	TC9217MM-C
TC 9220MM-C Monitor Mount ceiling, for LTC 2020, 2821, 2919	TC9220MM-C
TC 9227MM-C Monitor Mount ceiling, for 27ST220L	TC9227MM-C
TC 9209MM-W Monitor Mount wall, for LTC 2009, 2012, 2910	TC9209MM-W
TC 9217MM-W Monitor Mount wall, for LTC 2017, 2810, 2813, 2915, 2917	TC9217MM-W
TC 9220MM-W Monitor Mount wall, for LTC 2020, 2821, 2919	TC9220MM-W
TC 9227MM-W Monitor Mount wall for 50.8-cm (20-in.) to 68.58-cm (27-in.) monitors, 90.72 kg (200 lb)	TC9227MM-W
Accessories	
TC9220EC2 Extension Pole 61 cm (24 in.), for monitor ceiling mounts	TC9220EC2
TC9220EC4 Extension Pole 121.9 cm (48 in.), for monitor ceiling mounts	TC9220EC4

Autodomes

3

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ENV Series EnviroDome Camera Systems



Features

- ▶ Day/Night, color and B/W versions
- ▶ 26x (Day/Night) or 18x optical zoom range +12x digital zoom
- ▶ Weather-resistant design
- ▶ Privacy masking and sector blanking
- ▶ Remotely configurable (Bilinx, Bi-Phase, RS-232, RS-485)
- ▶ Revolutionary AutoTrack motion tracking option
- ▶ Multiple protocols
- ▶ Three-year warranty

Whatever the weather may bring, the EnviroDome maintains peak performance, making it the ideal solution for perimeter surveillance, parking lots and other outdoor applications.

The EnviroDome has all of the features needed to capture the details missed by other cameras.

Functions

The revolutionary AutoTrack feature (optional), built directly into the camera, marks a new generation in motion detection. AutoTrack not only senses movement, but zooms in on the target and follows it, leaving guards' hands free for other responsibilities.

Image control and quality are integral aspects of any outdoor surveillance system. The EnviroDome offers optical zoom lenses from 18x to 26x, and all systems offer a full 12x digital zoom once the end of the optical zoom is reached. In addition, the patented scaling feature ensures that you have optimal control for viewing at all zoom settings.

Effective surveillance cameras must also perform well under a range of lighting conditions. To enhance sensitivity when night falls, the Day/Night EnviroDome automatically switches from color to monochrome by removing the infrared filter.

Whether you program the camera to switch automatically, or use the manual switch, the result is optimal camera function, day or night. For ultimate sensitivity, the B/W camera can be used. For operation in the darkest conditions, the slow shutter control feature (standard on all Color and Day/Night EnviroDome cameras) automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

In answer to concerns about personal privacy, the EnviroDome provides sector blanking and privacy masking. These features allow customization to ensure privacy for diverse needs.

Remote control, configuration, and updates can be performed over the video cable (coax or passive UTP) when using Bilinx-compatible control and configuration devices (such as VP-CFGSFT configuration tool or LTC 8016 Allegiant Bilinx Interface)

The menu for these devices supports multiple languages, including: English, French, German, Spanish, Portuguese, and Polish.

The following are some of the features that make the AutoDome one of the most flexible domes in the industry. These adjustments can be made by the installer to customize the AutoDome's operation to meet a particular customer's needs.

Rugged Bubble (Option)

- Rugged Bubbles are made from 3 mm thick Polycarbonate, designed to meet stringent strength standards without compromising optical clarity.
- The Bubble, by itself, can withstand a 100 foot-pound impact. This energy is equivalent to that of a 10 lb sledgehammer dropped from a height of 10 feet.
- The Bubble, installed in the Dome, exceeds the UL 1598 horizontal impact standard for lighting fixtures by a factor of 10.

Camera Commands

- Picture quality settings such as **White Balance** and **Sharpness**.
- **Max Gain:** When Automatic Gain Control (AGC) is on, the AutoDome allows selection of a specific **maximum** setting that the AGC can achieve, limiting graininess of the picture. The camera automatically adjusts to very low-light situations.
- **Slow Shutter (Frame Integration):** By slowing the shutter speed, the camera's sensitivity increases, resulting in visibility at much lower light levels. Available settings are **fully automatic**, or one of six specific shutter speeds.
- **Digital Zoom:** A full 12x digital zoom can be utilized once the maximum optical zoom has been reached. If digital zoom is not desired, it can be disabled.

Day/Night Commands

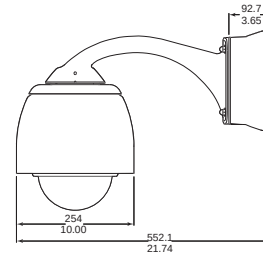
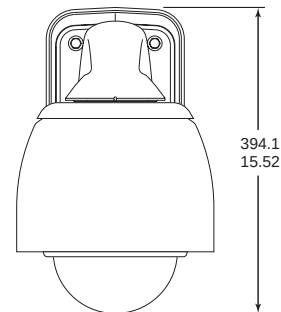
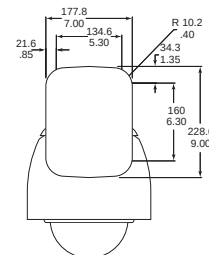
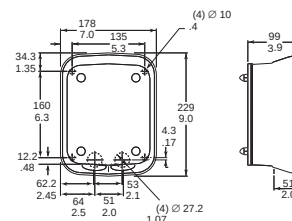
- **Night Mode:** This feature switches the camera from Color to Monochrome and removes the IR filter, increasing the camera's sensitivity in low light applications. Settings are **on**, **off**, or **fully automatic**.
- **Night Mode Threshold:** When set to **automatic**, this feature determines the light level at which the camera will switch to night mode.

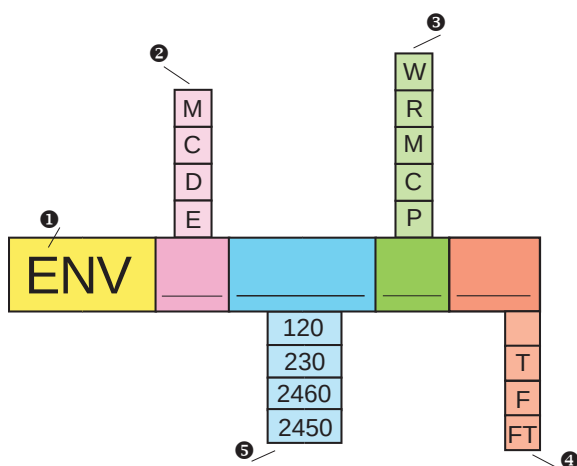
Dome Commands

- **Sector Blanking:** Video blanking in up to 16 specified sectors within total field-of-view.
- **Privacy Masking:** Up to six areas can be masked from visibility.
- **Guard Tours:** There are two styles of Guard Tours:
 - **The preset tour** has capability for up to 99 presets, which can either be included or excluded from the tour. The dwell time can be specified, whereupon each of the included presets will be visited consecutively. This tour continues until operator intervention.
 - Two **Recorded tours** are available, which have a combined duration of 15 minutes of movements. These are recorded **macros** of an operator's movements, including Pan/Tilt/Zoom (PTZ) activities, and can be **played back** in a continuous manner. This creates a smoother and more thorough type of automated tour.
- **Inactivity:** When an operator stops manual control of a dome, the inactivity option determines what the dome should do next, if anything. The options are as follows: **return to a specific preset, return to the automated tour previously executed, or do nothing.** The installer can determine the duration of the inactivity period.
- **Password Control:** This feature allows the installer to determine the security level of dome commands. Available settings are as follows:
 - **Low:** any user can access any option.
 - **Medium:** a published command unlocks the commands
 - **High:** a four digit, modifiable password is required to unlock the commands.

[OFF-90-ENTER].

Installation/Configuration Notes





1	EnviroDome
2	M – 18x Monochrome <ul style="list-style-type: none"> Note: This option is available only in the Americas. C – 18x Color D – 18x Day/Night E – 26x Day/Night
3	W – Wall R – Roof ³ <ul style="list-style-type: none"> Note: This option is available only in the Americas. M – Mast (pole) C – Corner P – Pipe
4	_ – Standard T – AutoTrack ⁴ F – Fiber ² FT – Fiber w/AutoTrack ^{2,4}
5	120 – 120 VAC, 60 Hz NTSC 230 – 230 VAC, 50 Hz PAL 2460 – 24 VAC, 60 Hz NTSC ¹ 2450 – 24 VAC, 50 Hz PAL ¹

1. No transformer included. Customer must supply 24 VAC, 50 W transformer (ENV-PSU or equivalent). Not available with fiber optic option.

2. Fiber option only available in kits with transformers. For kits without transformers, an LTC 4628 may be used with standard ENV kit. Each fiber kit requires an LTC 4629 at the system.

3. Roof mount mounts to vertical parapet. For flat roof installations, you must also order the LTC 9230/01 Flat Roof Adapter Plate.

4. Tracker not available on Monochrome models.

The Rugged Bubble option is ordered separately, as a replacement component, available in Clear or Tinted.

Technical Specifications

Camera 18x Color/18x Day/Night

Imager	1/4 in. Exview CCD (752 x 582 PAL) / (768 x 494 NTSC)
Lens	18x Zoom (4.1 mm–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°

Camera 18x Color/18x Day/Night

Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	470 TVL (NTSC) / 460 TVL (PAL)
Sensitivity (Minimum Usable Video: 20 IRE)	18x Color 18x Day/Night
Day Mode w/Slow Shutter Off	0.25 lux 0.25 lux
Night Mode w/Slow Shutter Off	— 0.031 lux
Day Mode w/Slow Shutter On	0.0033 lux 0.0033 lux
Night Mode w/Slow Shutter On	— 0.0005 lux
Sensitivity (Usable video: 50 IRE)	18x Color 18x Day/Night
Day Mode w/Slow Shutter Off	0.7 lux 0.7 lux
Night Mode w/Slow Shutter Off	— 0.166 lux
Day Mode w/Slow Shutter On	0.0082 lux 0.0082 lux
Night Mode w/Slow Shutter On	— 0.0013 lux
SNR	>50 dB
White Balance	2000 K to 10,000 K

Camera 26x Day/Night

Imager	1/4 in. Exview HAD CCD (752 x 582 PAL) / (768 x 494 NTSC)
Lens	26x Zoom (3.5–91.0 mm) F1.6 to F3.8
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.3° to 55°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	470 TVL (NTSC) / 460 TVL (PAL)
Sensitivity (Minimum Usable Video: 20 IRE)	
Day Mode w/Slow Shutter Off	0.33 lux
Night Mode w/Slow Shutter Off	0.066 lux
Day Mode w/Slow Shutter On	0.0103 lux
Night Mode w/Slow Shutter On	0.0021 lux
Sensitivity (Usable Video: 50 IRE)	

Camera 26x Day/Night

Day Mode w/Slow Shutter Off	1 lux
Night Mode w/Slow Shutter Off	0.26 lux
Day Mode w/Slow Shutter On	0.026 lux
Night Mode w/Slow Shutter On	0.052 lux
SNR	>50 dB
White Balance	2000 K to 10,000 K

Camera 18x Monochrome

Imager	1/4 in. Exview HAD CCD (752 x 582 CCIR) / (768 x 494 EIA)
Lens	18x Zoom (4.1–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12X
Horizontal Resolution	520 TVL (typical)
Sensitivity (Minimum Usable Video: 20 IRE)	0.031 lux
Sensitivity (Usable Video: 50 IRE)	0.1 lux
SNR	>50 dB
White Balance	N/A

Environmental

Humidity	0% to 100% relative, condensing
Ingress Protection	IP66 (NEMA 4X)
Operating Temp	–40°C to 50°C (–40°F to 122°F)
Storage Temp	–40°C to 60°C (–40°F to 140°F)

Mechanical

Weight	5.9 kg (13 lb)
Pan/Tilt	360° continuous pan, –5° to 90° tilt from horizontal plane
Pre-position Speed	360°/sec., ±0.50° Accuracy
Variable Speed	120°/sec.

Miscellaneous

Sectors/Titling	16 independent sectors with 16-character titles/sector
Camera Setup/Control	Bi-Phase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Bi-Phase, Bilinx, Pelco P, and Pelco D
Pre-positions	99, each with 16-character titles

Miscellaneous

Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> Recorded tours - two (2), total duration 15 minutes Preset tour - one (1), consisting of up to 99 scenes, consecutively
Addressing	FastAddress Remote Addressing or 4 digit thumbwheel
Supported Languages	English, French, German, Spanish, Portuguese, and Polish
Agency Listings	CE, UL

User Connections

Power (Camera)	21-28 VAC, 50/60 Hz	–15 W max.
Power (Heater)	21-28 VAC, 50/60 Hz	–30 W max.
Bi-Phase ±	Control Data	
RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)		
Video	BNC	
Alarm Inputs (4)	Programmable for “Normally Open” or “Normally Closed”	
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC	

Mounts/Accessories

Wall Arm (No Transformer)	ENV-PA0
Wall Arm (120/230 VAC Transformer)	ENV-PA1 / ENV-PA2
Wall Arm (120/230 VAC Transformer and Fiber Optics)	ENV-PA1F / ENV-PA2F
Optional Mounting Plates for Above	
Corner Mounting Plate	LTC 9542/01
Mast (Pole) Mounting Plate	LTC 9541/01
Pipe Mount Cap	LTC 9543/00
Roof (Parapet) Mount	LTC 9230/00
Flat Roof Adapter (for above)	LTC 9230/01
Outdoor Power Supply Box (120/230 VAC Transformer)	ENV-PSU1 / ENV-PSU2
Outdoor Power Supply Box (120/230 VAC Transformer and Fiber Optics)	ENV-PSU1F / ENV-PSU2F

Fiber Optic Accessories

Optical Fiber Compatibility	50/125 mm, 62.5/125 mm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz (video 850 nm/Control 1300 nm)
Max Distance	4 km (2.5 miles)

* Additional accessories available - See Accessories Datasheet.

Ordering Information

ENV230W Color EnviroDome Kit	ENV230W
18x color, PAL, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	

Ordering Information

ENVC230C Color EnviroDome Kit 18x color, PAL, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVC230C
ENVC230P Color EnviroDome Kit 18x color, PAL, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVC230P
ENVC230M Color EnviroDome Kit 18x color, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVC230M
ENVC230WF Color EnviroDome 18x color, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230WF
ENVC230CF Color Dome 18x color, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230CF
ENVC230PF Color Dome 18x color, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230PF
ENVC230MF Color Dome 18x color, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230MF
ENVC230WT Color Dome 18x color, AutoTrack, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	ENVC230WT
ENVC230CT Color Dome 18x color, AutoTrack, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVC230CT
ENVC230PT Color Dome 18x color, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVC230PT
ENVC230MT Color Dome 18x color, AutoTrack, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVC230MT
ENVC230WFT Color Dome 18x color, AutoTrack, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230 WFT
ENVC230CFT Color Dome 18x color, AutoTrack, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230CFT
ENVC230PFT Color Dome 18x color, AutoTrack, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230PFT
ENVC230MFT Color Dome 18x color, AutoTrack, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVC230MFT
ENVD230W Day/Night Dome 18x day/night, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	ENVD230W
ENVD230C Day/Night Dome 18x day/night, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVD230C

Ordering Information

ENVD230P Day/Night Dome 18x day/night, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVD230P
ENVD230M Day/Night Dome 18x day/night, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVD230M
ENVD230WF Day/Night Dome 18x day/night, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230WF
ENVD230CF Day/Night Dome 18x day/night, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230CF
ENVD230PF Day/Night Dome 18x day/night, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230PF
ENVD230MF Day/Night Dome 18x day/night, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230MF
ENVD230WT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	ENVD230WT
ENVD230CT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVD230CT
ENVD230PT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVD230PT
ENVD230MT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVD230MT
ENVD230WFT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230WFT
ENVD230CFT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230CFT
ENVD230PFT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD 230 PFT
ENVD230MFT Day/Night Dome 18x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230MFT
ENVC2450C Color EnviroDome Kit 18x color, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450C
ENVC2450M Color EnviroDome Kit 18x color, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450M
ENVC2450P Color EnviroDome Kit 18x color, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450P

Ordering Information

ENVC2450CT Color EnviroDome Kit 18x color, AutoTrack, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450CT
ENVC2450MT Color EnviroDome Kit 18x color, AutoTrack, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450MT
ENVC2450PT Color EnviroDome Kit 18x color, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450PT
ENVC2450W Color EnviroDome Kit 18x color, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450W
ENVC2450WT Color EnviroDome Kit 18x color, AutoTrack, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVC2450WT
ENVD230RF Day/Night EnviroDome Kit 18x day/night, outdoor pendant, flat roof mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVD230RF
ENVD2450C Day/Night EnviroDome Kit 18x day/night, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450C
ENVD2450P Day/Night EnviroDome Kit 18x day/night, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450P
ENVD2450W Day/Night EnviroDome Kit 18x day/night, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450W
ENVD2450M Day/Night EnviroDome Kit 18x day/night, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450M
ENVD2450CT Day/Night EnviroDome Kit 18x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450CT
ENVD2450MT Day/Night EnviroDome Kit 18x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450MT
ENVD2450PT Day/Night EnviroDome Kit 18x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450PT
ENVD2450WT Day/Night EnviroDome Kit 18x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVD2450WT
ENVE2450C Day/Night EnviroDome Kit 26x day/night, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450C
ENVE2450M Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450M
ENVE2450P Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450P
ENVE2450W Day/Night EnviroDome Kit 26x day/night, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450W
ENVE230C Day/Night EnviroDome Kit 26x day/night, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVE230C

Ordering Information

ENVE230M Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVE230M
ENVE230P Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVE230P
ENVE230W Day/Night EnviroDome Kit 26x day/night, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	ENVE230W
ENVE2450CT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450CT
ENVE2450MT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450MT
ENVE2450PT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450PT
ENVE2450WT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	ENVE2450WT
ENVE230CT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, 230 VAC, 50 Hz	ENVE230CT
ENVE230MT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, 230 VAC, 50 Hz	ENVE230MT
ENVE230PT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, 230 VAC, 50 Hz	ENVE230PT
ENVE230WT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	ENVE230WT
ENVE230CF Day/Night EnviroDome Kit 26x day/night, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230CF
ENVE230MF Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230MF
ENVE230PF Day/Night EnviroDome Kit 26x day/night, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230PF
ENVE230WF Day/Night EnviroDome Kit 26x day/night, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230WF
ENVE230CFT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, corner mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230CFT
ENVE230MFT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pole mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230MFT

Ordering Information

ENVE230PFT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, pipe mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230PFT
ENVE230WFT Day/Night EnviroDome Kit 26x day/night, AutoTrack, outdoor pendant, wall mount, clear dome, white, fiber optic module, 230 VAC, 50 Hz	ENVE230WFT
LTC0728/15C EnviroDome Camera Module 18x B/W, CCIR, outdoor pendant, clear dome, white, 24 VAC, 50 Hz	LTC0728/15C
LTC0728/16C EnviroDome Camera Module 18x B/W, CCIR, outdoor pendant mount, tinted dome, white, 24 VAC, 50 Hz	LTC0728/16C
LTC0828/15C EnviroDome Camera Module 18x color, outdoor pendant mount, clear dome, white, 24 VAC, 50 Hz	LTC0828/15C
LTC0828/16C EnviroDome Camera Module 18x color, outdoor pendant mount, tinted dome, white, 24 VAC, 50 Hz	LTC0828/16C
LTC0928/15C EnviroDome Camera Module 18x day/night, outdoor pendant mount, clear dome, white, 24 VAC, 50 Hz	LTC0928/15C
LTC0928/16C EnviroDome Camera Module 18x day/night, outdoor pendant mount, tinted dome, white, 24 VAC, 50 Hz	LTC0928/16C
LTC9542/01 EnviroDome Pendant Corner Mount white	LTC9542/01
LTC 0948/15C EnviroDome Camera Module 26x day/night, outdoor pendant mount, clear dome, white, 24 VAC, 50 Hz	LTC 0948/15C
LTC 0948/16C EnviroDome Camera Module 26x day/night, outdoor pendant mount, tinted bubble, white, 24 VAC, 50 Hz	LTC 0948/16C
G3ACS5C Color AutoDome Kit 18x color, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	G3ACS5C
G3ACS5T Color AutoDome Kit 18x color, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	G3ACS5T
Accessories	
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24
Software Options	
VP-USB Bilinx to USB Adaptor for use with configuration tool for Dome/Cameras	VP-USB

G3A Series AutoDome Indoor Systems



Features

- ▶ Day/Night, color and B/W versions
- ▶ 26x (Day/Night) or 18x optical zoom range +12x digital zoom
- ▶ Privacy masking and sector blanking
- ▶ Remotely configurable (Bilinx, Bi-Phase, RS-232, RS-485)
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- ▶ Multiple protocols
- ▶ Three-year warranty

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Functions

The revolutionary AutoTrack feature (optional), built directly into the camera, marks a new generation in motion detection. AutoTrack not only senses movement, but zooms in on the target and follows it, leaving guards hands free for other responsibilities.

Image control and quality are integral aspects of any outdoor surveillance system. The AutoDome offers optical zoom lenses from 18x to 26x, and all systems offer a full 12x digital zoom once the end of the optical zoom is reached. In addition, the patented scaling feature ensures that you have optimal control for viewing at all zoom settings.

Effective surveillance cameras must also perform well under a range of lighting conditions. To enhance sensitivity when night falls, the Day/Night AutoDome automatically switches from color to monochrome by removing the infrared filter. Whether you program the camera to switch automatically, or use the manual switch, the result is optimal camera function, day or night. For ultimate sensitivity, the B/W camera can be used. For operation in the darkest conditions, the slow shutter control feature (standard on all Color and Day/Night AutoDome cameras) automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

To answer concerns about personal privacy, the AutoDome provides sector blanking and privacy masking. These features allow customization to ensure privacy for diverse needs.

Remote control, configuration, and updates can be performed over the video cable (coax or passive UTP) when using Bilinx-compatible control and configuration devices (such as VP-CFGSFT configuration tool or LTC 8016 Allegiant Bilinx Interface)

The menu for these devices can display multiple languages, including: English, French, German, Spanish, Portuguese and Polish.

The following are some of the features that make the AutoDome one of the most flexible domes in the industry. These adjustments can be made by the installer to customize the AutoDome's operation to meet a particular customer's needs.

Rugged Bubble (Option)

- Rugged Bubbles are made from 3 mm thick Polycarbonate, designed to meet stringent strength standards without compromising optical clarity.
- The Bubble, by itself, can withstand a 100 foot-pound impact. This energy is equivalent to that of a 10 lb sledgehammer dropped from a height of 10 feet.
- The Bubble, installed in the Dome, exceeds the UL 1598 horizontal impact standard for lighting fixtures, by a factor of 10.

Camera Commands

- Picture quality settings such as **White Balance** and **Sharpness**.
- **Max. Gain:** When Automatic Gain Control (AGC) is on, the AutoDome allows selection of a specific **maximum** setting that the AGC can achieve, limiting graininess of the picture. The camera automatically adjusts to very low-light situations.
- **Slow Shutter (Frame Integration):** By slowing the shutter speed, the camera's sensitivity increases, resulting in visibility at much lower light levels. Available settings are **fully automatic**, or one of six specific shutter speeds.
- **Digital Zoom:** A full 12x digital zoom can be utilized once the maximum optical zoom has been reached. If digital zoom is not desired, it can be disabled.

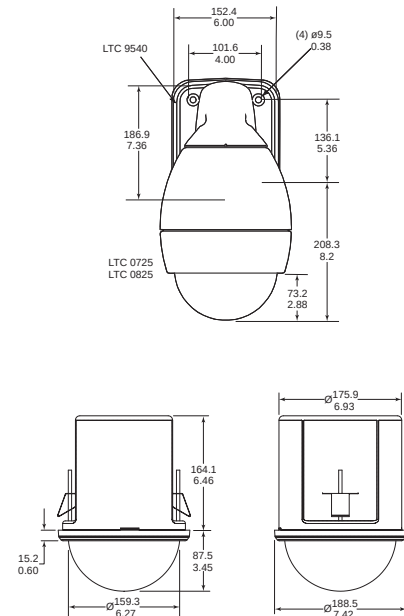
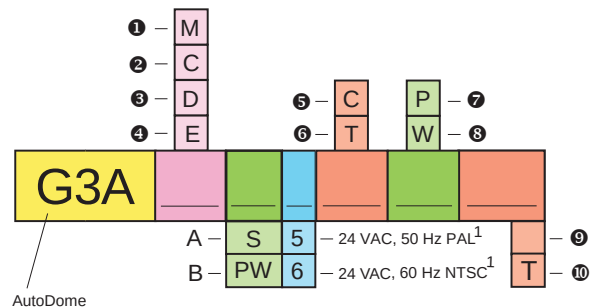
Day/Night Commands

- **Night Mode:** This feature switches the camera from Color to Monochrome and removes the IR filter, thus increasing the camera's sensitivity in low light applications. Settings are **on**, **off**, or **fully automatic**.

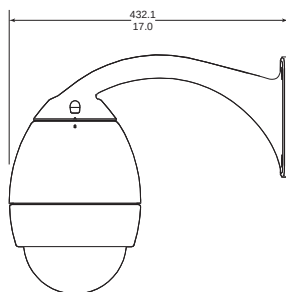
- **Night Mode Threshold:** When set to **automatic**, this feature determines the light level at which the camera will switch to night mode.

Dome Commands

- **Sector Blanking:** Video blanking in up to 16 specified sectors within the total field-of-view.
- **Privacy Masking:** Up to six areas can be masked from visibility.
- **Guard Tours:** There are two styles of Guard Tours:
 - The **preset tour** has capability for up to 99 presets, which can either be included or excluded from the tour. The dwell time can be specified, whereupon each of the included presets will be visited consecutively. This tour continues until operator intervention.
 - Two **Recorded tours** are available, which have a combined duration of 15 minutes of movements. These are recorded **macros** of an operator's movements, including Pan, Tilt, and Zoom activities, and can be **played back** in a continuous manner. This creates a smoother and more thorough type of automated tour.
- **Inactivity:** When an operator stops manual control of a dome, the inactivity option determines what the dome should do next, if anything. The options are as follows: return to a specific preset, **return to the automated tour previously executed**, or **do nothing**. The installer can determine the duration of the inactivity period.
- **Password Control:** This feature allows the installer to determine the security level of dome commands. Available settings are as follows:
 - **Low:** any user can access any option.
 - **Medium:** a published command unlocks the commands
[OFF-90-ENTER].
 - **High:** a four digit, modifiable password is required to unlock the commands.



Installation/Configuration Notes



01	18x Monochrome	06	Tint
• Note: This option is available only in the Americas.			
02	18x Color	07	Pipe ²
03	18x Day/Night	08	Wall ²
04	26x Day/Night	09	Standard
05	Clear	10	Autotrack ³
A	Suspended Ceiling		
B	Pendant White		

1. No transformer included. Customer must supply either a 24 VAC, 50 W (ENV-PSU or equivalent). Not available with fiber optic option.

2. Wall and pipe mount kits only apply to pendant models.

3. Tracker not available on Monochrome models.

Technical Specifications

Camera 18x Color/18x Day/Night

Imager	1/4 in. Exview HAD CCD (752 x 582 PAL)/(768 x 494 NTSC)
Lens	18x Zoom (4.1–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override

Camera 18x Color/18x Day/Night

Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off/Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	470 TVL (NTSC)/460 TVL (PAL)

Sensitivity (Minimum Usable Video: 20 IRE)	18x Color	18x Day/Night
Day Mode w/Slow Shutter Off	0.25 lux	0.25 lux
Night Mode w/Slow Shutter Off	—	0.031 lux
Day Mode w/Slow Shutter On	0.0033 lux	0.0033 lux
Night Mode w/Slow Shutter On	—	0.0005 lux
Sensitivity (Usable Video: 50 IRE)	18x Color	18x Day/Night
Day Mode w/Slow Shutter Off	0.7 lux	0.7 lux
Night Mode w/Slow Shutter Off	—	0.166 lux
Day Mode w/Slow Shutter On	0.0082 lux	0.0082 lux
Night Mode w/Slow Shutter On	—	0.0013 lux
SNR	>50 dB	
White Balance	2000 K to 10,000 K	

Camera 26x Day/Night

Imager	1/4 in. Exview HAD CCD (752 x 582 PAL)/(768 x 494 NTSC)
Lens	26x Zoom (3.5–91.0 mm) F1.6 to F3.8
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.3° to 55°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off/Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12X
Horizontal Resolution	470 TVL (NTSC)/460 TVL (PAL)

Sensitivity (Usable Video: 20 IRE, F1.6)	
Day Mode w/Slow Shutter Off	0.33 lux
Night Mode w/Slow Shutter Off	0.066 lux
Day Mode w/Slow Shutter On	0.0103 lux
Night Mode w/Slow Shutter On	0.0021 lux

Camera 26x Day/Night

Sensitivity (Usable Video: 50 IRE, F1.6)	
Day Mode w/Slow Shutter Off	1 lux
Night Mode w/Slow Shutter Off	0.26 lux
Day Mode w/Slow Shutter On	0.026 lux
Night Mode w/Slow Shutter On	0.0052 lux
SNR	>50 dB
White Balance	2000 K to 10,000 K

Camera 18x Monochrome

Imager	1/4 in. Exview HAD CCD (752 x 582 CCIR)/(768 x 494 EIA)
Lens	18X Zoom (4.1 mm–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off/Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	520 TVL (typical)
Sensitivity (Minimum Usable Video: 20 IRE)	0.031 lux
Sensitivity (Minimum Usable Video: 50 IRE)	0.1 lux
SNR	>50 dB
White Balance	N/A

Mechanical

Model	Pendant
Weight	3.6 kg (b)
Pan/Tilt	360° Continuous pan, –5° to 90° tilt from horizontal plane
Pre-position Speed	360°/sec., ±0.50° accuracy
Variable Speed	120°/sec.
Model	In-ceiling
Weight	2.7 kg (6 lb)
Pan/Tilt	360° Continuous pan, –5° to 90° tilt from horizontal plane
Pre-position Speed	360°/sec., ±0.50° accuracy
Variable Speed	120°/sec.

Environmental

Model	Pendant
Design Rating	IP54 (NEMA 3)
Operating Temp	–10°C to 50°C (14°F to 122°F)
Storage Temp	–10°C to 60°C (14°F to 140°F)
Humidity	0% to 90% relative, non-condensing
Model	In-ceiling
Design Rating	Meets plenum rating

Miscellaneous

Sectors/Titling	16 independent sectors with 16-character titles/sector
Camera Setup/Control	Bi-Phase or RS-232, RS-485, Bilinx (coax)
Communications protocols	Bi-Phase, Bilinx, Pelco P, and Pelco D
Pre-positions	99, Each with 16-character titles
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> Recorded tours - two (2), with a total duration of 15 minutes Preset tour - one (1), consisting of up to 99 consecutive scenes
Addressing	FastAddress remote addressing or four (4) digit thumbwheel
Supported Languages	English, French, German, Spanish, Portuguese, and Polish
Agency Listings	CE, UL
User Connections	
Power (Camera)	21–28 VAC, 50/60 Hz; 15 W max.
Bi-Phase ±	Control Data
RS-232 RX/TX or RS-485 ±	Optional control data (dip switch selectable)
Video	BNC
Alarm inputs (4)	Programmable for "Normally Open" or "Normally Closed"
Relay out (1)	Dry contact output rating: 2 A @ 30 VAC

Optional Power Supplies

120 VAC–28 VAC, 60 Hz
(Multi channel, non-isolated)

Models:

G3A-PSU1-4	Four (4) Dome supply
G3A-PSU1-8	Eight (8) Dome supply
G3A-PSU1-16	16 Dome supply

Dimensions	4 Dome	8 and 16 Dome
Length	21 cm (8.5 in.)	28.5 cm (11.5 in.)
Height	23.5 cm (9.5 in.)	29 cm (11.25 in.)
Width	9.5 cm (3.75 in.)	9 cm (3.5 in.)

Configuration Tool Software

VP-CFGSFT	Configuration software w/USB adapter
VP-USB	USB-coax adapter only

Ordering Information

G3ACS5C Color AutoDome Kit	G3ACS5C
18x color, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	
G3ACS5T Color AutoDome Kit	G3ACS5T
18x color, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	
G3ACS5CT Color AutoDome Kit	G3ACS5CT
18x color, AutoTrack, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	
G3ACS5TT Color AutoDome Kit	G3ACS5TT
18x color, AutoTrack, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	

Ordering Information

G3ACPW2CW Color AutoDome Kit	G3ACPW2CW
18x color, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	
G3ACPW2TW Color AutoDome Kit	G3ACPW2TW
18x color, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	
G3ACPW5CP Color AutoDome Kit	G3ACPW5CP
18x color, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	
G3ACPW5TW Color AutoDome Kit	G3ACPW5TW
18x color, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	
G3ACPW5CW Color AutoDome Kit	G3ACPW5CW
18x color, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	
G3ACPW5TP Color AutoDome Kit	G3ACPW5TP
18x color, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	
G3ACPW2CWT Color AutoDome Kit	G3ACPW2CWT
18x color, AutoTrack, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	
G3ACPW5CPT Color AutoDome Kit	G3ACPW5CPT
18x color, AutoTrack, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	
G3ACPW2TWT Color AutoDome Kit	G3ACPW2TWT
18x color, AutoTrack, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	
G3ACPW5TPT Color AutoDome Kit	G3ACPW5TPT
18x color, AutoTrack, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	
G3ACPW5TWT Color AutoDome Kit	G3ACPW5TWT
18x color, AutoTrack, indoor pendant, wall mount, tinted dome, 24 VAC, 50 Hz	
G3ACPW5CWT Color AutoDome Kit	G3ACPW5CWT
18x color, AutoTrack, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	
G3ADS5C Day/Night AutoDome Kit	G3ADS5C
18x day/night, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	
G3ADS5T Day/Night AutoDome Kit	G3ADS5T
18x day/night, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	
G3ADS5CT Day/Night AutoDome Kit	G3ADS5CT
18x day/night, AutoTrack, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	
G3ADS5TT Day/Night AutoDome Kit	G3ADS5TT
18x day/night, AutoTrack, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	
G3ADPW2CW Day/Night AutoDome Kit	G3ADPW2CW
18x day/night, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	
G3ADPW2TW Day/Night AutoDome Kit	G3ADPW2TW
18x day/night, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	
G3ADPW5CP Day/Night AutoDome Kit	G3ADPW5CP
18x day/night, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	

Ordering Information

G3ADPW5CW Day/Night AutoDome Kit 18x day/night, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	G3ADPW5CW
G3ADPW5TP Day/Night AutoDome Kit 18x day/night, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	G3ADPW5TP
G3ADPW5TW Day/Night AutoDome Kit 18x day/night, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	G3ADPW5TW
G3ADPW2CWT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	G3ADPW2CWT
G3ADPW2TWT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	G3ADPW2TWT
G3ADPW5CPT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	G3ADPW5CPT
G3ADPW5CWT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	G3ADPW5CWT
G3ADPW5TPT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	G3ADPW5TPT
G3ADPW5TWT Day/Night AutoDome Kit 18x day/night, AutoTrack, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	G3ADPW5TWT
G3AES5C Day/Night AutoDome Kit 26x day/night, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	G3AES5C
G3AES5T Day/Night AutoDome Kit 26x day/night, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	G3AES5T
G3AES5CT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor drop ceiling, clear dome, 24 VAC, 50 Hz	G3AES5CT
G3AES5TT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	G3AES5TT
G3AEPW5CP Day/Night AutoDome Kit 26x day/night, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	G3AEPW5CP
G3AEPW5CW Day/Night AutoDome Kit 26x day/night, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	G3AEPW5CW
G3AEPW2CW Day/Night AutoDome Kit 26x day/night, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	G3AEPW2CW
G3AEPW5TP Day/Night AutoDome Kit 26x day/night, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	G3AEPW5TP
G3AEPW5TW Day/Night AutoDome Kit 26x day/night, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	G3AEPW5TW
G3AEPW2TW Day/Night AutoDome Kit 26x day/night, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	G3AEPW2TW

Ordering Information

G3AEPW5CPT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, pipe mount, clear dome, white, 24 VAC, 50 Hz	G3AEPW5CPT
G3AEPW5CWT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, wall mount, clear dome, white, 24 VAC, 50 Hz	G3AEPW5CWT
G3AEPW5TPT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	G3AEPW5TPT
G3AEPW5TWT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	G3AEPW5TWT
G3AEPW2CWT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, wall mount, clear dome, white, 230 VAC, 50 Hz	G3AEPW2CWT
G3AEPW2TWT Day/Night AutoDome Kit 26x day/night, AutoTrack, indoor pendant, wall mount, tinted dome, white, 230 VAC, 50 Hz	G3AEPW2TWT
LTC0729/15C G3 Black/White Camera Module 18x B/W, indoor drop ceiling mount, 24 VAC, 50 Hz	LTC0729/15C
LTC0825/15C G3 Color Camera Module 18x color, indoor pendant mount, clear bubble, white, 24 VAC, 50 Hz	LTC0825/15C
LTC0825/17C G3 Color Camera Module 18x color, indoor pendant mount, tinted bubble, white, 24 VAC, 50 Hz	LTC0825/17C
LTC0829/15C G3 Color Camera Module 18x color, indoor drop ceiling mount, 24 VAC, 50 Hz	LTC0829/15C
LTC0925/15C G3 Day/Night Camera Module 18x day/night, indoor pendant mount, clear bubble, white, 24 VAC, 50 Hz	LTC0925/15C
LTC0925/17C G3 Day/Night Camera Module 18x day/night, indoor pendant mount, tinted bubble, white, 24 VAC, 50 Hz	LTC0925/17C
LTC0929/15C G3 Day/Night Camera Module 18x day/night, indoor drop ceiling mount, 24 VAC, 50 Hz	LTC0929/15C
LTC7490/20C G3 Backbox indoor drop ceiling mount, 24 VAC, 50 Hz	LTC7490/20C
LTC 0949/15C G3 Day/Night Camera Module 26x day/night, indoor drop ceiling module, 24 VAC, 50 Hz	LTC 0949/15C
LTC0725/15C G3 Black/White Camera Module 18x B/W, indoor pendant mount, clear bubble, white, 24 VAC, 50 Hz	LTC0725/15C
LTC0725/17C G3 Black/White Camera Module 18x B/W, indoor pendant mount, tinted bubble, white, 24 VAC, 50 Hz	LTC0725/17C
LTC 0945/15C G3 Day/Night Camera Module 26x day/night, indoor pendant mount, clear bubble, white, 24 VAC, 50 Hz	LTC 0945/15C
LTC 0945/17C G3 Day/Night Camera Module 26x day/night, indoor pendant mount, tinted bubble, white, 24 VAC, 50 Hz	LTC 0945/17C
Accessories	
TC 220PSX-24 Power Supply Unit 230 VAC/20 VAC, 50 Hz, 20 VA	TC220PSX-24

G3B Series

BasicDome Economical Systems

3



Features

- ▶ 16x optical zoom
- ▶ Integrated high performance color camera system
- ▶ High speed
- ▶ Affordable, yet feature-rich
- ▶ Easy to install
- ▶ Remotely configurable (Bilinx, Bi-Phase, RS-232)
- ▶ Sector and preset titling
- ▶ Patented AutoPivot and Auto Scaling
- ▶ Three-year warranty

The BasicDome camera is the economical high speed camera solution for indoor security applications. It offers a faster, a quieter and a smoother operation than ever before in a dome in this price range. The BasicDome is the perfect choice for those who want the assurance of the Bosch name, at an affordable price.

Functions

The BasicDome is designed to save you time as well as money. The same camera assembly easily locks into either the pendant mount or the in-ceiling box.

It includes an on-screen display for remote programming, so you can set it up correctly the first time, and easily optimize the camera under changing conditions. Even the BasicDome address is set remotely using Bosch FastAddress.

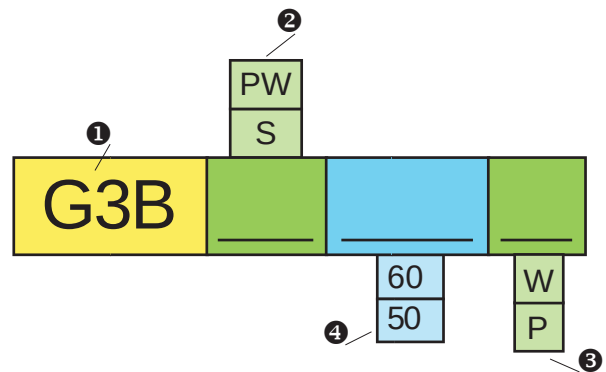
A rugged motor with fewer moving parts allows the BasicDome to use less power and to be extremely reliable, making it ideal for high-usage applications.

As with all AutoDome systems, the BasicDome includes our patented AutoPivot feature that automatically rotates and flips the camera, so tracking a subject under the dome is effortless. The BasicDome's design, flexibility, and versatility make this feature-rich camera an affordable and valuable addition to any security system.

Remote control, configuration, and updates can be performed over the video cable (coax or passive UTP) when using Bilinx-compatible control and configuration devices (such as the VP-CFGSFT configuration tool or LTC 8016 Allegiant Bilinx Interface).

The menu for these devices can display multiple languages, including: English, French, German, Spanish, Portuguese and Polish.

Installation/Configuration Notes



1 AutoDome	3 W-Wall ¹ P-Pipe ¹
2 PW-Pendant White S-Suspended Ceiling	4 60-24 VAC, 60 Hz NTSC 50-24 VAC, 50 Hz PAL

1. Wall and pipe mount kits apply only to pendant models.

Technical Specifications

Electrical

Color Camera

Imager	Interline transfer CCD 1/4 in. image format
Active Pixels	
PAL Model (H x V)	752 x 582
NTSC Model (H x V)	768 x 494
Lens	16x zoom (4.1-65.6 mm) F1:1.4 to F1:3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain	Off / auto
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	Not applicable

Electrical

Horizontal Resolution

NTSC Model	470 TVL
PAL Model	460 TVL

Sensitivity

Sensitivity (Minimum Usable Video: 20 IRE)	0.5 lux (0.05 fc)
Sensitivity (Usable Video: 50 IRE)	0.8 lux (0.08 fc)
Signal-To-Noise Ratio	>50 dB
White Balance	2000 K to 10,000 K

Environmental

Design Rating	IP 31 (NEMA 2)
Operating Humidity	0%–90% non-condensing
Operating Temperature	–10°C to 50°C (14°F to 122°F)
Storage Temperature	–40°C to 60°C (–40°F to 140°F)

Incompatibility Statement

Bosch BasicDomes use the remote addressing feature, FastAddress, exclusively. There is no manual way to set the address using switches. Because of this, these domes are not compatible with Bosch systems that meet the following criteria:

Fixed Speed Keyboards	
• LTC 8500/LTC 8600/LTC 8800 CPUs version 5.2 or older.	
• Any LTC 8500/LTC 8600/LTC 8800 CPUs without two (2) 8-position dip switches.	
• Any LTC 8600/LTC 8800 sold before 6/94 and LTC 8500 sold before 5/95.	

Older LTC 8500/LTC 8600/LTC 8800 systems can be upgraded by replacement of CPU with current version. Changes to other system accessories may also be necessary when upgrading to variable speed (for example, keyboards, receiver/drivers, port expanders, etc.).

Mechanical

Weight	1.7 kg (3.7 lb)
Pan/Tilt	360° continuous, 0° to 90° tilt
Pre-position Speed	360°/sec., ±0.5° accuracy
Variable Speed	120°/sec.
Power Consumption	15 W

Miscellaneous

Camera Setup Control	Bi-phase or RS-232
Pre-Positions	99, each with 16-character titles
Guard Tour	<ul style="list-style-type: none">Recorded tours - two (2), with a total duration of 15 minutes.All camera functions stored in memory.
Addressing	FastAddress remote addressing
Sectors/Titling	16 independent sectors with 16-character titles/sector.

Ordering Information

G3B51C BasicDome Color Camera Module	G3B51C
16x color, PAL, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	
G3B61 BasicDome Color Camera Module	G3B61
16x color, NTSC, indoor drop ceiling, color, tinted dome, 24 VAC, 60 Hz	

Ordering Information

G3BS BasicDome Backbox	G3BS
indoor drop ceiling kit	
G3BS50 BasicDome Color Kit	G3BS50
16x color, PAL, indoor drop ceiling, tinted dome, 24 VAC, 50 Hz	
G3BS60 BasicDome Color Kit	G3BS60
16x color, indoor drop ceiling, tinted dome, 24 VAC, 60 Hz	
G3BS50W BasicDome Color Kit	G3BS50W
16x color, indoor suspended ceiling, wall mount, tinted dome, 24 VAC, 50 Hz	
G3BS50P BasicDome Color Kit	G3BS50P
16x, color, indoor suspended ceiling, pipe mount, tinted dome, 24 VAC, 50 Hz	
G3BS60W BasicDome Color Kit	G3BS60W
16x color, indoor suspended ceiling, wall mount, tinted dome, 24 VAC, 60 Hz	
G3BS60P BasicDome Color Kit	G3BS60P
16x color, indoor suspended ceiling, pipe mount, tinted dome, 24 VAC, 60 Hz	
G3BPW BasicDome Backbox	G3BPW
pendant, white	
G3BPW50W BasicDome Color Kit	G3BPW50W
16x color, PAL, indoor pendant, wall mount, tinted dome, white, 24 VAC, 50 Hz	
G3BPW50P BasicDome Color Kit	G3BPW50P
16x color, PAL, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 50 Hz	
G3BPW60W BasicDome Color Kit	G3BPW60W
16x color, NTSC, indoor pendant, wall mount, tinted dome, white, 24 VAC, 60 Hz	
G3BPW60P BasicDome Color Kit	G3BPW60P
16x color, NTSC, indoor pendant, pipe mount, tinted dome, white, 24 VAC, 60 Hz	
G3BPC BasicDome Pendant Backbox	G3BPC
Charcoal	
G3BPC60P BasicDome Color Kit	G3BPC60P
16x color, indoor pendant, pipe mount, tinted dome, charcoal, 24 VAC, 60 Hz	
G3BPC60W BasicDome Color Kit	G3BPC60W
16x color, indoor pendant, wall mount, color (NTSC), tinted dome, charcoal, 24 VAC, 60 Hz	
G3B BasicDome Dummy Kit	G3B
dome and trim ring only	

Accessories

TC 220PSX-24 Power Supply Unit	TC220PSX-24
230 VAC/20 VAC, 50 Hz, 20 VA	

PRS Series Pressurized Dome Outdoor Housings Systems

3



Features

- ▶ Maximum environmental protection against dust, smog, salt air, humidity, etc.
- ▶ Meets IP67 and NEMA 4X
- ▶ Maintains a dry, clean atmosphere for camera, lens, and pan/tilt/zoom (PTZ)
- ▶ UV protected
- ▶ Low pressure sensor alarm
- ▶ Sector blanking and privacy masking
- ▶ Remotely configurable (Bilinx or Bi-Phase)

The Bosch pressurized dome housing unit protects the AutoDome® camera from the elements, both natural and manmade. It is the ideal surveillance solution for applications which require frequent wash-down, including traffic, transit, bridges, tunnels and coastal installations where salt, moisture, dust, insects and fumes threaten the long-term operation of the camera. The pressurized dome is the ultimate way to protect your surveillance camera investment from the environment.

Functions

This rugged pressurized housing, combined with the EnviroDome camera module, maintains peak performance in the worst of conditions. No matter what the elements bring, it's no match for this combination of camera and housing.

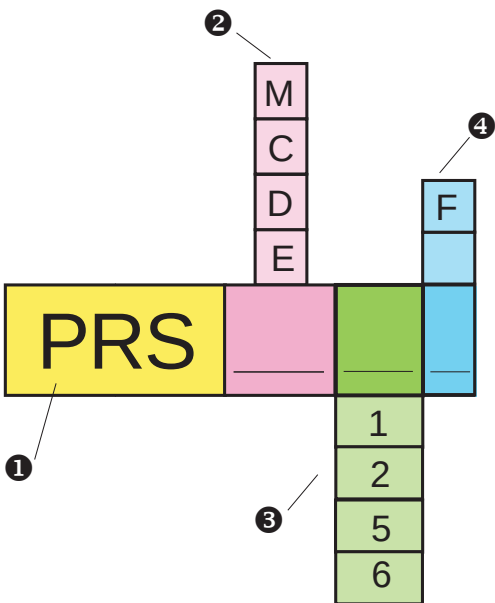
Image control and quality are integral aspects of any outdoor surveillance system. The PressureDome offers optical zoom lenses from 18x to 26x, and all systems offer a full 12x digital zoom once the end of the optical zoom is reached. In addition, the patented scaling feature ensures optimal control for viewing at all zoom settings.

To enhance sensitivity when night falls, the day/night PressureDome automatically switches from color to monochrome by removing the infrared filter. Whether you program the camera to switch automatically, or use the manual switch, the result is optimal camera function, day or night. The slow shutter control feature is standard on all color and day/night PressureDome cameras. This feature automatically reduces the shutter speed to as little as one second, increasing sensitivity by more than 50 times, even in the darkest conditions.

Remote control, configuration, and updates can be performed over the video cable (coax or passive UTP) when using Bilinx-compatible control and configuration devices (such as VP-CFGSFT configuration tool or LTC 8016 Allegiant Bilinx Interface)

The menu for these devices can display multiple languages, including: English, French, German, Spanish, Portuguese and Polish.

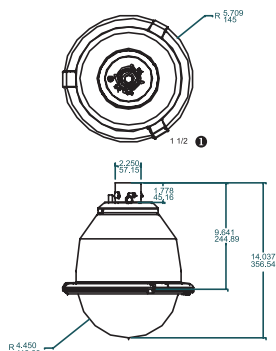
Installation/Configuration Notes



01	Pressurized Housing
02	M –18x Monochrome C –18x Color D –18x Day/Night E –26x Day/night
03	1 –12 VAC NTSC 2 –230 VAC PAL 5 –24 VAC PAL ¹ 6 –24 VAC NTSC ¹
04	F –Fiber Optic ² _ –Standard

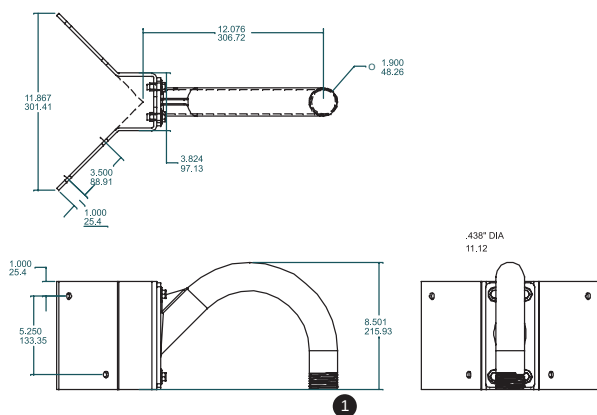
Note: The following ordering chart applies only to orders from the Americas. For customers in Europe, the Middle East or in Africa, please contact your local Bosch representative.

1. No transformer included. Customer must supply 24 VAC, 59 W transformer (ENV-PSU or equivalent). Not available with fiber optic option.
2. Fiber option only available in kits with transformers. For kits without transformers, an LTC 4628 may be used with standard ENV kit. Each fiber kit requires an LTC 4629 at the system.



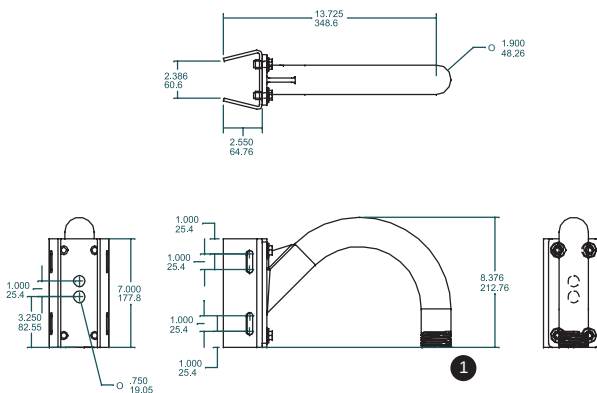
PRS-Housing

01 NPT Coupling



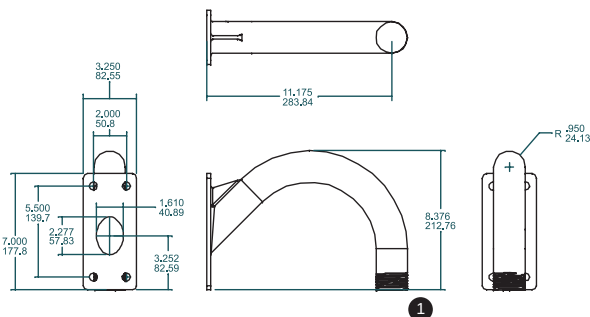
PRS-Corner

01 1 1/2 in. NPT Thread



PRS-Mast

01 1 1/2 in. NPT Thread



PRS-Wall

01 1 1/2 in. NPT Thread

Technical Specifications

Camera 18x Color/18x Day/Night

Imager	1/4 in. IT CCD (752 x 582 PAL) / (768 x 494 NTSC)
Lens	18x Zoom (4.1–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Linel (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12x
Horizontal Resolution	470 TVL (NTSC) / 460 TVL (PAL)

Sensitivity (Minimum Usable Video: 20 IRE)

	18x Color	18x Day/Night
Day Mode w/Slow Shutter Off	0.25 lux	0.25 lux
Night Mode w/Slow Shutter Off	—	0.031 lux
Day Mode w/Slow Shutter On	0.0033 lux	0.0033 lux
Night Mode w/Slow Shutter On	—	0.0005 lux

Sensitivity (Usable Video: 50 IRE)

	18x Color	18x Day/Night
Day Mode w/Slow Shutter Off	0.7 lux	0.7 lux
Night Mode w/Slow Shutter Off	—	0.166 lux
Day Mode w/Slow Shutter On	0.0082 lux	0.0082 lux
Night Mode w/Slow Shutter On	—	0.0013 lux

SNR	>50 dB
White Balance	2000 K to 10,000 K

Camera 26x Day/Night

Imager	1/4 in. Exview HAD CCD (752 x 582 PAL) / (768 x 494 NTSC)
Lens	26X Zoom (3.5–91.0 mm) F1.6 to F3.8
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.3° to 55°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12X
Horizontal Resolution	470 TVL (NTSC) / 460 TVL (PAL)

Sensitivity (Minimum Usable Video: 20 IRE)

Day Mode w/Slow Shutter Off	0.33 lux
Night Mode w/Slow Shutter Off	0.066 lux
Day Mode w/Slow Shutter On	0.0103 lux
Night Mode w/Slow Shutter On	0.0021 lux

Sensitivity (Usable Video: 50 IRE)

Day Mode w/Slow Shutter Off	1 lux
Night Mode w/Slow Shutter Off	0.26 lux
Day Mode w/Slow Shutter On	0.026 lux
Night Mode w/Slow Shutter On	0.0052 lux
SNR	>50 dB
White Balance	2000 K to 10,000 K

Camera 18x Monochrome

Imager	1/4 in. IT CCD (752 x 582 CCIR) / (768 x 494 EIA)
Lens	18x Zoom (4.1–73.8 mm) F1.4 to F3.0
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	2.7° to 48°
Video Output	1.0 Vp-p, 75 Ohm
Gain Control	Off / Auto (with adjustable limit)
Synchronization	Line-lock (–120° to 120° vertical phase adjust) or internal crystal
Aperture Correction	Horizontal and vertical
Digital Zoom	12X
Horizontal Resolution	520 TVL (typical)
Sensitivity (Minimum Usable Video: 20 IRE)	0.031 lux
Sensitivity (Usable Video: 50 IRE)	0.1 lux
SNR	>50 dB
White Balance	N/A

Mechanical

Weight	5.9 kg (13 lb)
Pan/Tilt	360° Continuous pan, –5° to 90° tilt from horizontal plane
Pre-position Speed	360°/sec., ±0.50° accuracy
Variable Speed	120°/sec.

Environmental

Humidity	0% to 100% relative, condensing
Ingress Protection	IP67 (NEMA 4X)
Operating Temp.	–40°C to 50°C (–40°F to 122°F)
Storage Temp.	–40°C to 60°C (–40°F to 140°F)

Accessories

ENV-PSU1 / ENV-PSU2	Outdoor power supply box (120/230 VAC transformer)
ENV-PSU1F / ENV-PSU2F	Outdoor Power Supply box (120/230 VAC Transformer and Fiber Optics)
PRS-Wall	Wall mount
PRS-Corner	Corner mount
PRS Mast	Mast mount

Miscellaneous

Sectors/Titling	16 Independent sectors with 16-character titles/sector
Camera Setup/Control	Bi-Phase or Bilinx (coax)
Pre-positions	99, each with 16-character titles
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> Recorded tours - two (2), with a total duration of 15 minutes. Preset tour - one (1), consisting of up to 99 consecutive scenes
Addressing	FastAddress remote addressing or 4-digit thumbwheel
Agency Listings	CE, UL
Mount	1 1/2-in. PT threaded pipe only
Pressure	5 psi max. Unit ships non-pressurized. Installer must purge and pressurize after installation.

User Connections

Power (Camera)	21–28 VAC, 50/60 Hz, 15 W max.
Power (Heater)	21–28 VAC, 50/60 Hz, 44 W max.
Bi-Phase ±	Control data
Video	BNC
Alarm input (1)	Programmable for "Normally Open" or "Normally Closed"
Nitrogen Fill Valve	Schraeder type valve

Ordering Information

PRS-MAST Pressure Dome Gooseneck Wall mount, with mast (pole) adapter, white	PRS-MAST
PRS-WALL Pressure Dome Gooseneck wall mount, white	PRS-WALL
PRS-CORNER Pressure Dome Gooseneck wall mount, with corner adapter, white	PRS-CORNER
PRS-HOUSING Pressure Dome housing only, 24 VAC, 50/60 Hz, pipe mount	PRS-HOUSING

AutoDome Accessories



Features

- ▶ Alternate bubble colors
- ▶ Rugged bubble option
- ▶ Power supplies
- ▶ Fiber optics
- ▶ AutoTrack option

Bosch offers a full line of accessories to customize and complete your AutoDome® surveillance system for effective and discreet positioning. Select from a variety of bubble options, various indoor or outdoor power supplies and mounts for effective, discrete positioning.

Bubble options include clear, tinted, and a selection of metallic finishes, each offering varying levels of covertness, aesthetics and sensitivity. We also offer the exclusive rugged bubble option to protect your AutoDome camera from vandalism. Designed to meet stringent strength standards without compromising optical clarity, the rugged bubble can withstand the impact equivalent of a 4.536 kg (10 lb) weight dropped from a height of 3.048 m (10 ft).

Optional power supplies are available for connecting multiple domes; fiber optics are offered as a transmission medium to bridge long distances in hostile electromagnetic environments like subways and railways.

AutoTrack is the next generation of motion detection. AutoTrack not only senses movement but also follows it, leaving guards' hands free for other responsibilities. No more missing the action. No more focusing on an intruder only to have him walk out of the frame. AutoTrack detects motion, zooms in on the target, and tracks it.

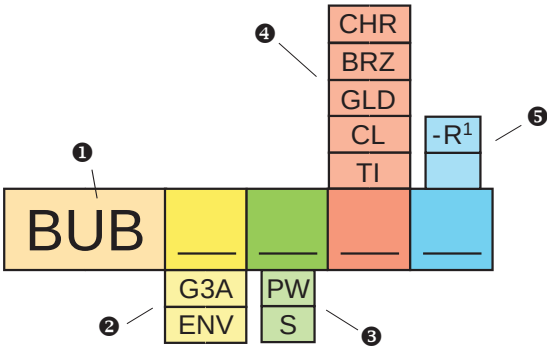
Outdoor Power Supplies

These unique units are designed to be mounted as a self contained weatherproof box, or integrated as part of the EnviroDome's Pendant Arm. There are a variety of models available for each style including such options as Surge Protection, Integrated Fiber Optic Module, and AutoTrack.

Indoor Power Supplies

We recommend the new AutoDome Power Supplies. These are designed to drive 4, 8, or 16 domes from a single box. They deliver 28 VAC rather than the typical 24 VAC to allow for longer distance runs.

Installation/Configuration Notes



Ordering Guide

1	AutoDome Bubble Replacement
2	G3A – Indoor G3 ENV – EnviroDome
3	PW – Pendant White ² S – Suspended ceiling
4	CHR – Chrome (only available for G3A indoor units) BRZ – Bronze (only available for G3A indoor units) GLD – Gold (only available for G3A indoor units) CL – Clear TI – Tint
5	R ¹ – Rugged – Standard

1. Rugged versions are available in Clear or Tint only.

2. Pendant versions include lower housing.

Note: The Rugged Bubble option is ordered separately, as a replacement component, available in Clear or Tinted.



Different types of bubbles



Integrated pendant arm



Indoor Power Supply Boxes

Technical Specifications

Bubble Specifications

Sensitivity Loss:

Clear = 0.0 F-Stop

Tinted = 0.5 F-Stop

Chrome = 2.75 F-Stop

Gold = 1.75 F-Stop

Bronze 1.0 F-Stop

Rugged Bubble Specifications

Sensitivity Loss Clear = 0 F-Stop, Tinted = 0.5 F-Stop

Material 3 mm thick Polycarbonate

Impact Test Rating 100 ft lb

Design Rating Exceeds UL 1598 horizontal impact standard for lighting fixtures by a factor of 10

Indoor Power Supply Specifications³

Electrical 120 VAC input, 28 VAC, 60 Hz output

Features On-board surge suppression;
On/Off switch

Models Available G3A-PSU1-4 (3.5 A total current)
G3A-PSU1-8 (6.5 A total current)
G3A-PSU1-16 (13 A total current)

Dimensions	4 Dome	8 and 16 Dome
Length	21 cm (8.5 in.)	28.5 cm (11.5 in.)
Height	23.5 cm (9.5 in.)	29 cm (11.25 in.)
Width	9.5 cm (3.75 in.)	9 cm (3.5 in.)
Certificates	UL, CE	

3. Not available in Europe, Middle East and Africa.

EnviroDome (Outdoor) Power Supply Specifications

All ENV-PSU or PA Models Include:

115 VAC, 60 Hz, 630 mA input, or

230 VAC, 50 Hz, 350 mA input

Two (2), 24 VAC fused outputs

2.8 A (63 VA) supply current

Output fuses are rated at 1.6 A (for dome power) and 2.0 A (for heater power)

EnviroDome (Outdoor) Power Supply Specifications

AC power LED indicator

IP 66 / NEMA 4X

Operating temp range: -40°C to 50°C
(-40°F to 122°F)

Humidity 0% to 100% condensing

UL, CE certified

Surge Protection Models

Protection on Video Peak current 24 A, peak power 400 W

Protection on RS-232/RS-485 Peak current 500 A, surge energy is 4.4 Joules

Protection on Bi-Phase Lines Peak current 500 A, surge energy is 2.2 Joules

Protection on the Power Peak current 2000 A, surge energy is 33.4 Joules

Fiber Optic Models

Optical Fiber Compatibility 50/125 nm, 62.5/125 nm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
(Video 850 nm / Data 1300 nm)

Max. Distance 4 km (2.5 miles)

Compatible Receiver LTC 4629 Series

Ordering Table

Integrated Wall Arm	No Fiber Optics	W/Fiber Optics
24 VAC (no transformer)	ENV-PA0	N/A
120 VAC	ENV-PA1	ENV-PA1F
230 VAC	ENV-PA2	ENV-PA2F
120 VAC Surge Protection	ENV-PA1-SP	ENV-PA1F-SP
230 VAC Surge Protection	ENV-PA2-SP	ENV-PA2F-SP
Stand-Alone Box	No Fiber Optics	W/Fiber Optics
24 VAC (no transformer)	ENV-BOX	N/A
120 VAC	ENV-PSU1	ENV-PSU1F
230 VAC	ENV-PSU2	ENV-PSU2F
120 VAC Surge Protection	ENV-PSU1-SP	ENV-PSU1F-SP
230 VAC Surge Protection	ENV-PSU2-SP	ENV-PSU2F-SP

AutoTrack Specifications

AutoTrack circuitry is located on the power supply board, and has the same environmental specifications and listings noted above under the EnviroDome Power Supply Specifications heading, located above. For ordering information, see the Ordering Table above and add a "T" at the end of the part number. (Not available on surge protection models.) Standalone Tracker Unit for use with existing G3 Dome (version 5.0 or higher); order Part # G3A-TRKR.

Motion Detected Target must be between 30% and 70% of the image height

Settings On/Off

Compatible Dome Functions Preset tours, guard tours, with a minimum of one (1) sec. pauses in motion

Optical Zoom Range Based on camera angle does not enter digital zoom range

Multiple Target Differentiation Target with largest amount of motion

Ordering Information

G3A-TRKR AutoTrack Stand Alone Box 24 VAC, indoor use only	G3
BUB-G3BTI Replacement Bubble for BasicDomes tinted	G3BTI
BUB-G3BCL Replacement Bubble for Basic-Domes clear	G3BCL
BUB-G3ASTI Replacement Bubble for G3A Domes indoor drop ceiling, tinted bubble	BUB-G3ASTI
BUB-G3ASCL Replacement Bubble for G3A Domes indoor drop ceiling, clear bubble	BUB-G3ASCL
BUB-G3ASCL-R Replacement Rugged Bubble for G3A Domes indoor in-ceiling, clear bubble, rugged version	BUB-G3ASCL-R
BUB-G3ASTI-R Replacement Rugged Bubble for G3A Domes indoor in-ceiling, tinted bubble, rugged version	BUB-G3ASTI-R
BUB-G3APWTI-R Replacement Rugged Bubble for G3A Domes indoor pendant white, tinted bubble, rugged version	BUB-G3APWTI-R
BUB-G3APWCL Replacement Bubble for G3A Domes indoor, pendant white, clear bubble	BUB-G3APWCL
BUB-G3APWTI Replacement Bubble for G3A Domes indoor, pendant white, tinted bubble	BUB-G3APWTI
BUB-G3ASBRZ Replacement Bubble for G3A Domes indoor drop ceiling, bronze bubble	BUB-G3ASBRZ
BUB-G3ASCHR Replacement Bubble for G3A Domes indoor, drop ceiling, chrome bubble	BUB-G3ASCHR
BUB-G3ASGLD Replacement Bubble for G3A Domes indoor drop ceiling, gold bubble	BUB-G3ASGLD
BUB-G3APWBRZ Replacement Bubble for G3A Domes indoor, pendant white, bronze bubble	BUB-G3APWBRZ
BUB-G3APWCHR Replacement Bubble for G3A Domes indoor, pendant white, chrome bubble	BUB-G3APWCHR
BUB-G3APWGLD Replacement Bubble for G3A Domes indoor, pendant white, gold bubble	BUB-G3APWGLD
BUB-G3APWCL-R Replacement Rugged Bubble for G3A Domes indoor, pendant white, clear bubble, rugged version	BUB-G3APWCL-R
BUB-ENVPWCL-R Replacement Rugged Bubble for EnviroDomes outdoor, white, clear bubble, rugged version	BUB-ENVPWCL-R
BUB-ENVPWTI-R Replacement Rugged Bubble for EnviroDomes outdoor, white, tinted bubble, rugged version	BUB-ENVPWTI-R
BUB-ENVPWCL Replacement Bubble for EnviroDomes pendant white, clear bubble	BUB-ENVPWCL

Ordering Information

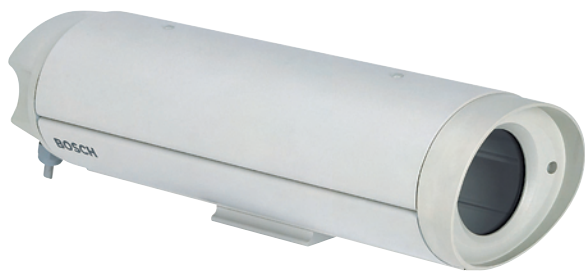
BUB-ENV PWTI Replacement Bubble for EnviroDomes pendant white, tinted bubble	BUB-ENV PWTI
LTC 5136/51 Controller for AutoDomes or Allegiant Receiver/Driver units, 16 outputs, 230 VAC, 50/60 Hz	LTC 5136/51
ENV-PA2F-SP EnviroDome Pendant Arm white, 230 VAC 50Hz, IP65 rated, with fiber optic module, with surge protection	ENV-PA2F-SP
ENV-PA0 EnviroDome Pendant Arm white, with box, no transformer	ENV-PA0
ENV-PSU2-SP Transformer outdoor, IP65x rated, 230 VAC, 50 Hz, with surge protection	ENV-PSU2-SP
ENV-PSU2F-SP Transformer outdoor, IP65x rated, 230 VAC, 50 Hz, with fiber optic module, with surge	ENV-PSU2F-SP
ENV-PA2 EnviroDome Pendant Arm white, 230 VAC, 50 Hz, with surge protection	ENV-PA2
ENV-PA0T EnviroDome Pendant Arm white, no transformer, 24 VAC for AutoTrack	ENV-PA0T
ENV-PA2F EnviroDome Pendant Arm white, 230 VAC, 50 Hz, with fiber optic module	ENV-PA2F
ENV-PA2T EnviroDome Pendant Arm white, 230 VAC, 50 Hz, with AutoTrack	ENV-PA2T
ENV-PA-EX Extended Pendant Arm Mount 27 inch, for G3/EnviroDome	ENV-PA-EX
ENV-PSU2 Transformer outdoor, IP65x rated, 230 VAC, 50 Hz	ENV-PSU2
ENV-PA2FT EnviroDome Pendant Arm white, 230 VAC, 50 Hz, with fiber optic module, with AutoTrack	ENV-PA2FT
ENV-PSU0T no transformer, outdoor, IP65x rated, 24 VAC, with AutoTrack	ENV-PSU0T
ENV-PSU2F Transformer outdoor, IP65x rated, 24 VAC, with AutoTrack	ENV-PSU2F
ENV-PSU2T Transformer outdoor, IP65x rated, 230 VAC, 50 Hz, with AutoTrack	ENV-PSU2T
ENV-PA2-SP EnviroDome Pendant Arm white, 230 VAC, 50 Hz, with surge protection	ENV-PA2-SP
ENV-PSU2FT Transformer outdoor, IP65x rated, 230 VAC, 50 Hz, with fiber optic module, with AutoTrack	ENV-PSU2FT
LTC 9230/01 Flat Roof Mount Adapter for roof parapet mount LTC 9230/00	LTC9230/01
LTC 9540/00 G3/EnviroDome Pendant Wall Mount white	LTC9540/00
ENV-PA-BOX EnviroDome Box for Pendant Arm for pendant arm, no arm	ENV-PA-BOX
LTC 9541/01 EnviroDome Pendant Mast (Pole) Mount white	LTC9541/01
LTC 9543/00 G3/EnviroDome Pendant Pipe Mount white	LTC9543/00
LTC 9543/01 G3 Pendant Pipe Mount Kit excl. pipe, charcoal gray	LTC9543/01

Camera Housings

4

Indoor	122
Indoor Domed Fixed Cameras	140
Outdoor Environmental	145
Mounts & Mounting Brackets	157

HSG 9583/00 Indoor Camera Housing



Features

- ▶ Designed to meet NEMA 3R and IP 55 Ratings
- ▶ Protects Camera/Lens Combinations up to 317 mm (12.5 inch) Length
- ▶ Hinged Side Opening for Easy Installation and Camera Setup
- ▶ Aluminum and Advanced Polymer Construction
- ▶ Cable Routing Through Base or Rear of Housing
- ▶ Tamper-resistant

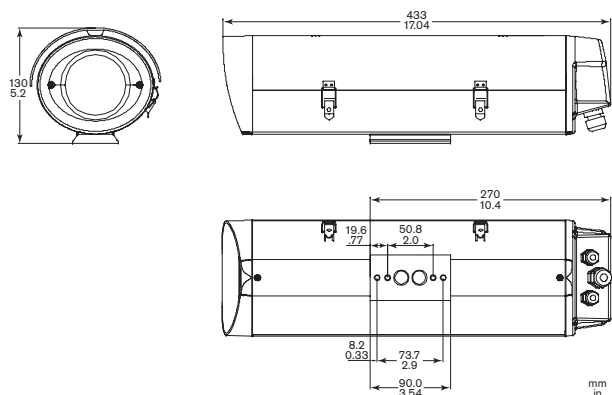
The HSG 9583/00 Indoor Housing is a smartly styled housing, intended for use inside. These housings meet customer requirements for camera enclosures that are both cost-competitive and installer-friendly.

The unique hinged side-opening design facilitates easy installation of all camera/lens combinations, and allows access to most camera and lens controls when the housing is in its mounted position. Power, video, and lens control cabling can be routed through liquid-tight fittings in the bottom rear of the housing, or for even better cable management, via the feed-through entry holes in the base. Mounting holes in the base permit installation to a wide range of pan/tilts, adjustable heads, and various camera mount brackets.

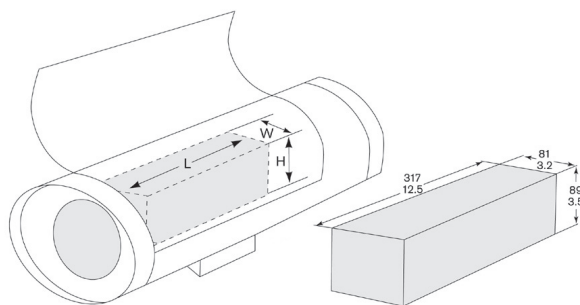
This housing Accommodates installation of Dinion style cameras with fixed focal, varifocal, or up to a 15x motorized zoom lens. For increased security, tamper-resistant screws are provided for the locking clasps to prevent unwanted access to the housing contents.

The HSG 9583/00 Housing is designed to meet NEMA 3R and IP 55 ratings, and is the optimal solution for protecting your indoor video surveillance applications.

Installation/Configuration Notes



HSG 9583/00 indoor housing



Maximum internal usable space available (based on camera/lens size)

Note:

Allowance is provided for wiring and connector space requirements

Parts Included

Quantity	Component
1	HSG 9583/00 Indoor Housing

Technical Specifications

Electrical/Mechanical

Fittings & Connectors

HSG 9583 /00	Three (3) liquid-tight rear fittings, two (2) of which accept cable diameters from 4.0 mm to 7.0mm (0.16 inch to 0.28 inch); one (1) that accepts cable diameters from 6.5 mm to 10.5 mm (0.26 inch to 0.42 inch) Two (2) bottom feed-through liquid tight fittings accept cable diameters from 4.0 mm to 7.0 mm (0.16 inch to 0.28 inch)
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Window	3 mm (0.12 inch) glass
Housing Mounting	Four (4) available 1/4-20 tapped holes; One pair of holes on 50.8 mm (2.0 inch) centers, second pair on 73.7 mm(2.9 inch) centers Only one set of two is required for mounting
Camera Mounting	Removable camera/lens tray, mounted with two screws

Electrical/Mechanical

Construction	Aluminum housing casing, neoprene gaskets, UV-resistant polymer end-caps, and all stainless steel hardware
Tamper-resistance	Tamper-resistant screws for locking clamps are provided
Camera Ratings	24, 115, 230 VAC
Maximum Camera/Lens Size	81 x 89 x 317 mm
W x H x L	(3.2 x 3.5 x 12.5 inch)
Finish	Gray
Dimensions	See drawings
Weight	
HSG 9583/00	2.0 kg (4.3 lb)

Environmental

Product Regulatory Compliance

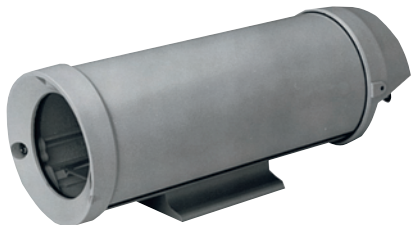
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Enclosure Protection	Designed to meet NEMA 3R and IP 55 ratings

Ordering Information

HSG 9583/00 Indoor Camera Housing for camera/lens up to 317 mm (12.8 inch)	HSG9583/00
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LTC 9480/00 Indoor Housing

4



Features

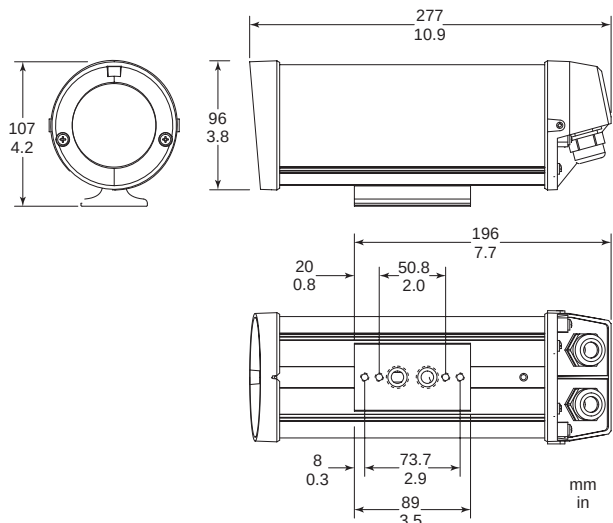
- ▶ For 1/4-inch, 1/3-inch and 1/2-inch CCD Cameras
- ▶ Feed-through Wiring Option
- ▶ Aluminum and Advanced Polymer Construction
- ▶ Easy Installation
- ▶ Full Camera Accessibility
- ▶ Cost Competitive
- ▶ Multiple Accessories Available

The LTC 9480/00 Housing is smartly styled for indoor use. This housing meets customers' demands for attractive housings that are both cost competitive and easy to install. They fit a wide range of 1/4-inch, 1/3-inch and 1/2-inch format CCD cameras and lenses.

Functions

The design of these housings is unique. Removal of two captive screws is all that is necessary to slide off the cover and totally expose the camera and lens. This allows access to all camera and lens controls when the camera is in its mounted position. Power and video cabling can be routed through liquid tight fittings in the bottom rear of the housing or can be routed through the mounting base. Feed-through mounts and J-mounts are available for these housings. The base of the housing permits mounting to pan/tilts, adjustable heads, and various wall mounts.

Installation/Configuration Notes



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9480/00 Indoor Housing

Technical Specifications

Electrical	
Maximum Camera Power	Use with 24 VAC cameras not exceeding 30 W
Mechanical	
Maximum Camera & Lens	68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75 inch)
Cable Entry:	
Two liquid tight rear fittings accept cable diameters from 4.3 mm to 11.9 mm (0.17 in to 0.47 inch). Two bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 inch).	
Window	3 mm (0.12 inch) thick UV-stabilized polycarbonate.
Housing Mounting	Four (4) available 1/4-20 tapped holes. Only one set of two are required for mounting.
Camera Mounting	Removable camera bracket. Mounted with two screws.
Construction	Aluminum cover, aluminum base, aluminum mounting foot, polycarbonate faceplate, glass reinforced polycarbonate end caps, neoprene gasket, ethylene propylene seal, and all stainless steel hardware.
Finish	Dark mushroom.
Dimensions	See LTC9480/00 drawing.
Weight	1.4 kg (3 lb)

Environmental

Salt Atmosphere	MIL-STD-810E, Method 509, Procedure 1.
Enclosure Protection	Designed to NEMA-3R, IP55.

Electromagnetic Compatibility

Safety	CE, UL, cUL
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Accessories

LTC9080/00 Tamper Resistant Kit	Includes 10 screws and insertion tool to permit tamper resistance for five housings.
LTC9215/00 Feed-through Mount	Attached to the foot of the housings, allows wires to be fed-through the mount and into the foot of the housing.
LTC9219/01 Feed-through J-Mount	Allows housing to be mounted from ceiling.

Suggested Applications

Camera Lens

LTC 0335 Fixed/Varifocal

LTC 0355 Fixed/Varifocal

LTC 0435 Fixed/Varifocal

LTC 0455 Fixed/Varifocal

1. The camera mounting block must be removed.

Ordering Information

LTC 9480/00 Indoor Housing for camera/lens to 175 mm (6.9 inch)	LTC9480/00
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LTC 9488/00 Indoor Housing

4



Features

- ▶ For 1/4-inch, 1/3-inch & 1/2-inch CCD Cameras
- ▶ Feed-through Wiring Option
- ▶ Aluminum and Advanced Polymer Construction
- ▶ Easy Installation
- ▶ Full Camera Accessibility
- ▶ Available in Multiple Sizes

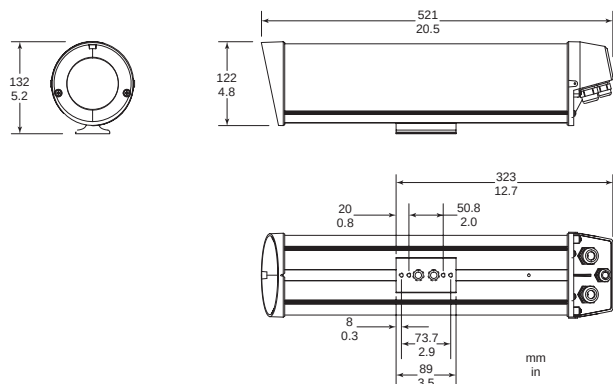
The LTC 9488 Series Housings are smartly styled housings for indoor use. These housings meet customers' demands for attractive housings that are both cost competitive and easy to install. They are available in multiple sizes to fit a wide range of cameras and lenses.

Functions

The design of these housings is unique. Removal of two captive screws is all that is necessary to slide off the cover and totally expose the camera and lens. This allows access to all camera and lens controls when the camera is in its mounted position. Power, video, and lens control cabling can be routed through liquid tight fittings in the bottom rear of the housing or can be routed through the mounting base. Feed-through mounts and J-mounts are available for these housings to completely hide the cabling.

The base of the housings permits mounting to pan/tilts, adjustable heads, and various wall mounts.

Installation/Configuration Notes



LTC 9488/00 Indoor Housing

Parts Included

Quantity	Component
1	LTC 9488/00 Indoor Housing

Technical Specifications

Electrical			
Model No.	Preinstalled Heater or Heater/Blower	Volt / Power V/W	Camera Models with These Volt-age Ratings
Indoor Units			
LTC 9488/00	-	-	24 VAC 115 VAC 230 VAC

Mechanical	
Maximum Camera and Lens:	
LTC 9488/00	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 inch)

Cable Entry	
9488/00	
Three (3) liquid tight rear fittings, two (2) of which accept cable diameters from 4.3 mm to 11.9 mm (0.17 inch to 0.47 inch) and one (1) that accepts cable diameters from 4.6 mm to 7.9 mm (0.18 inch to 0.31 inch). Two (2) bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 inch to 0.31 inch).	
Window	3 mm (0.12 inch) thick UV-stabilized polycarbonate.
Housing Mounting	Four (4) available 1/4-20 tapped holes. Only one set of two is required for mounting.
Camera Mounting	Removable camera bracket. Mounted with two screws.
Construction	Aluminum cover, aluminum base, aluminum mounting foot, polycarbonate faceplate, glass reinforced polycarbonate end caps, neoprene gasket, ethylene propylene seal, and all stainless steel hardware.
Finish	Dark mushroom
Dimensions	See drawings
Weight (approx.)	3.2 kg (7 lb)

Environmental

Salt Atmosphere	MIL-STD-810E, Method 509, Procedure 1.
Enclosure Protection	IP65, Designed to meet NEMA-4

Electromagnetic Compatibility

Safety	UL, cUL, CE
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Accessories

Sunshield	Provides protection from the direct rays of sun and promotes cooling to reduce internal housing temperatures.
LTC 9088/01	For LTC 9488 Series housings
LTC9080/00 Tamper Resistant Kit	Includes ten 10 screws and insertion tool to permit tamper resistance for five (5) housings.
LTC9215/00 Mount	Feed-through mount attached to the foot of housing for HSG 9483, LTC 9480 Series & LTC 9488 Series housings.
LTC 9215/00S Mount	Feed-through mount attached to the foot of housing for HSG 9483, LTC 9480 Series & LTC 9488 housings.
LTC9219/01 J-mount	Feed-through J-mount allows housing to be mounted from ceiling.

Suggested Applications:

	LTC 9488/00
Camera Model	Lens
LTC 0335	Fixed/Vari/ Zoom
LTC 0355	Fixed/Vari/ Zoom
LTC 0435	Fixed/Vari/ Zoom
LTC 0455	Fixed/Vari Zoom

Ordering Information

LTC 9488/00 Indoor Housing	LTC9488/00
for camera/lens combination up to 356 mm (14-inch)	

LTC 9369/00 Indoor Housing

4



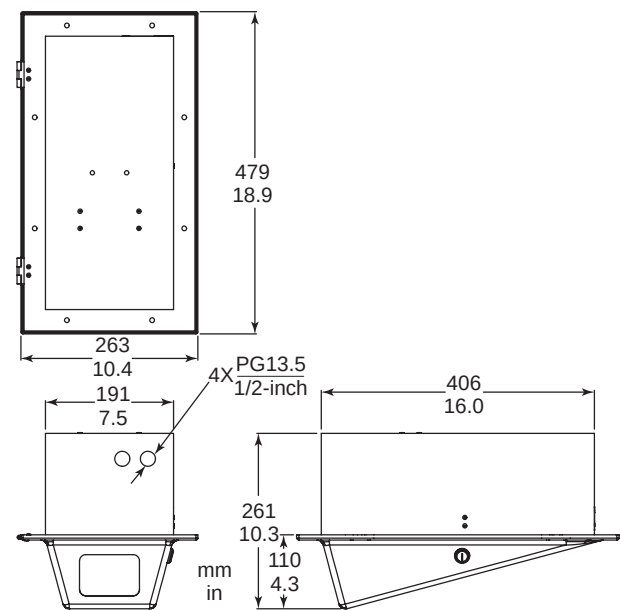
Features

- For Fixed or Suspended Ceilings
- Convenient Key Lock Access
- Easy Installation
- Attractive Low Profile Styling
- Suitable for Use in Environmental Air Spaces
- Rotatable Ceiling Tile Mounting Kits Available

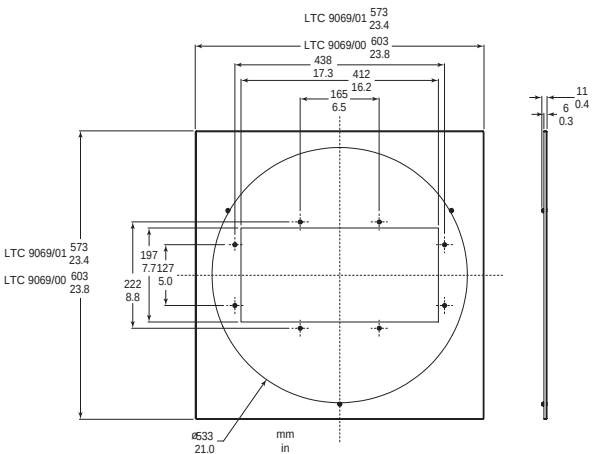
The LTC 9369/00 is an aesthetically designed indoor ceiling housing for CCTV camera installations. This housing can be easily mounted in fixed or suspended ceilings and is ideal for any application where attractive and discreet CCTV monitoring is required. The LTC 9369/00 construction consists of a tough acrylic/PVC alloy plastic cover hinged to an aluminized steel backbox. This construction allows the LTC 9369/00 to be used in environmental air spaces or in air handling plenum of non fire-resistant ceilings. Other construction features include: key lock access, a polycarbonate window, an adjustable camera mount system, and cable entry through conduit knockouts.

Optional Mounting kits are available for 2 ft · 2 ft and 600 mm · 600 mm suspended ceiling tiles. These mounting kits allow 360° rotation and easy installation.

Installation/Configuration Notes



Dimensional Outline



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9369/00 Indoor Housing

Technical Specifications

Mechanical

Maximum Camera/Lens Size:	
Accepts camera/lens combinations up to 330 L x 102 W x 102 H mm (13 x 4 x 4 inch).	
Cable Entry	Wiring access available through four (two front and two back) PG13.5 (1/2 inch) conduit knockouts.
Window	3.2 mm (0.13 inch) thick polycarbonate.

Mechanical

Housing Mounting	Eight protected 7mm (0.27 inch) holes in backbox. Top of backbox contains two 6 mm (0.25 inch) knockouts for safety cable wiring.
Camera Mounting	Two piece adjustable mounting system.

Construction/Finish:

Cover	1.6 mm (0.06 inch) acrylic/PVC alloy plastic with a haircell texture and light gray color.
Backbox	1 mm (0.04 inch) aluminized steel.
Dimensions	See Dimensional Outlines
Weight	3.4 kg (7.5 lb)

Environmental

Enclosure Protection	Cover and window meet UL Flame Rating 94V-0.
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Electromagnetic Compatibility

EMC Requirements	FCC Class B, ICES-003
Safety	UL,cUL

Accessories

Mounting Kits	Ceiling tile mounting kits for suspended ceiling installations. Constructed of 1 mm (0.04 inch) aluminized steel painted with light gray powder coat. Rotates through 360°.
LTC 9069/00	Replaces a 2 ft x2 ft ceiling tile
LTC 9069/01	Replaces a 600 x 600 mm ceiling tile

Ordering Information

LTC 9369/00 Indoor Housing drop ceiling mount, tamper resistant, camera lens up to 300 mm (13 inch)	LTC9369/00
LTC 9069/01 Mounting Plate 600 mm x 600 mm (2 ft x 2 ft), for LTC 9369	LTC9069/01

LTC 9370/00 Indoor Housing

4



Features

- ▶ For Fixed or Suspended Ceilings
- ▶ Convenient Key Lock Access
- ▶ Easy Installation
- ▶ Attractive Low Profile Styling
- ▶ Suitable for Use in Environmental Air Spaces
- ▶ Rotatable Ceiling Tile Mounting Kits Available

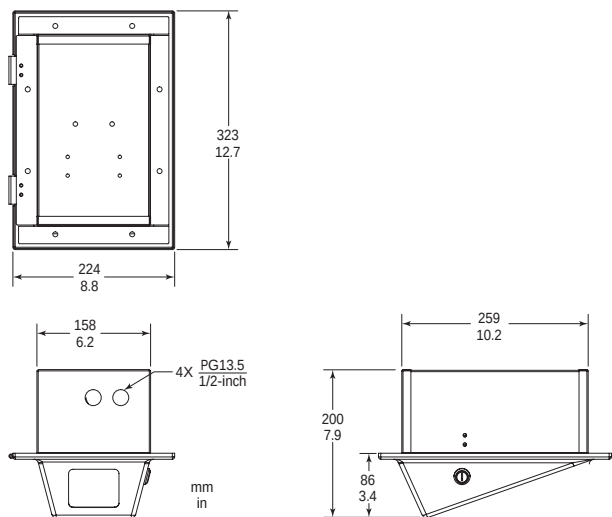
The LTC 9370/00 is an aesthetically designed, small, low profile indoor ceiling housing for CCTV camera installations. This housing can be easily mounted in fixed or suspended ceilings and is ideal for any application where attractive and discreet CCTV monitoring is required.

The LTC 9370/00 construction consists of a tough acrylic/ PVC alloy plastic cover hinged to an aluminized steel backbox.

This construction allows the LTC 9370/00 to be used in environmental air spaces or in air handling plenum of a non fire-resistant ceiling. Other construction features include key lock access, a polycarbonate window, an adjustable camera mount system, and cable entry through conduit knockouts.

Optional Mounting kits are available for 2 ft × 2 ft and 600 mm × 600 mm suspended ceiling tiles. These mounting kits allow 360° rotation and easy installation.

Installation/Configuration Notes



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9370/00 Indoor Housing

Technical Specifications

Mechanical

Maximum Camera/Lens Size	Accepts camera/lens combinations up to 208.3 L x 69.8 W x 63.5 H mm (8.2 x 2.75 x 2.5 inch).
Cable Entry	Wiring access available through four (two front and two back) PG13.5 (1/2 inch) conduit knockouts.
Window	3.2 mm (0.13 inch) thick polycarbonate.
Housing Mounting	Eight protected 7 mm (0.27 inch) holes in backbox. Top of backbox contains two 6 mm (0.25in) knock-outs for safety cable wiring.
Camera Mounting	Two piece adjustable mounting system.

Construction/Finish

Cover	1.6 mm (0.06 inch) acrylic / PVC alloy plastic with a haircell texture and light gray color.
Backbox	1 mm (0.04 inch) aluminized steel.
Dimensions	See Dimensional Outline.
Weight	2.4 kg (5.3 lb).

Environmental

Enclosure Protection	Cover and window meet UL Flame Rating 94V-0.
Accessories	
Mounting Kits	Ceiling tile mounting kits for suspended ceiling installations. Constructed of 1 mm (0.04 inch) aluminized steel painted with light gray powder coat. Rotates through 360°.
LTC 9070/00	Replaces a 2 ft x 2 ft ceiling tile.
LTC 9070/01	Replaces a 600 mm x 600 mm ceiling tile.

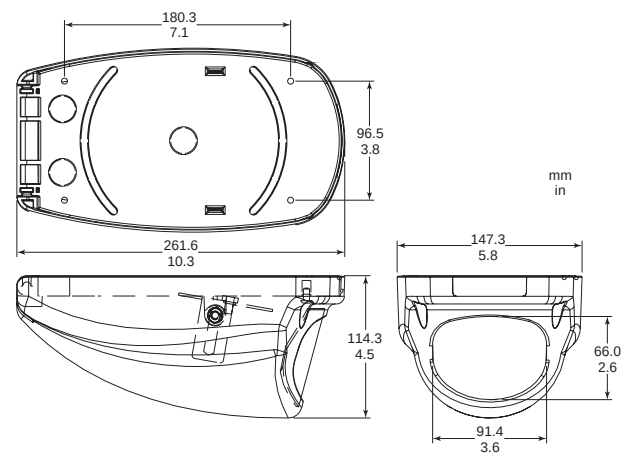
Ordering Information

LTC 9370/00 Indoor Housing drop ceiling mount, tamper resistant, camera/ lens up to 200 mm (8 inch)	LTC9370/00
LTC 9070/00 Mounting Plate 600 mm x 600 mm (2 ft x 2 ft), for LTC 9370/00	LTC9070/00
LTC 9070/01 Mounting Plate 600 mm x 600 mm (2 ft x 2 ft), for LTC 9370/00	LTC9070/01

LTC 9365/00 Indoor Housing



Installation/Configuration Notes



Dimensional Outline

Features

- ▶ Compact Design
- ▶ Hinged Design & Latch for Easy Installation
- ▶ Scratch-resistant Window
- ▶ Polycarbonate Housing & Window
- ▶ Tamper-resistant Fasteners
- ▶ Lightweight
- ▶ Fully Adjustable Camera Bracket

The LTC 9365/00 is an attractive and compact ceiling wedge housing. It can be used with most standard CCTV camera and lens combinations, up to 203 mm (8-inch) in length. Both the housing and the viewing window are made of lightweight, impact-resistant polycarbonate, and include tamper-resistant screws for increased security. Included in the housing is a fully adjustable camera bracket that allows the camera to be top or bottom mounted. Additionally, the hinged design and snap fit allow for easy installation and future servicing.

Parts Included

Quantity	Component
1	LTC 9365/00 Indoor Housing

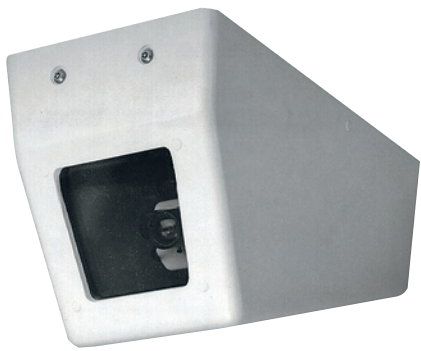
Technical Specifications

Mechanical	
Model No.	Description
LTC9365/00	In-ceiling Wedge Housing
Max Camera/Lens Length	203.2 L x 88.9 W x 76.2 H mm (8 L x 3.5 W x 3 H inch).
Cable Entry	Wire access through one of three possible locations on rear of housing.
Cover	Secured by two (2) tamper-resistant screws.
Mounting	Ceiling-mounted using four (4) screws.
Window	Clear, polycarbonate.
Construction	Polycarbonate.
Finish	Off-white.
Dimensions	See Dimensional Outline.
Weight:	0.45 kg (1 lb).
Use with Bosch Cameras & Lenses	
Camera	Lens
LTC0335	Fixed, Varifocal
LTC0355	Fixed, Varifocal
LTC0435	Fixed, Varifocal
LTC0455	Fixed, Varifocal

Ordering Information

LTC 9365/00 Indoor Housing	LTC9365/00
for ceiling surface mount, camera lens up to 200 mm (8 inch)	

LTC 9305 Series Indoor Housings



Features

- ▶ Rugged cast aluminum construction - equivalent to 10 gauge steel
- ▶ Ceiling or wall mounted Installation
- ▶ Scratch-resistant polycarbonate window, easily replaceable
- ▶ Adjustable camera mounting system
- ▶ Attractive styling

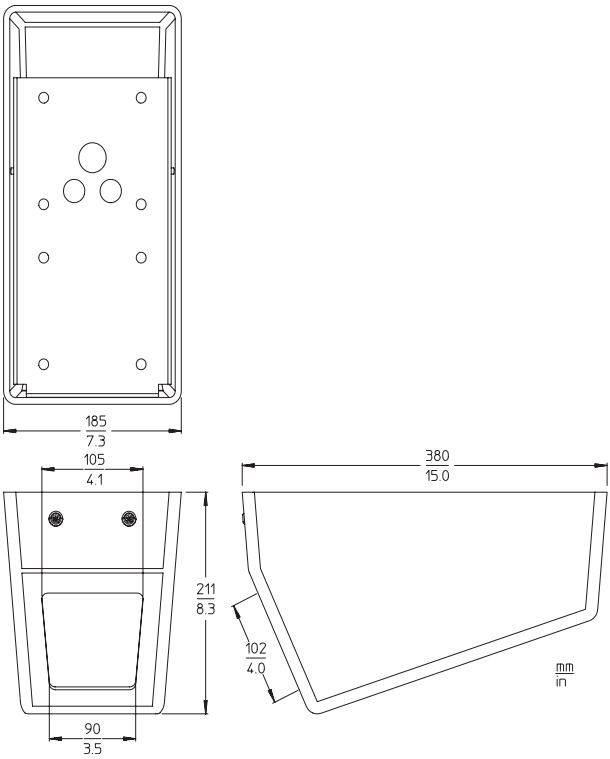
The LTC 9305 Series are wall or ceiling mounted detention grade security housings designed for applications such as prisons, parking garages, and hospitals. These housings are ideal for applications requiring secure CCTV monitoring.

For maximum protection and durability, the lightweight cast aluminum design of the LTC 9305 Series housings provide the strength of 10 gauge steel with the superior strength-to-weight ratio of aluminum. The viewing window, constructed of 9.5 mm (0.37 in) clear polycarbonate material, treated with a scratch resistant coating, can be easily replaced. The removable cover provides access to the camera and is secured by a tamper-resistant screw. A special tool is provided for screw removal.

Attractively styled, these housings are designed to be mounted on the ceiling, on the wall horizontally, or on the wall vertically. A key lock on the access panel is available.

These housings will accept all 1/4-inch, 1/3-inch, and 1/2-inch format CCD cameras with fixed format lenses.

Installation/Configuration Notes



Dimensional Outline

Technical Specifications

Models

LTC 9305/00	Clear 9.5 mm (0.37 in) viewing window
LTC 9305/01	Key lock controlled access, 9.5 mm (0.37 in) viewing window

Mechanical

Dimensions	See drawing
Color	Light gray
Weight	5.6 kg (12.3 lb)
Mounting	8 holes 10 mm (0.41 in) in top
Cable entry	1 x 21 mm (3/4 in) knockout in top 2 x 13.5 mm (1/2 in) knockouts in top Open cable entry through top also possible
Camera mounting	Removable, 3-piece, fully adjustable system
Max camera/lens size (H x W x D)	76 x 76 x 300 mm (3 x 3 x 11.8 in)
Window	9.5 mm (0.37 in) thick scratch-resistant polycarbonate
Material	
top panel	high strength steel
cover	6.3 mm (0.25 in) cast aluminum
Cover securement	2 security screws

Ordering Information

LTC 9305/00 Indoor Housing	LTC9305/00
Max. security, wall or ceiling mount, 9.5 mm (0.37 inch) view window	
LTC 9305/01 Indoor Housing	LTC9305/01
Max. security, wall or ceiling mount, 9.5 mm (0.37 inch), view window, with key lock	

LTC 9405 Series Compact Indoor Housings



Features

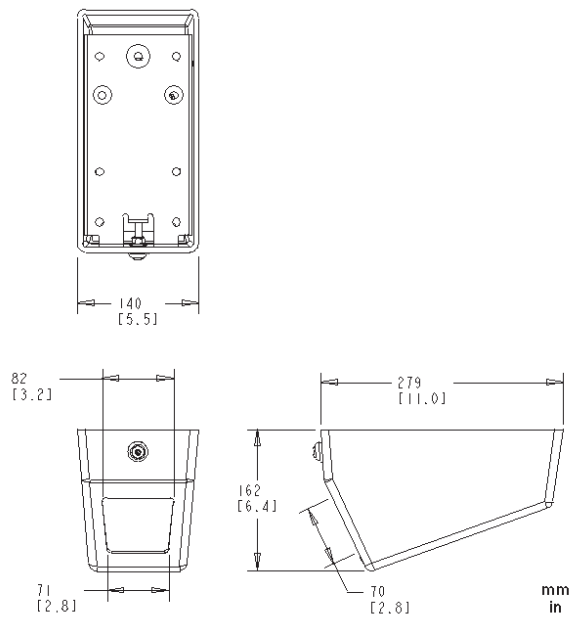
- ▶ Rugged cast aluminum construction – equivalent to 10 gage Steel
- ▶ Ceiling or wall mount installation
- ▶ Scratch-resistant polycarbonate window
- ▶ Adjustable camera mounting system
- ▶ Compact design

The LTC 9405 Series are compact wall or ceiling mounted detention grade security housings. Designed for applications such as prisons, parking garages, and hospitals, these housings are ideal for installations requiring secure CCTV monitoring.

For maximum protection and durability, the lightweight cast aluminum design of the LTC 9405 Series housings provides the strength of 10 gauge steel with the superior strength-to-weight ratio of aluminum. The viewing window is constructed of 9.5 mm (0.37 inch) clear polycarbonate material, treated with a scratch-resistant coating. A removable hinged cover, secured by a key lock, provides easy access to the camera.

If more security is required, the LTC 9405/05 model is available with a 12.7 mm (0.5 inch) clear viewing window. Attractively styled, these housings are designed to be mounted on a ceiling or on a wall, horizontally or vertically.

Installation/Configuration Notes



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9405 Series Compact Indoor Housing

Technical Specifications

Models

LTC 9405/00	Clear, 9.5 mm (0.37 inch) viewing window.
LTC 9405/01	Key lock controlled access. Clear, 9.5 mm (0.37) viewing window.
LTC 9405/03	Clear, 12.7 mm (0.5 inch) viewing window.
LTC 9405/05	Key lock controlled access. Clear, 12.7 mm (0.5 inch) viewing window.

Mechanical

Maximum Camera/Lens Size	Accepts camera/lens combinations up to 190 L x 68 W x 68 H mm (7.5 x 2.7 x 2.7 inch). Dimensions include standard connectors. A right angle BNC may be required for some cameras.
Cable Entry	Wiring access through one PG 21 (3/4 inch) and two PG 13.5 (1/2 inch) conduit knockouts located in the top of the housing. Open cable entry is also available through the top.
Window	Clear polycarbonate treated with a scratch-resistant coating. Design allows for easy replacement.
Housing Mounting	Protected top panel contains six 10 mm (0.4 inch) holes for easy installation.
Camera Mounting	Removable three piece fully adjustable mounting system.

Mechanical

Construction	5.8 mm (0.23 inch) cast aluminum cover mounted to a high strength steel top panel and assembled using high strength steel hardware
Finish	Light gray
Dimensions	See Dimensional Outline
Weight	2.6 kg (5.8 lb)

4

Ordering Information

LTC 9405/00 Compact Indoor Housing	LTC9405/00
Max. security, wall or ceiling mount, 9.5 mm (0.37 inch) glass, view window	
LTC 9405/01 Compact Indoor Housing	LTC9405/01
Max. security, wall or ceiling mount, 9.4 mm (0.37 inch) glass, view window, with key lock	
LTC 9405/05 Compact Indoor Housing	LTC9405/05
Max. security, wall or ceiling mount, 12,7 mm (0.5 inch) glass, view window, with key lock	

LTC 9303 Series Indoor Housings



Features

- ▶ Rugged Cast Aluminum Construction - Equivalent to 10 Gauge Steel
- ▶ Corner-Mounted Installation
- ▶ Scratch-Resistant Polycarbonate Window
- ▶ Adjustable Camera Mounting System
- ▶ Attractive Styling

The LTC 9303 Series are inside corner-mounted detention-grade security housings, designed for applications such as prisons, parking garages, and hospitals. These housings are ideal for any application requiring secure CCTV monitoring.

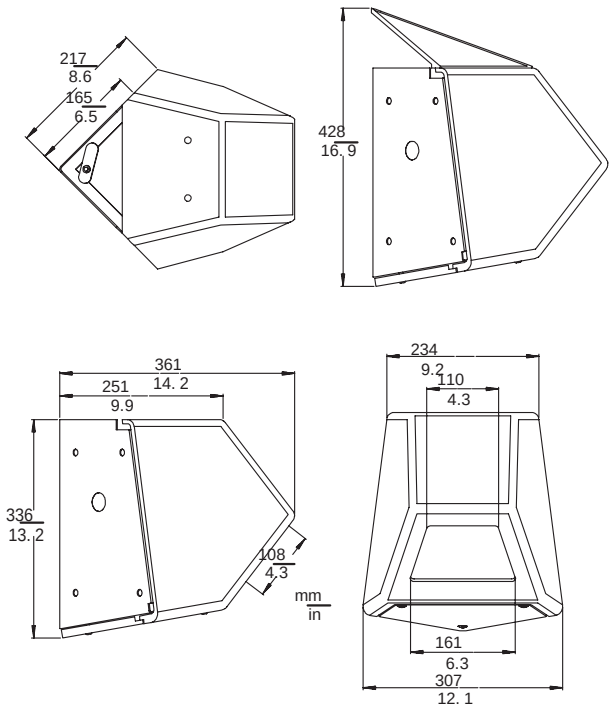
For maximum protection and durability, the light weight cast aluminum design of the LTC 9303 Series housing provides the strength of 10 gauge steel, with the superior strength-to-weight ratio of aluminum.

The viewing window is constructed of 9.5 mm (0.37 in) clear polycarbonate material, treated with a scratch resistant coating. A removable bottom panel provides access to the camera, and is secured using three tamper resistant screws. A special tool is provided for screw removal.

Attractively styled, these housings are furnished without a full top cover, and are designed to be corner-mounted flush with the ceiling. Adding the LTC 9313/00 top cover allows the housing to be mounted below the ceiling line. A key lock on the access panel is also available.

These housings will accept 1/4-inch, 1/3-inch, and 1/2-inch format CCD cameras with fixed format CS lenses.

Installation/Configuration Notes



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9303 Series Indoor Housing

Technical Specifications

Models	
LTC 9303/00	Clear 9.5 mm (0.37 inch) viewing window.
LTC 9303/01	Clear 9.5 mm (0.37 inch) viewing window with key lock controlled access.
LTC 9303/02	Tinted 9.5 mm (0.37 inch) viewing window.
LTC 9303/03	Clear 12.7 mm (0.50 inch) viewing window.
LTC 9303/04	Tinted 9.5 mm (0.37 inch) viewing window with key lock controlled access.
LTC 9303/05	Clear 12.7 mm (0.5 inch) viewing window with key lock controlled access.
Mechanical	
Maximum Camera/Lens Size	Housing accepts camera/lens combinations up to 267 L x 102 W x 76 H mm (10.5 x 4.0 x 3.0 inch) when using 1/4-inch, 1/3-inch and 1/2-inch format CCD cameras. Dimensions include standard
Connectors	
Cable Entry	Wiring access through a PG 21 (3/4 inch) conduit knockout located on both sides of the rear of the housing. Cable entry also available through top of the housing.

Mechanical

Window	9.5 mm (0.37 inch) thick polycarbonate treated with a scratch-resistant coating. Design allows for easy replacement.
Housing Mounting	Protected rear panel contains eight 10mm (0.406 inch) holes for easy installation.
Camera Mounting	Removable three piece fully adjustable mounting system.
Construction	6.3 mm (0.25 inch) cast aluminum front cover mounted to a steel rear panel and assembled using high strength steel hardware. Access panel secured using three security screws.
Finish	Light gray
Dimensions	See Dimensional Outline
Weight	7.7 kg (17 lb)

Accessories

LTC 9313/00	Sloped top cover for housings mounted below the ceiling line.
Defogger Kits	Recommended for use in areas where condensation could cause fogging of the viewing window.
LTC 9313/60	115 VAC, 50 / 60 Hz, 50 W thermostatically- controlled defogger kit.
LTC 9313/20	24 VAC, 50 / 60 Hz, 50 W thermostatically- controlled defogger kit.
LTC 9313/50	230 VAC, 50 / 60 Hz, 50 W thermostatically- controlled defogger kit.

Ordering Information

LTC 9303/00 Indoor Housing Max. security, corner mounting, clear 9.5 (0,37 inch) viewing window	LTC9303/00
LTC 9303/01 Indoor Housing Max. security, corner mounting, clear window with key lock	LTC9303/01
LTC 9303/02 Indoor Housing Max. security, corner mounting, tinted 9.5 mm (0,37 inch), viewing window	LTC9303/02
LTC 9303/03 Indoor Housing Max. security, corner mounting, clear 12.7 mm (0.50 inch) viewing window	LTC9303/03
LTC 9303/04 Indoor Housing Max. Security, corner mounting, tinted 9.5 mm (0,37 inch) viewing window	LTC9303/04
LTC 9303/05 Indoor Housing max. security, corner mounting, clear 12,7 mm (0,5 inch) viewing window	LTC9303/05

Accessories

LTC 9313/00 Sloped Top Cover for LTC 9303 Series Housing	LTC9313/00
LTC 9313/20 Defogger Kit for LTC 9303 indoor housing, 24 VAC, 50/60 Hz, 50 W	LTC9313/20
LTC 9313/50 Defogger Kit for LTC 9303 indoor housing, 230 VAC, 50/60 Hz, 50 W	LTC9313/50
LTC 9313/60 Defogger Kit for LTC 9303 indoor housing, 115 V, 50/60 Hz, 50 W	LTC9313/60

TC 2073 Series Maximum Security Housings



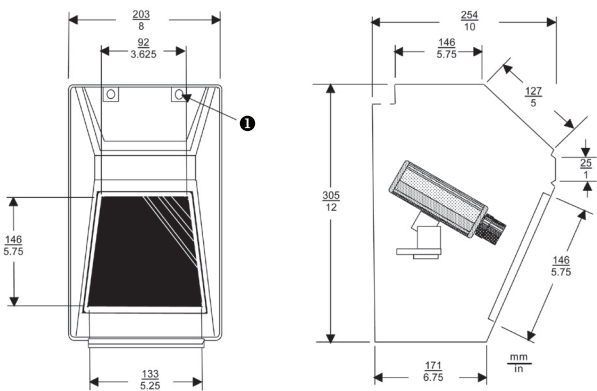
Features

- For Fixed Lens Applications
- ABS Plastic Construction
- Easy Installation and Service
- Thick Acrylic Viewing Window
- Adjustable Camera Bracket
- Tamperproof

The TC2073 Series are inside corner mounted institutional grade housings designed for monitoring dining halls, exercise rooms, visit areas, as well as elevators, stairwells, lobbies, and mantraps.

These housings are designed to be corner-mounted. The housing has a sloped front cover for corner mounting below the ceiling level. It is available with a clear or tinted acrylic window. The TC2073 Series will accept most 1/3-inch, 1/2-inch and 2/3-inch format CCD cameras with fixed auto-iris lenses.

Installation/Configuration Notes



Dimensional Outline

- 1 Security fastners (2)

Parts Included

Quantitiy	Component
1	TC2073 (/T)

Technical Specifications

Models:

TC2073	Clear window for color cameras
TC2073T	Tinted window; one f-stop light reduction

Mechanical

Maximum Camera/Lens Size (L x W x H)	Accepts cameras up to 109 x 101 mm (9 x 4.3 x 4 inch)
Cable Entry	Access through rear of housing
Window	6 mm (0.25 inch) thick acrylic
Construction	94HB, 4 mm (0.187 inch) ABS plastic housing with stainless steel hinged front cover. Front cover is equipped with captive security fasteners; special tool included.
Finish	Textured beige enamel
Dimensions	See Dimensional Outline
Weight	1.4 kg (3 lb)

Ordering Information

TC 2073 Indoor Housing	TC2073
Corner mounted, camera/lens to 229 mm (9 inch)	
TC 2073T	TC2073T
Housing, plastic	

LTC 9312/00 and LTC 9412/00 Series Indoor Housings



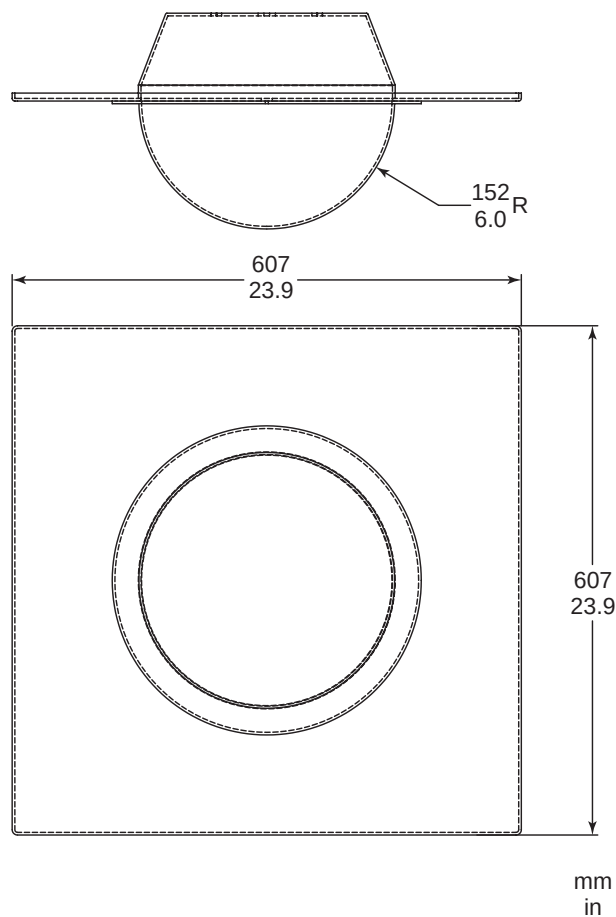
Features

- ▶ 300 mm (12-inch) dome
- ▶ 360° Adjustable viewing direction
- ▶ Suspended ceiling & pendant models
- ▶ Covert inner liner conceals camera position
- ▶ Multiple camera capacity with accessories
- ▶ Includes adjustable swivel camera mount

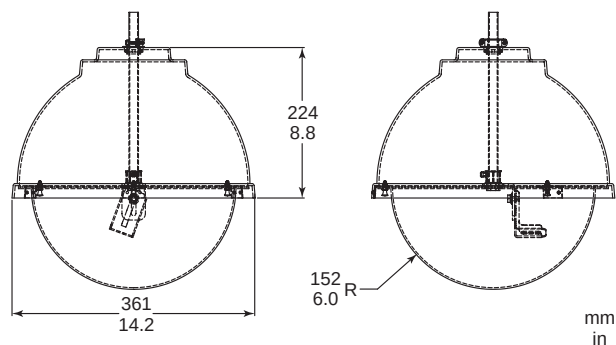
The Bosch LTC 9312/00 and LTC 9412/00 are indoor, discreet, domed housings designed for fixed cameras. The LTC 9312/00 is a flush mounted dome for use in a suspended ceiling.

The LTC 9412/00 is a pendant mounted dome which can be suspended using 1.2-inch conduit or equivalent tubing. The domes allow 360° viewing, enabling the fixed camera to be mounted at any angle using the adjustable swivel head. These units include a covert inner liner which hides the camera, thus concealing its position. As well, both the LTC 9312/00 and LTC 9412/00 can accommodate up to 2 cameras, providing additional viewing capabilities. These domes will accept 1.4 inch, 1.3 inch and 1.2-inch format CCD monochrome and color cameras.

Installation/Configuration Notes



Dimensional Outline



Dimensional Outline

Parts Included

Quant.	Component
1	LTC 9312/00 / LTC 9412/00 Series Indoor Housing

Technical Specifications

LTC 9312/00 Flush Mount

300 mm (12-inch) diameter indoor flush mounted dome with fixed camera bracket, dust cover, inner liner, and tinted lower dome.

Mechanical

Camera/Lens Size: Maximum of 2 cameras, size 20.3 cm (8 inch) length.

Cable Entry	Through opening located on side of dome.
F/stop Loss	1 to 1.5
Mounting	Mounts in suspended ceiling.
Construction/Finish	Acrylic dome on metal housing.
Weight	7.25 kg (16 lb)
Accessories	
FM2	For up to two cameras

LTC 9412/00 Pendant Mount

300 mm (12-inch) diameter indoor pendant mounted dome with fixed camera bracket, inner liner, and tinted lower dome.

Mechanical

Camera/Lens Size	Maximum of 2 cameras, size 20.3 cm (8-inch) length.
Cable Entry	Through 1/2-inch conduit knockout through top of housing.
F/stop Loss	1 to 1.5
Mounting	Pendant mounted
Construction/Finish	Acrylic dome on metal housing
Weight	5.4 kg (12 lb)
Accessories	
MCB4	For up to two cameras

Ordering Information

LTC 9412/00 Housings Indoor for camera/lens up to 300 mm (12-inch), pendant mount, tinted	LTC9412/00
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Accessories

FM1 Camera Mount long, mounts extra cameras in LTC 9312/00 Dome housings	FM1
FM2 Camera Mount short, mounts extra cameras in LTC 9312/00 Dome housings	FM2
TC9311PM3T Installation Tool for TC9311PM3, LTC 9213 & LTC 9225 pole mount adapters	TC9311PM3T

LTC9330/00QD and LTC9331/00HD Series Indoor Housings

4



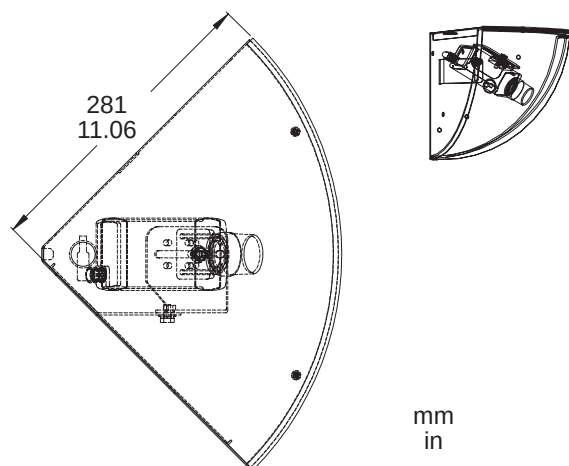
Features

- ▶ For fixed camera installations
- ▶ High impact tinted acrylic domes
- ▶ Easy to install and service
- ▶ Minimum light reduction
- ▶ Camera brackets included
- ▶ Low profile design

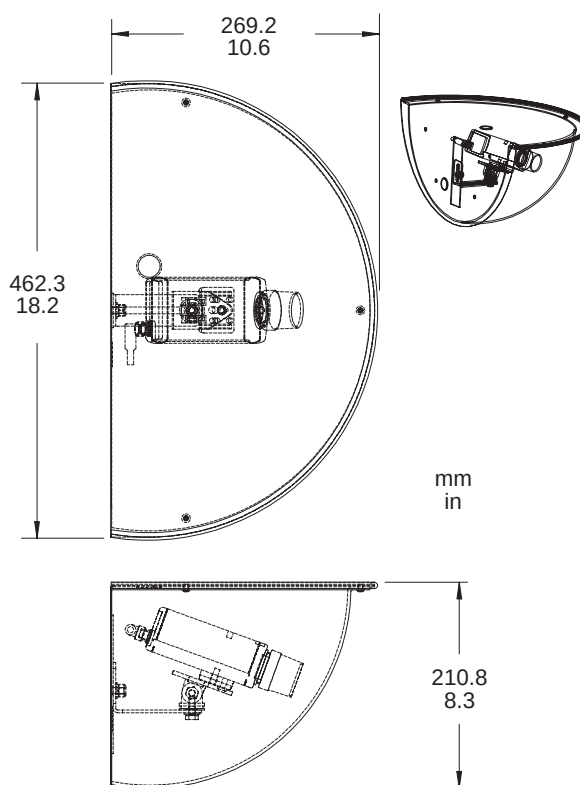
These discreet housing units are intended for use with fixed CCD cameras in corner or wall applications. Adjustable camera brackets are included. Available with a gold or silver accent ring, these units are ideal for any office, lobby, or hallway.

Both models are constructed on an 18 gauge steel mounting frame. A protective top cover allows them to be mounted away from the ceiling, while the adjustable mounting bracket maximizes viewing angles. The quarter-dome units are suitable for corners, while the half-dome units can be mounted on vertical surfaces.

Installation/Configuration Notes



Dimensional Outline LTC 9330 / 00QD Quarter-dome



Dimensional Outline LTC 9331 / 00QD half-dome

Note: These housings will accommodate the Bosch Dinion and Dinion^{XF} cameras with lens sizes up to and including the Bosch 5-50 mm varifocal lenses:

Parts Included

Quantity	Component
1	LTC 9330/00QD / LTC9331/00HD Series Indoor Housing

Technical Specifications

LTC 9330/00qd Quarter-Dome

Mechanical

Maximum Camera & Lens	192.2 mm L x 68 mm W x 59 mm H (7.56 x 2.67 x 2.32 inch) Includes fully extended lens and rear camera connectors.
F/stop Loss	1.5
Housing Mounting	Mounts in corner
Camera Mounting	Adjustable 12 gauge steel camera bracket.
Construction/Finish	Acrylic dome on 18 gauge steel mounting frame. Both a gold and a silver accent trim is included.
Dimensions	See drawing
Weight	2.72 kg (6 lb)

LTC 9331/00hd Half-Dome

Mechanical

Maximum Camera & Lens (L x W x H)	192.2 mm x 68 mm x 59 mm (7.56 x 2.67 x 2.32 inch) Includes fully extended lens and rear camera connectors.
F/stop Loss	1.5
Housing Mounting	Mounts on vertical surface
Camera Mounting	Adjustable 12 gauge steel base and plastic adjustable head camera mount.
Construction/Finish	Acrylic dome on 18 gauge steel mounting frame. Both a gold and a silver accent trim is included.
Dimensions	See drawing
Weight	3.63 kg (8 lb)

Ordering Information

LTC 9330/00QD Housings Indoor for camera/lens up to 254 mm (10 inch), corner mount, tinted, quarter dome	LTC9330/00
LTC 9331/00HD Housings Indoor for camera/lens up to 450 mm (17.5 inch), wall mount, tinted, half dome	LTC9331/00

LTC 9348/00 Series Indoor Housings

4



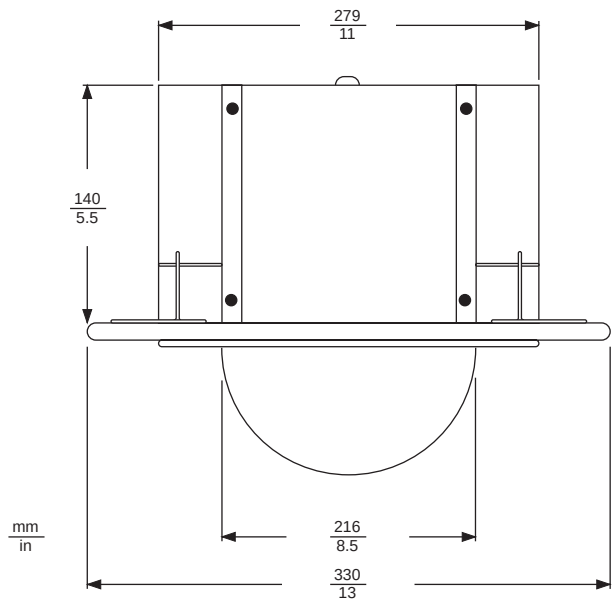
Features

- ▶ For fixed camera installations
- ▶ Plenum ceiling applications
- ▶ Adjustable viewing direction
- ▶ Tamper resistant and dustproof
- ▶ Concealed camera position
- ▶ Tinted lower dome
- ▶ Attractive design
- ▶ Easy installation

This attractive domed housing accommodates 1/2-inch and 1/3-inch solid-state cameras for surveillance in a variety of indoor CCTV applications. The LTC 9348/00 has a 216 mm (8.5 in) lower tinted dome, with an opaque black non-viewing window area and white decorative trim ring. The above-ceiling portion is manufactured from heavy gauge steel, making it ideal for use in plenum ceiling applications. These housings can be mounted in both sheetrock and standard drop ceilings.

The units contain conduit knockouts and support holes for easy installation and service. They come complete with mounting hardware and an adjustable camera mounting head for 360° adjustable viewing direction. These totally enclosed units are dustproof and tamper resistant.

Installation/Configuration Notes



Dimensional Outline

Parts Included

Quantity	Component
1	LTC 9348/00 Series Indoor Housing

Technical Specifications

Mechanical

Construction	The back box is constructed from 20 and 18 gauge steel. The lower capsule is formed from 0.125 inch tinted cell cast acrylic with non-viewing window area opaque black and white trim ring. Light reduction due to the viewing area is only 1 to 1.5 f-stops.
Dimensions	See Dimensional Outline
Weight	3.1 kg (6.8 lb)
Maximum Camera/Lens	216 L x 89 W x 71 H mm (8.5 x 3.5 x 2.8 inch)
Enclosure Mounting	Four (4) mounting flanges are provided in flange of dome (including toggle bolts).
Camera Mounting	Camera support bracket is adjustable forward and backward. Bracket is included with each unit.

Ordering Information

LTC 9348/00 Series Indoor Housings	LTC9348/00
for cameras/lens to 216 mm (8.5 inch), ceiling mount, tinted, metal backbox	

HSG 9583 Series Outdoor Camera Housing



Features

- ▶ NEMA 3R and IP55 enclosure ratings
- ▶ Protects Camera/Lens Combinations up to 262 mm (12.5 inch) Length
- ▶ Hinged Side Opening for Easy Installation and Camera Setup
- ▶ Aluminum and Advanced Polymer Construction
- ▶ Sunshield Included
- ▶ Cable Routing Through Base or Rear of Housing
- ▶ Tamper-resistant

The HSG 9583 Series Housings are smartly styled housings, for outdoor use. These housings meet customer requirements for camera enclosures that are both cost-competitive and installer-friendly. Models are available for use with 24 VAC, 115 VAC, and 230 VAC cameras, to fit a wide range of applications.

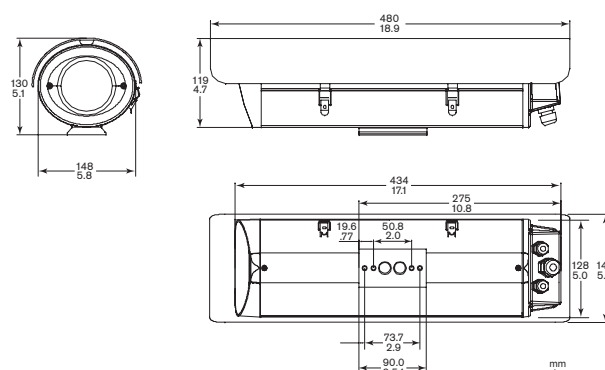
The unique hinged side-opening design facilitates easy installation of all camera/lens combinations, and allows access to most camera and lens controls when the housing is in its mounted position. Power, video, and lens control cabling can be routed through liquid-tight fittings in the bottom rear of the housing, or for even better cable management, via the feed-through entry holes in the base. Mounting holes in the base permit installation to a wide range of pan/tilts, adjustable heads, and various camera mount brackets.

External 4-pin and BNC connectors for power and video, located in the rear end cap, are also available on 24 VAC and 230 VAC models. These aluminum constructed housings are available with a factory-installed heater and blower. The heater maintains the internal temperature of the housing in cold temperature conditions as low as -40°C (-40°F). In combination with a continuous-duty blower, the unit minimizes fogging in high humidity locations, and extends the temperature limits. Sunshields are included on all outdoor models.

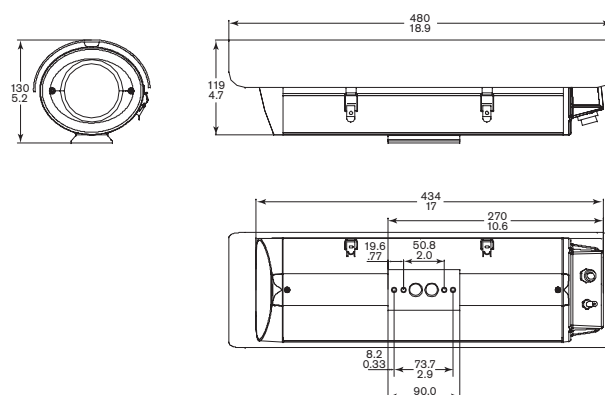
All models accommodate installation of Dinion style cameras with fixed focal, varifocal, or up to a 15x motorized zoom lens. For increased security, tamper-resistant screws are provided for the locking clasps to prevent unwanted access to the housing contents.

With a sleek design that meets NEMA 3R and IP55 enclosure standards, the HSG 9583 Series Housings are the optimal solution for protecting your video surveillance equipment from adverse elements.

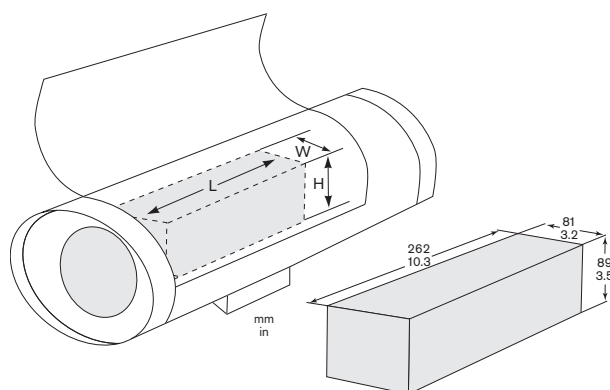
Installation/Configuration Notes



HSG 9583/20/21/50/51/61 Housings Outdoor Units



HSG 9583/22/52/53 Housings Outdoor Units



All Models

Maximum internal usable space available
(based on camera/lens size)

Note:

Allowance is provided for wiring and connector space requirements

Technical Specifications

Electrical/Mechanical

Fittings & Connectors

HSG 9583 /20, /21, /50, /51, /61	Three (3) liquid-tight rear fittings, two (2) of which accept cable diameters from 4.0 mm to 7.0 mm (0.16 inch to 0.28 inch); one (1) that accepts cable diameters from 6.5 mm to 10.5 mm (0.26 inch to 0.42 inch) Two (2) bottom feed-through liquid tight fittings accept cable diameters from 4.0 mm to 7.0 mm (0.16 inch to 0.28 inch)
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HSG 9583 /22, /52, /53	Rear-mounted 4-pin connector for power, with mating connector Rear-mounted BNC connector for video
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Window	3 mm (0.12 inch) glass
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Housing Mounting	Four (4) available 1/4-20 tapped holes; One pair of holes on 50.8 mm (2.0 inch) centers, second pair on 73.7 mm (2.9 inch) centers. Only one set of two is required for mounting
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Camera Mounting	Removable camera/lens tray, mounted with two screws
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Construction	Aluminum housing casing, neoprene gaskets, UV-resistant polymer endcaps, and all stainless steel hardware
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Tamper-resistance	Tamper-resistant screws for locking clasps are provided
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Finish	Gray
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Dimensions	See drawings
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Weight

HSG 9583/20, /50, /52	2.8kg (6.1lb)
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HSG 9583/21, /22, /51, /53, /61	2.9kg (6.4lb)
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Environmental

Operating Temp.	With heater/blower accessories installed:
	With fixed lens: at an external temperature of -40 °C to +50 °C (-40 °F to +122 °F), the housing will maintain the internal temperature between -20 °C and 55 °C (-4 °F to +131 °F).
	With zoom lens: at an external temperature of -30 °C to +50 °C (-22 °F to +122 °F), the housing will maintain the internal temperature between -10 °C and 55 °C (+14 °F to +131 °F).

Enclosure Protection	IP55, NEMA-3R
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Product Regulatory Compliance

Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
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Enclosure Protection	NEMA 3R and IP55
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Ordering Information

HSG 9583/20 Outdoor Housing	HSG 9583/20
for camera/lens up to 262 mm (10.3 inch), 24 VAC, 50/60 Hz, heater, sunshield, feed-through cabling	

Ordering Information

HSG 9583/21 Outdoor Housing	HSG9583/21
for camera/lens up to 262 mm (10.3 inch), 24 VAC, 50/60 Hz, heater, blower, sunshield, feed-through cabling	

HSG 9583/22 Outdoor Housing	HSG 9583/22
for camera/lens up to 262 mm (10.3 inch), 24 VAC, 50/60 Hz, heater, blower, sunshield, outside BNC connector and outside power connector	

HSG 9583/50 Outdoor Housing	HSG 9583/50
for camera/lens up to 262 mm (10.3 inch), 230 VAC, 50/60 Hz, heater, sunshield, feed-through cabling	

HSG 9583/51 Outdoor Housing	HSG 9583/51
for camera/lens up to 262 mm (10.3 inch), 230 VAC, 50/60 Hz, heater, blower, sunshield, feed-through cabling	

HSG 9583/52 Outdoor Housing	HSG9583/52
for camera/lens up to 262 mm (10.3 inch), 230 VAC, 50/60 Hz, heater, sunshield, outside BNC connector and outside power connector	

HSG 9583/53 Outdoor Housing	HSG 9583/53
for camera/lens up to 262 mm (10.3 inch), 230 VAC, 50/60 Hz, heater, blower, sunshield, outside BNC connector and outside power connector	

HSG 9583/61 Outdoor Housing	HSG9583/61
for camera/lens up to 262 mm (10.3 inch), 115 VAC, 60 Hz, heater, blower, sunshield, feed-through cabling	

Accessories

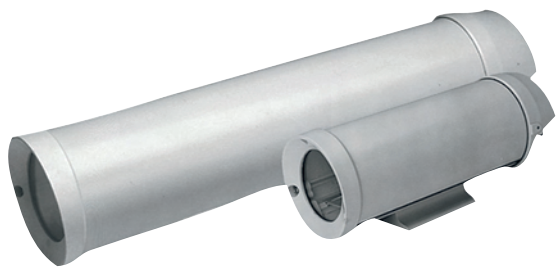
LTC 9215/00 Mount	LTC9215/00
Wall bracket for LTC/HSG 948x, HSG 9583 and UHO housings	

LTC 9215/00S Mount	LTC9215/00S
Short wall bracket for LTC/HSG 948x, HSG 9583 and UHO housings	

LTC 9219/01 J-Mount	LTC9219/01
Feed-through j mount for LTC/HSG 948x, HSG 9583 and UHO housings	

HAC-TAMP-01 Tamper Switcher	HAC-TAMPO 1
for HSG 9583/xx and UHO Series	

LTC 9480 and LTC 9488 Series Housings Outdoor



Features

- ▶ For 1/4-inch, 1/3-inch & 1/2-inch CCD Cameras
- ▶ Feed-through Wiring Option
- ▶ Aluminum and Advanced Polymer Construction
- ▶ Easy Installation
- ▶ Full Camera Accessibility
- ▶ Available in Multiple Sizes
- ▶ Multiple Accessories Available

The LTC 948x Series Housings are smartly styled housings for outdoor use. These housings meet customers' demands for attractive housings that are both cost competitive and easy to install. They are available in multiple sizes to fit a wide range of cameras and lenses.

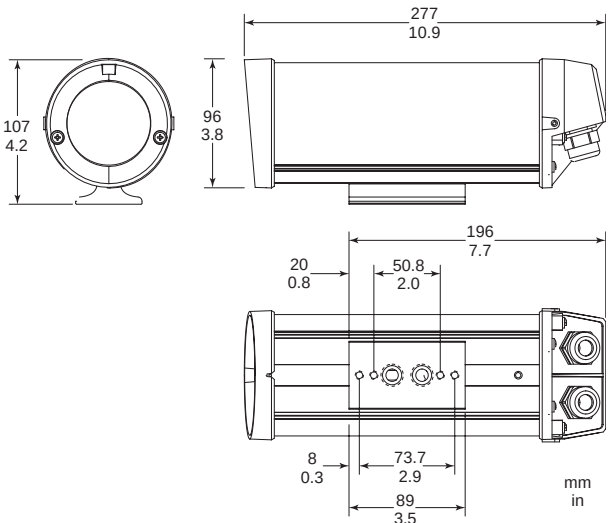
Functions

The design of these housings is unique. Removal of two captive screws is all that is necessary to slide off the cover and totally expose the camera and lens. This allows access to all camera and lens controls when the camera is in its mounted position. Power, video, and lens control cabling can be routed through liquid tight fittings in the bottom rear of the housing or can be routed through the mounting base. Feed-through mounts and J-mounts are available for these housings to completely hide the cabling.

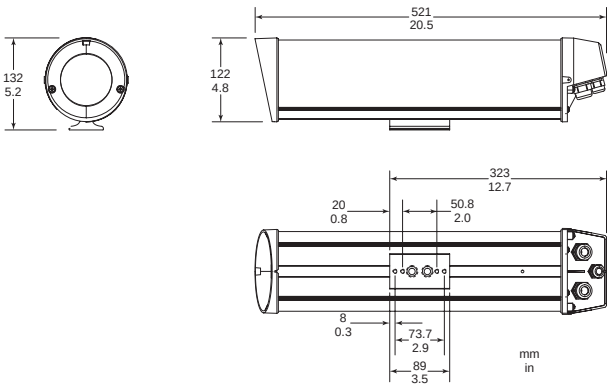
The base of the housings permits mounting to pan/tilts, adjustable heads, and various wall mounts.

These sturdily constructed housings are available with a preinstalled heater or a preinstalled heater and blower. The heater maintains the internal temperature of the housing in cold temperature conditions and the heater/blower combination minimizes fogging in high humidity locations and extends the temperature limits.

Installation/Configuration Notes



LTC 9480 Series



LTC 9488 Series

Technical Specifications

Electrical

Model No.	Preinstall Volt / Power Heater or V/W Heater/Blower ¹⁾	Camera Models with these Voltage Ratings
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Outdoor Units			
LTC 9480/xx ²⁾	-	-	24 VAC
LTC 9488/xx ²⁾	-	-	24 VAC 115 VAC 230 VAC
Outdoor Units			
LTC 9480/20 ²⁾	Heater	24/15 V/W	24 VAC
LTC 9488/20	Heater	24/40 V/W	24 VAC
LTC 9488/21	Heater/Blower	24/42 V/W	24 VAC
LTC 9488/50	Heater	230/40 V/W	230 VAC
LTC 9488/60	Heater	115/40 V/W	115 VAC
LTC 9488/61	Heater/Blower	115/45 V/W	115 VAC

1) The heaters and blowers for all models operate at 50/60 Hz.

2) Available with wall-mount; add "MT" suffix.

Mechanical**Maximum Camera and Lens:**

LTC 9480/20	68 W x 58 H x 197 L mm (2.68 x 2.6 x 7.75 inch) ¹⁾
LTC 9488/20	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 inch) ¹⁾
LTC 9488/50	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 inch) ¹⁾
LTC 9488/60	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 inch) ¹⁾
LTC 9488/21	71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5 inch) ²⁾
LTC 9488/61	71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5 inch) ²⁾

1) With Heater

2) With Heater And Blower

Cable Entry**LTC 9480 Series Outdoor Housing**

Two (2) liquid tight rear fittings accept cable diameters from 4.3 mm to 11.9 mm (0.17 inch to 0.47 inch). Two (2) bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 inch to 0.31 inch).

LTC 9488 Series Outdoor Housing

Three (3) liquid tight rear fittings, two (2) of which accept cable diameters from 4.3 mm to 11.9 mm (0.17 inch to 0.47 inch) and one (1) that accepts cable diameters from 4.6 mm to 7.9 mm (0.18 inch to 0.31 inch). Two (2) bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 inch to 0.31 inch).

Window	3 mm (0.12 inch) thick UV-stabilized polycarbonate.
Housing Mounting	Four (4) available 1/4-20 tapped holes. Only one set of two is required for mounting.
Camera Mounting	Removable camera bracket. Mounted with two screws.
Construction	Aluminum cover, aluminum base, aluminum mounting foot, polycarbonate faceplate, glass reinforced polycarbonate end caps, neoprene gasket, ethylene propylene seal, and all stainless steel hardware.
Finish	Dark mushroom.
Dimensions	See drawings.
Weight (approx.)	LTC 9480 Series: 1.4 kg (3 lb) LTC 9488 Series: 3.2 kg (7 lb)

Environmental

Temperature	At external temperature of -40 °C to 50 °C (-40 °F to 122 °F), maintains internal temperatures between -20 °C and 55 °C (-4 °F to 131 °F) with heater/blower.
Salt Atmosphere	MIL-STD-810E, Method 509, Procedure 1.
Enclosure Protection	IP65, Designed to meet NEMA- 4

Electromagnetic Compatibility

Safety	UL, cUL, CE
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Accessories

Sunshield	Provides protection from the direct rays of sun and promotes cooling to reduce internal housing temperatures. Strongly recommended for housing that is to be used outdoors.
LTC 9083/01S	For LTC 9480 Series housings
LTC 9088/01	For LTC 9488 Series housings
LTC9080/00 Tamper Resistant Kit	Includes ten 10 screws and insertion tool to permit tamper resistance for five (5) housings.

Environmental

LTC9215/00 Mount	Feed-through mount attached to the foot of housing for LTC 9483, LTC 9484 & LTC 9488 Series housings.
LTC 9215/00S Mount	Feed-through mount attached to the foot of housing for LTC 9480 Series housings.
LTC9219/01 J-mount	Feed-through J-mount allows housing to be mounted from ceiling.
LTC 9480/20 HTR Heater	15 W heater for LTC 9480/00.

Suggested Applications:

	LTC 9480	LTC 9488
Camera Model	Lens	Lens
LTC 0335	Fixed/Vari	Fixed/Vari/ Zoom
LTC 0355	Fixed/Vari	Fixed/Vari/ Zoom
LTC 0435	Fixed/Vari	Fixed/Vari/ Zoom
LTC 0455	Fixed/Vari	Fixed/Vari Zoom

Ordering Information

LTC 9480/20 Outdoor Housing for camera/lens to 7-inch, 3-in dia, 24 VAC, 50/60 Hz, heater	LTC9480/20
LTC 9488/20 Outdoor Housing for camera/lens to 14-inch, 24 VAC, 50/60 Hz, heater	LTC9488/20
LTC 9488/21 Outdoor Housing for camera/lens to 13-inch, 24 VAC, 50/60 Hz, heater, blower	LTC9488/21
LTC 9488/50 Outdoor Housing for camera/lens to 14-inch, 230 VAC, 50 Hz, heater	LTC9488/50
LTC 9488/60 Outdoor Housing for camera/lens to 14-inch, 110 VAC, 60 Hz, heater	LTC9488/60
LTC 9488/61 Outdoor Housing for camera/lens to 13-inch, 120 VAC, 60 Hz, heater, blower	LTC9488/61

Accessories

LTC 9219/01 Feed-through J Mount for 15-inch, 9 kg (20 lb) max load, for 938x & 948x series housings, light gray finish	LTC9219/01
LTC 9215/00 Wall Bracket for 12-inch, 9 kg (20 lb) max load, for 9380x & 948x series housings, feed-through version, light gray finish	LTC9215/00
LTC 9215/00S Short Wall Bracket for 7-inch, 9 kg (20 lb) max load, for 938x & 948x series housings, feed-through version, light gray finish	LTC9215/00S
LTC 9083/01S Sunshield for LTC 9480 series housings	LTC9083/01S
LTC 9088/01 Sunshield for LTC 9488 series housings	LTC9088/01
LTC 9080/00 Tamper Kit for LTC 9480 series housings, up to 5 housings	LTC9080/00

LTC 9384 Series Housings

Outdoor



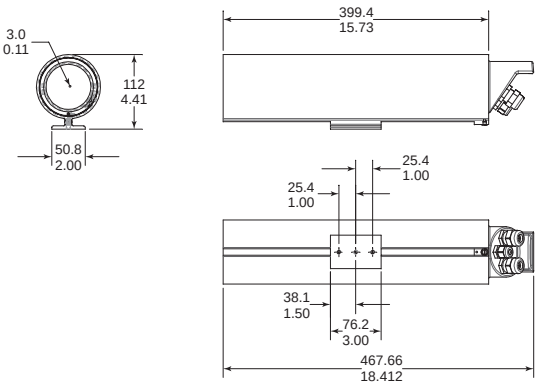
Features

- ▶ For 1/3-inch or 1/2-inch format CCD cameras
- ▶ All aluminum construction
- ▶ IP68, meets NEMA-6P
- ▶ Built-in handle for easy installation
- ▶ Excellent protection against dust & water
- ▶ Built-in window heater/defogger
- ▶ Accessories available

The LTC 9384 Series of environmental housings are attractive aluminum enclosures designed for outdoor CCD camera installations. These housings are constructed of extruded aluminum, and include a one-piece camera/lens mounting cradle with front- and rear-end caps. The front-end cap contains the glass viewing window with an integral heater design that minimizes fogging of the window in high humidity areas, or freezing under cold temperature conditions.

The aluminum rear-end cap contains three liquid-tight fittings, which permit pass-through of video coax, AC power, and lens control wiring. The permanent base permits mounting to pan/tilts, adjustable heads, and various wall-mounts, and the built-in handle on the back of the housing allows quick installation and service.

Installation/Configuration Notes



Dimensional Outline LTC 9384 Series

Parts Included

Quantity	Component
1	LTC 9384 Series Outdoor Housings

Technical Specifications

Electrical

Power Transformer¹⁾

Model No.	Rated Input Voltage	Range	Voltage Output	Nominal Power ²⁾
LTC 9384/60	115 VAC	108 to 132 VAC	24 VAC 50/60 Hz	30 W
LTC 9384/20	24 VAC	21.6 to 26.4 VAC	24 VAC 50/60 Hz	30 W
LTC 9384/50	230 VAC	207 to 253 VAC	24 VAC 50/60 Hz	30 W
LTC 9384/20NT	24 VAC	21.6 to 26.4 VAC	—	30 W

1) The power transformers included with these housings are used to provide power to the heater and can be used to provide isolated camera power.

2) Heater requires 30 watts.

Mechanical

Maximum Camera/Lens Size

LTC 9384/xx	Accepts cameras up to 67 W x 59 H mm (2.6 x 2.3 inch), lenses up to 70 W x 70 H mm (2.75 x 2.75 inch), and camera/lens combinations up to 292 mm (11.5 inch).
LTC 9384/20NT	Accepts cameras up to 67 W x 59 H mm (2.6 x 2.3 inch), lenses up to 70 W x 70 H mm (2.75 x 2.75 inch), and camera/lens combinations up to 355 mm (14.0 inch).

Cable Entry	Three (3) liquid-tight fittings. Accepts the following cable diameters: one (1) fitting 2.3 mm to 6.4 mm (0.09 inch to 0.25 inch), two (2) fittings 3.8 mm to 10 mm (0.15 in to 0.39 inch).
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Window	3 mm (0.118 inch) thick glass. Includes thermostatically-controlled window heater/defogger.
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Mechanical

Housing Mounting	Three (3) 1/4-20 tapped holes.
Camera Mounting	Removable cradle assembly with hole pattern for mounting camera/lens assembly. Cradle may be rotated through 360°.
Construction	Extruded aluminum housing, aluminum rear-end cap, aluminum front cap with glass faceplate, and aluminum cradle.
Finish	Dark Mushroom
Dimensions	See drawing
Weights	
LTC 9384/xx	2.5 kg (5.6 lb)
LTC 9384/20NT	2.0 kg (4.4 lb)

Environmental

Temperature	
External ambient temperatures of	40 °C to 50 °C (–40 °F to 122 °F)
maintains internal temperatures of	–20 °C to 55 °C (–4 °F to 131 °F).
Salt Atmosphere	MIL-STD-810E, Method 509, Procedure
Enclosure Protection	IP68
Electromagnetic Compatibility EMC Requirements	
Immunity	89/336/EEC, EN50082-1
Emission	89/336/EEC, EN50081-1 Class B
Safety	
CE	LVD Requirements: 73/23/EEC; EN60065
UL	UL2044
cUL	CSA 22.2, No.1
Accessories	
LTC 9384/00 Sunshield	Provides protection from the direct rays of the sun and promotes cooling to reduce internal housing temperatures.
LTC 9380/02 Tamper Resistant Kit	Includes screws and insertion tool to permit tamper resistance for one (1) housing.

Ordering Information

LTC 9384/60 Outdoor Housing	LTC9384/60
NEMA-4, 3-inch diameter & camera / lens up to 292 mm (11.5 inch), 120 VAC, 60 Hz	
LTC 9384/20 Outdoor Housing	LTC9384/20
NEMA-4, 3-inch diameter & camera / lens up to 292 mm (11.5 inch), 24 VAC, 50/60 Hz	
LTC 9384/50 Outdoor Housing	LTC9384/50
NEMA-4, 3-inch diameter and camera / lens up to 292 mm (11.5 inch), 24 VAC, 50 Hz	
LTC 9384/20NT Outdoor Housing	LTC9384/20NT
NEMA-4, 3-inch diameter and camera / lens up to 355 mm (14.0 inch) no transformer, 24 VAC, 50/60 Hz	

Ordering Information**Accessories**

LTC 9384/00 Sunshield	LTC9384/00
LTC 9380/02 Tamper Resistant Kit	LTC9380/02
LTC 9381/00 Conversion Kit	LTC9381/00
NPT to PG	

LTC 9385 Series Housings

Outdoor

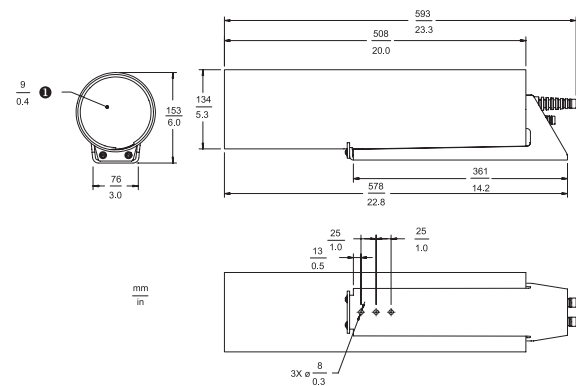


Features

- ▶ For 1/3-inch, 1/2-inch, or 2/3-inch format CCD cameras
- ▶ All aluminum construction
- ▶ Easy installation
- ▶ Removable cover
- ▶ Built-in window heater/defogger
- ▶ Accessories available

The LTC 9385 Series of medium-sized environmental housings are attractive aluminum enclosures designed for outdoor CCD camera installations. These housings are constructed of an extruded aluminum cover and a fabricated aluminum frame. The unique design allows adjustments to be made to the camera in its mounted position, once the cover is removed. The cover contains a polycarbonate window that is UV stabilized. An internally mounted thermostatically controlled heater is standard. The heater design minimizes fogging of the window in high humidity areas, or freezing under cold temperature conditions. The rear of the housing contains three liquid-tight fittings which permit pass-through of video coax, AC power, and lens control wiring. The housing is sealed with O-rings. The mounting base assembly permits mounting to pan/tilts, adjustable heads, and various wall-mounts. A unique feature of this housing is an internal rail assembly that rotates independently of the mounting base assembly, and allows the camera to be mounted at any angle.

Installation/Configuration Notes



Dimensional Outline LTC 9385 Series

1 Thick

Parts Included

Quantity	Component
1	LTC 9385 Series Outdoor Housings

Technical Specifications

Model No.	Rated Input	Voltage Range	Nominal Power ¹⁾
LTC 9385/60	115 VAC 50/60 Hz	108 to 132 VAC	50 W
LTC 9385/20	24 VAC 50/60 Hz	21.6 to 26.4 VAC	50 W
LTC 9385/50	230 VAC 50/60 Hz	207 to 253 VAC	50 W

Electrical Connections	Three position terminal block for supply line power. LTC 9385/60 and LTC 9385/50 models have inline receptacles for camera power connections.
Heater-Defogger	Standard 40 Watt thermostatically controlled heater/defogger

1) Heater requires 40 watts.

Mechanical

Maximum Camera/Lens Size	Accepts cameras up to 102 W x 71 H mm (4.0 x 2.8-inch), lenses up to 102 W x 92 H mm (4.0 x 3.6-inch), and camera/lens combinations up to 345 L mm (13.6 inch).
Cable Entry	Two (2) 1/2 -inch NPT and one (1) 3/8-inch NPT tapped holes. Three (3) liquid-tight fittings are provided pre-installed. Accepts the following cable diameters: 3/8-inch NPT fitting, 4.6 mm to 7.9 mm (0.181 in to 0.312 in); 1/2-inch NPT fittings, 4.3 mm to 11.9 mm (0.170 inch to 0.470 inch).
Window	9.5 mm (0.375 inch) polycarbonate treated with a UV light resistant coating. Viewing area: 127 mm (5 inch) diameter.

Mechanical

Housing	Three (3) 8 mm (0.312 inch) clearance holes in base.
Mounting	Mounting base assembly may be rotated through 360°.
Camera Mounting	Slotted internal rail assembly, which may be rotated through 360°. All camera/lens mounting hardware is provided.
Construction	Extruded aluminum cover, fabricated aluminum frame, and polycarbonate window.
Finish	Dark Mushroom
Dimensions (L x W x H)	See Dimensional Outline. 591 x 134 x 153 mm (23.3 x 5.3 x 6.0 inch)
Weight	3.7 kg (8.2 lb)

Environmental

Temperature

External ambient temperatures of -30°C to +50°C (-22°F to +122°F)

Maintains internal temperatures of -20°C to +55°C (-4°F to +131°F)

Salt Atmosphere MIL-STD-810E, Method 509, Procedure I.

Enclosure Protection Designed to NEMA-4, IP65, Enclosure Type 4

Electromagnetic Compatibility EMC Requirements

Immunity 89/336/EEC, EN50082-1

Emission 89/336/EEC, EN50081-1 Class B

Safety

CE LVD Requirements: 73/23/EEC; EN60065

UL UL 1409

cUL CSA 22.2, No.1

Accessories

LTC 9385/00 Sunshield Provides protection from the direct rays of the sun and promotes cooling to reduce internal housing temperatures.

LTC 9380/01 Tamper Resistant Kit Includes screws and insertion tool to permit tamper resistance for up to five (5) housings.

Ordering Information

LTC 9385/60 Outdoor Housing LTC9385/60
for camera/lens up to 345 mm (13.6 inch), 120 VAC, 60 Hz, heater

LTC 9385/20 Outdoor Housing LTC9385/20
for camera/lens up to 345 mm (13.6 inch) 24 VAC, 50/60 Hz, heater

LTC 9385/50 Outdoor Housing LTC9385/50
for camera/lens up to 345 mm (13.6 inch), 230 VAC, 50 Hz, heater

Accessories

LTC 9385/00 Sunshield LTC9385/00

LTC 9381/01 Conversion Kit LTC9381/01
NPT to PG

LTC 9380/00 Tamper Kit LTC9380/00
For LTC 9385 series housings, up to 10 housings

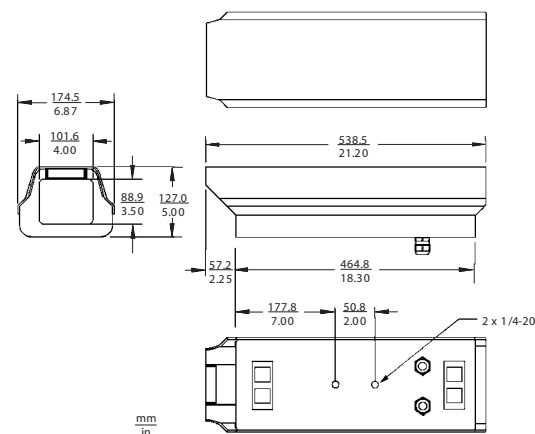
LTC 9380/01 Tamper Kit LTC9380/01
for LTC 9385 series housings, up to 5 housings

TC9340A Series Housings

Outdoor



Installation/Configuration Notes



Dimensional Outline TC9340A Series

Features

- ▶ For 2/3-inch and smaller format CCD cameras
- ▶ All aluminum construction
- ▶ Easy installation
- ▶ Built-in elevation block
- ▶ Gas spring assisted lid opening
- ▶ Accessories available

Designed as a medium size environmental enclosure, the TC9340A Series weatherproof environmental housings accommodate 2/3-inch and smaller format CCD cameras with up to 10X zoom lenses.

Functions

Releasing the latch on the rear of the enclosure raises the lid upward providing maximum accessibility to the interior. Two unique internal features maximize ease of installation and camera/lens adjustments. A gas spring holds the lid securely when fully opened and a built-in elevation block/camera sled facilitates camera mounting. For further versatility, the camera sled is removable and can be inverted depending on the camera/lens combination utilized.

The TC9340A Series of housings are available with a full complement of accessories such as: heater, blower, thermal insulation kit, window defroster, and a sunshield. With a heater and a blower kit installed, the unit is capable of operating in ambient temperatures ranging from -23 °C to 49 °C (-10 °F to 120 °F).

Parts Included

O/I-PCB Assembly Connector Board:

PC board with thermostat. One required when installing a heater, blower, or defroster individually or in common.

O/I Outlet (Electrical Outlet):

3-prong receptacle, rated 120 VAC; for camera connection (provides plug in capability vs. hard wiring).

Technical Specifications

Mechanical

Maximum Camera/ Lens Size	304.8 x 139.7 x 108.0 mm (13.5 x 5.5 x 4.24 inch)
Cable Entry	Two 12.7 (0.5 inch) glands on bottom of housing.
Windows	6.4 mm (0.25 inch) thick poly-carbonate. UV-stabilized with a silicone hard coat.
Dimensions:	88.9 H x 101.6 W mm (3.50 x 4.00 inch)
Housing Mounting	Two (2) 1/4-20 tapped holes.
Camera Mounting	Removable camera sled with built-in elevation block.
Construction	Aluminum
Finish	Textured semi gloss beige
Dimensions	See Dimensional Outline
Weight	3.28 kg (7.25 lb) without heater/blower

Ordering Information

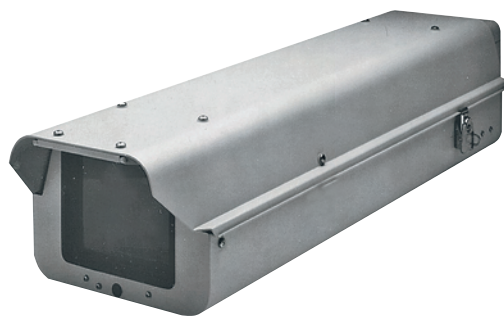
TC9340A Outdoor Housing for camera/lens to 16-inch	TC9340A
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Accessories

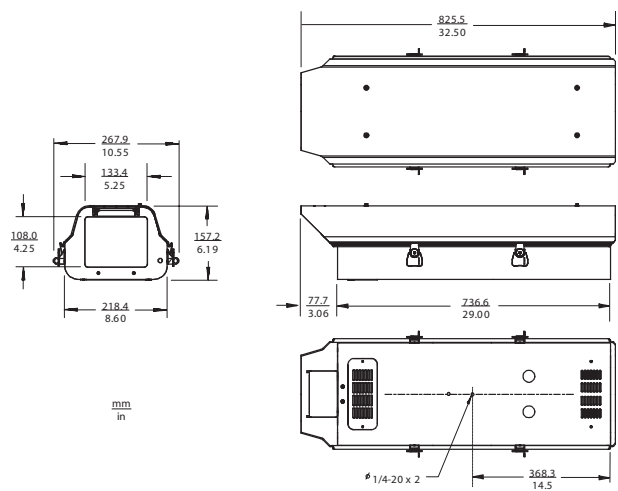
HK47-1 Heater for TC9340A, requires o/i PCB, 120 VAC, 50/60 Hz, 60 W	HK47-1
HK47-2 Heater for TC9340A, requires o/i PCB, 24 VAC, 50/60 Hz, 50 W	HK47-2
HK47-3 Heater for TC9340A, requires o/i PCB, 230 VAC, 50/60 Hz, 55 W	HK47-3
BK47-1 Blower for TC9340A, requires o/i PCB, 120 VAC, 50/60 Hz, 8 W	BK47-1
BK47-2 Blower for TC9340A, requires o/i PCB, 24 VAC, 50/60 Hz, 8 W	BK47-2
BK47-3 Blower for TC9340A, requires o/i PCB, 230 VAC, 50/60 Hz, 8 W	BK47-3
WD47-1 Window Defroster and Defogger 120 VAC, 50/60 Hz, 15 W	WD47-1
WD47-2 Defroster for TC9340A, requires o/i-pcb, 24 VAC, 50/60 Hz, 15 W	WD47-2
WD47-3 Window Defroster and Defogger 230 VAC, 50/60 Hz, 15 W	WD47-3
TC9340AS Sunshield for TC9340A	TC9340AS
T147 Low Temperature Package	T147

TC9346A Series Housings

Indoor/Outdoor



Installation/Configuration Notes



Dimensional Outline TC9346A Series Housings Outdoor

Features

- ▶ For Cameras With up to 20x Zoom Lenses
- ▶ All Aluminum Construction
- ▶ Easy Installation
- ▶ Built-in Elevation Block
- ▶ Gas Spring-assisted Forward Opening Lid
- ▶ Accessories Available

The TC9346A Series Environmental Housings are constructed of aluminum, and designed to accommodate large format CCD cameras with up to 20x zoom lenses.

The housing opens from the rear by releasing side mounted latches, which may be secured with a padlock. Opening is assisted by a unique gas spring that securely holds the lid when opened fully. The forward opening lid on these units allows maximum accessibility during installation and camera/lens adjustments. A unique camera sled with a built-in elevation block is provided. The block is removable and can be inverted depending on the camera/lens combination utilized.

The TC9346A Series Housings are available with a full complement of factory and field installed accessories. With heater and blower installed, these housings provide enclosure protection for camera/lens assemblies in ambient temperature range of -23°C to 49°C (-10°F to 120°F).

Technical Specifications

Electrical

TC9346A	
TC9346A-1	Includes Heater/Blower, 120 VAC, 60 Hz
TC9346A-2	Includes Heater/Blower, 24 VAC, 60 Hz
TC9346A-3	Includes Heater/Blower, 230 VAC, 60 Hz

Mechanical

Max Camera/Lens Size	139.7 mm x 190.5 mm x 711.2 mm (5.5 in. x 7.5 in. x 28 in.); blower kit reduces length by 165.1 mm (6.5 in.)
Cable Entry	Two glands on bottom of enclosure
Window	6.35 mm (0.25 in.) glass; 107.9 mm x 133.3 mm (4.25 in. x 5.25 in.)
Latches	Four stainless steel side-mounted latches; accepts padlock for security
Housing Mounting	Two (2) 1/4-20 tapped holes
Camera Mounting	Removable camera sled with built-in elevation block
Construction	Aluminum
Finish	Gray polyester powder coat
Dimensions	See Dimensional Outline
Weight	7.24 kg (16 lb) without heater/blower 8.15 kg (18 lb) with heater/blower

Environmental

Ambient Temperature	-23°C to 49°C (-10°F to 120°F)
Enclosure Protection	Meets NEMA-3R Standards
Product Safety	Complies with CE Regulations, UL, CSA Standards

Ordering Information

TC9346A Outdoor Housing	TC9346A
Housing environmental heater/blower	

Accessories

HK57-1 Heater Assembly	HK57-1
for TC9346A, requires O/I-PCB, 120 VAC, 50/60 Hz, 90 W	
HK57-2 Heater Assembly	HK57-2
for TC9346A, requires O/I-PCB, 24 VAC, 50/60 Hz, 50 W	
BK57-1 Blower Assembly	BK57-1
for TC9346A, requires O/I-PCB, 120 VAC, 60 Hz, 15 W	
BK57-2 Blower Assembly	BK57-2
for TC9346A requires O/I-PCB, 24 VAC, 50/60 Hz, 10 W	
WW5729-1 Window Wiper Kit	WW5729-1
120 VAC, 60 Hz, 15 W	
WW5729-2 Window Wiper Kit	WW5729-2
24 VAC, 50/60 Hz, 15 W	
WD57-1 Window Defroster and Defogger	WD57-1
120 VAC, 60 Hz, 30 W	
WD57-2 Window Defroster and Defogger	WD57-2
24 VAC, 50/60 Hz, 30 W	
SS5729 Sunshield	SS5729
for TC9346A	
T157 Low Temperature Package	T157

TC9200 Series Indoor Camera Mounts



Features

- ▶ Sturdy Construction
- ▶ Attractive Appearance
- ▶ Versatile Design
- ▶ Adjustable
- ▶ Wide Selection of Styles
- ▶ Lightweight

The TC9200 Series Indoor Camera Mounts can be used with CCD cameras with fixed and varifocal lenses. These sturdy, attractive mounts have fully adjustable mount heads and standard 1/4-20 camera mounting bolts. Maximum load capability ranges from 2 kg (4.4 lb) to 10 kg (22 lb). These versatile models can be used as pedestal, wall, or ceiling mounts and are well suited for use with CCD cameras.

Functions

Model TC9200 is an economical 200 mm (8-inch) general purpose mount for loads of up to 4 kg (8.8 lb). It has an aluminum finish and an adjustable sleeve ball mounting clamp for camera position adjustments.

A deluxe general purpose mount, the 200 mm (8-inch) TC9201 can handle loads of up to 9 kg (20 lb) and has a glossy black finish. It features a lever type ball mounting clamp for quick and easy adjustments of camera position.

The TC9202 model is an extendible wall mount with a range of length from 244 mm to 414 mm (9.6- in to 16.3-inch). It can accommodate loads of up to 10 kg (22 lb) in both the short and the fully extended configurations and features a quick release screw head for ease of camera positioning.

The right angle curve in the support arm of the TC9203 model mount can accommodate many difficult mounting requirements. A universal wall/ceiling mount, this model has a length of 230 mm (9.1 inch) and can handle cameras of up to 10 kg (22 lb).

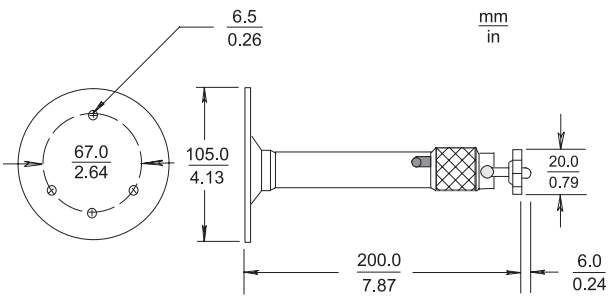
Model TC9205 is an economical 127 mm (5-inch) general purpose mount which can handle loads of up to 2 kg (4.4 lb). This mount features an aluminum finish and an adjustable sleeve ball mounting clamp. The two mounting holes in the base flange allow for direct mounting to a standard electrical box (3 1/4-inch centers) and an opening in its hollow shaft permits a direct cable feed to the mounting head from the base to the camera.

The TC9206U indoor mount is configured for mounting cameras in indoor applications. It accommodates loads of up to 4.5 kg (10 lb) and is constructed of aluminum and steel, providing extremely rigid camera mounting.

An economical general purpose mount, the TC9207 model accommodates loads of up to 4 kg (8.8 lb). It utilizes a sleeve ball mounting clamp and comes in an aluminum finish with an off-white base flange.

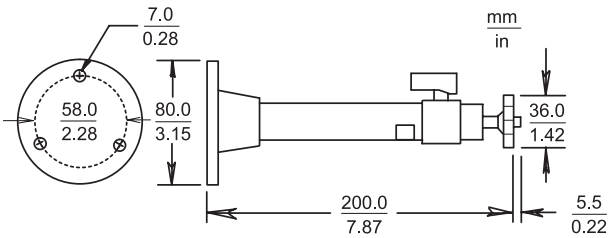
Featuring threaded extensions, this unit can be configured to three different lengths and is easily installed with the included mounting hardware. This unit can be used with many model CCD cameras.

Installation/Configuration Notes



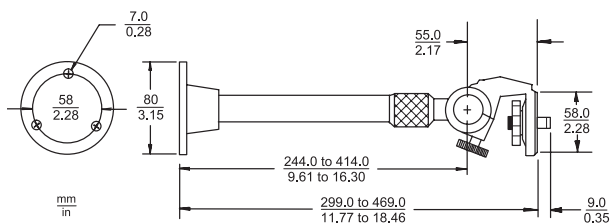
TC9200 Indoor Camera Mount

Maximum Load	4 kg (8.8 lb)
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Finish	Aluminum
Weight	230 g (0.44 lb)



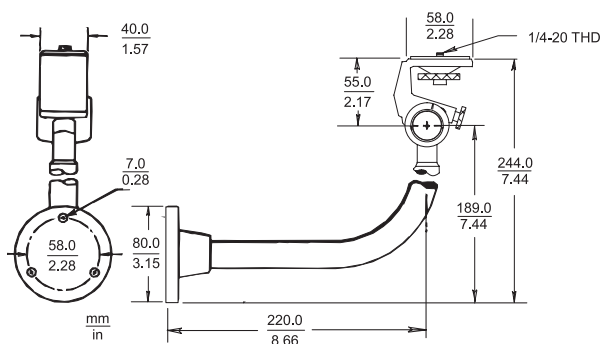
TC9201 Indoor Camera Mount

Maximum Load	9 kg (20 lb)
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Finish	Gloss black
Weight	230 g (0.44 lb)



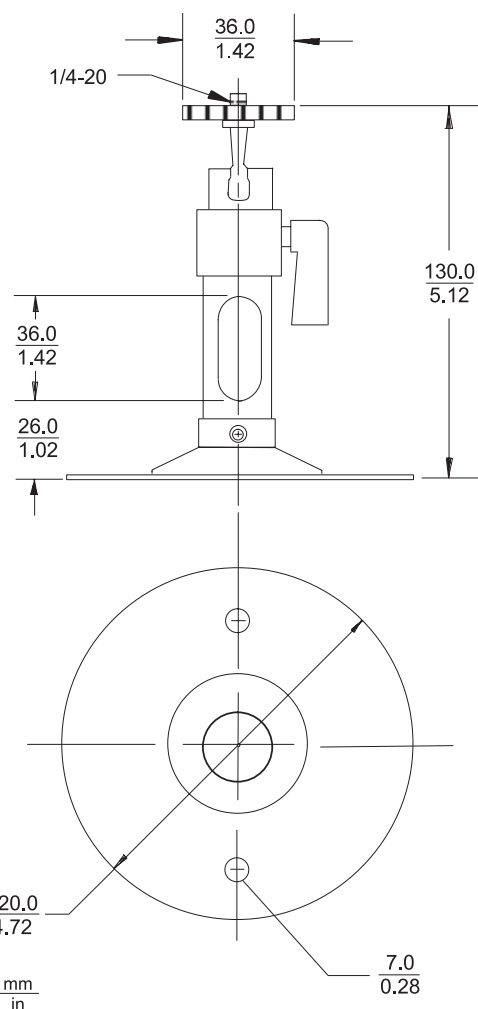
TC9202 Indoor Camera Mount

Maximum Load	10 kg (22 lb)
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Finish	Aluminum and black
Weight	510 g (1.1 lb)



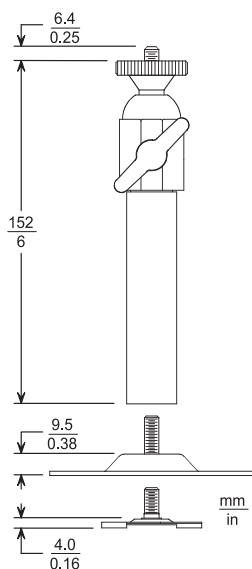
TC9203 Indoor Camera Mount

Maximum Load	10 kg (22 lb)
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Finish	Aluminum and black
Weight	460 g (1.0 lb)



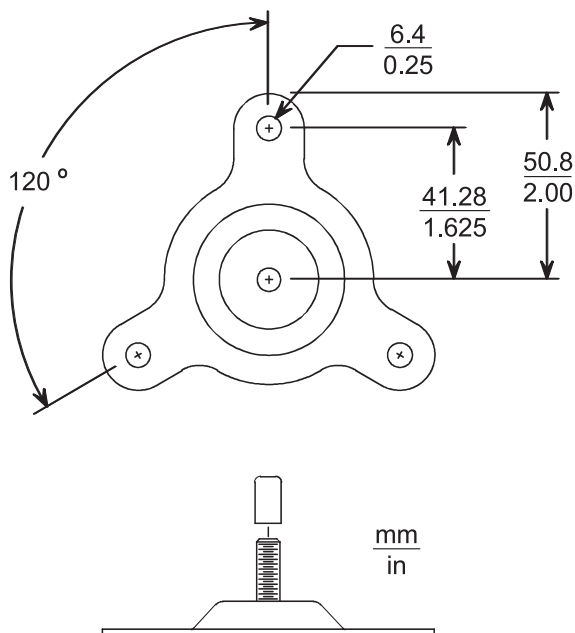
TC9205 Indoor Camera Mount

Maximum Load	2 kg (4.4 lb)
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Finish	Aluminum
Weight	240 g (5.3 lb)

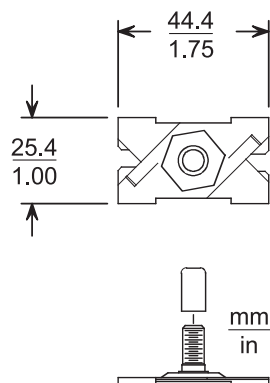


TC9206U Indoor Camera Mount

Maximum Load	4.5 (10 lb)
Mounting Head	Adjustable 360° pan, 180° tilt
Finish	Off-white semi-gloss acrylic
Weight:	
With Wall/Ceiling Flange	291 g (0.64 lb)
With T-Bar Clip	245 g (0.54 lb)

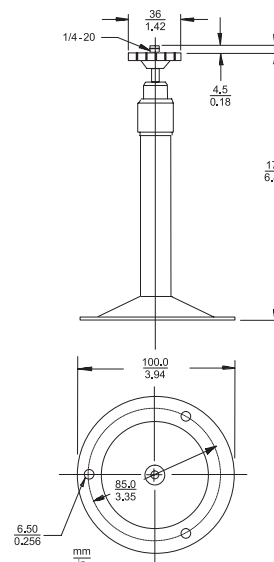


Wall/Ceiling Mount Flange, Included with TC9206U Solid Wall/Ceiling Mount



T-Bar Ceiling Clip

Included with TC9206 Suspended Ceiling Mount and
TC9206U Solid Wall/Ceiling Mount.



TC9207 Indoor Camera Mount

Maximum Load	4 kg (8.8 lb)
Finish	Aluminum with off-white flange
Mounting Head	Adjustable 360° pan, 90° tilt
Mounting Bolt	Standard 1/4-20
Weight	180 g (4 lb)

Ordering Information

TC 9200 Indoor Camera Mount general purpose mount, for 8-inch, 4 kg (8.8 lb) max load, aluminium finish	TC9200
TC 9201 Indoor Camera Mount deluxe general purpose mount, for 8-inch, 9 kg (20 lb) max load, black finish	TC9201
TC 9202 Indoor Camera Mount extendible wall mount, for 9.6-inch to 16.3-inch, 10 kg (22 lb) max load, aluminium/black finish	TC9202

Ordering Information

TC 9203 Indoor Camera Mount TC9203

universal wall/ceiling mount, right angle, 10 kg
(22 lb) max load, aluminium/black finish

TC 9205 Indoor Camera Mount TC9205

for 5-inch, 2 kg (4,4 lb) max load, aluminium
finish

TC 9206U Indoor Camera Mount TC9206U

universal wall/ceiling grid, for 6-inch, 4,5 kg
(10 lb) max load, off-white finish, incl. T-Bar
ceiling clip and wall/ceiling mount flange

TC 9207 Indoor Camera Mount TC9207

for 7-inch, 4 kg (8,8 lb) max load,
aluminium/off-white finish

LTC 9210, 9212, 9213, 9223 Indoor/Outdoor Mounting Equipment



Features

- ▶ Maximum load – 9kg (20lb)
- ▶ Attractive Appearance
- ▶ Versatile Design
- ▶ Adjustable Mount Heads
- ▶ Lightweight
- ▶ Corrosion-Resistant Finish

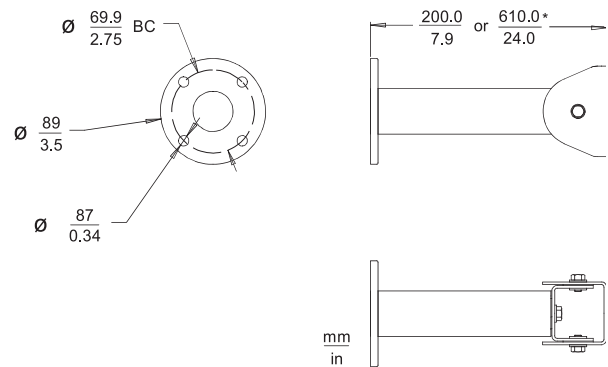
This series of indoor/outdoor mounting equipment is designed for fixed camera or camera housing installations up to a rated load of 9kg (20lb). All models are made of lightweight aluminum, and feature welded construction, providing an extremely rigid camera mount. All mounts come fully assembled.

The LTC 9210/00 is a 200mm (8-inch) column mount, constructed of 38mm (1.5-inch) OD aluminum tubing with a welded surface mounting flange. An adjustable head is included for mounting a camera or housing. The adjustable head employs hex head screws and friction washers. The top mounting plate includes three (3) mounting holes for easy installation.

The LTC 9223/00 column mount is similar to the LTC 9210/00, but with a height of 610mm (24-inch). The LTC 9212/00 is a 300mm (12-inch) wall mount constructed of 38mm (1.5-inch) OD aluminum tubing, with a welded surface mounting flange. This unit includes an adjustable head, mounted on a 90 degree angle bend, to permit mounting of a camera or housing. The adjustable head employs hex head screws, friction washers, and three (3) mounting holes for easy installation.

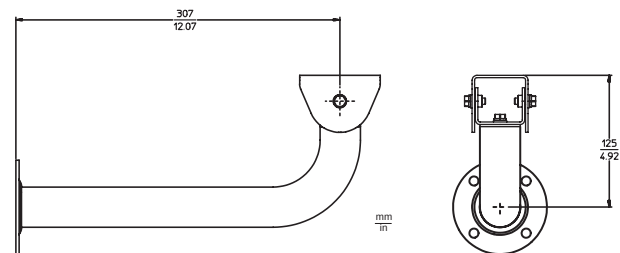
The LTC 9213/01 is a pole mount adaptor bracket, which facilitates mounting of the LTC 9212/00 mount and LTC 9215 Series Feed-through mounts, to a 3 to 15-inch diameter pole. Stainless steel straps are included for ease of mounting.

Installation/Configuration Notes

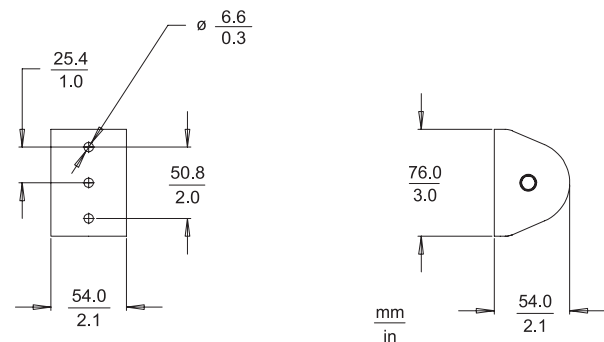


LTC 9210/00 Column Mount, 200 mm (8 inch)

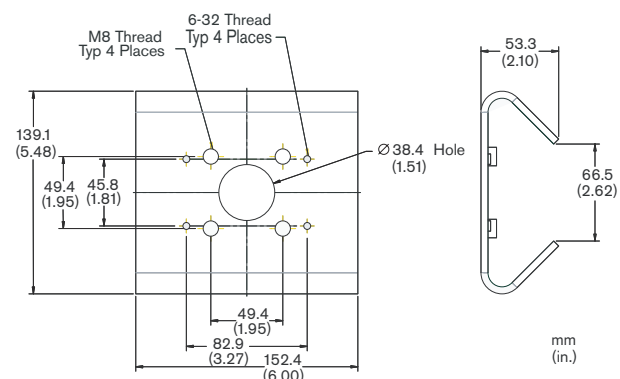
LTC 9223/00 Column Mount, 610 mm (24 inch)



LTC 9212/00 Wall Mount, 300 mm (12 inch)



Dimensional Outline for adjustable head



LTC 9213/01 Pole Mount Adapter

Technical Specifications

LTC9210/00, LTC9212/00, LTC9223/00, LTC9213/01

Indoor/Outdoor Mounts

Maximum Load	9 kg (20 lb)
Mounting Head	Adjustable 360° pan, 180° tilt (N/A for LTC 9213/01)
Finish	Light gray

LTC 9210/00 20-mm (8-inch)

Column Mount

LTC 9223/00 610-mm (24-inch)

Column Mount

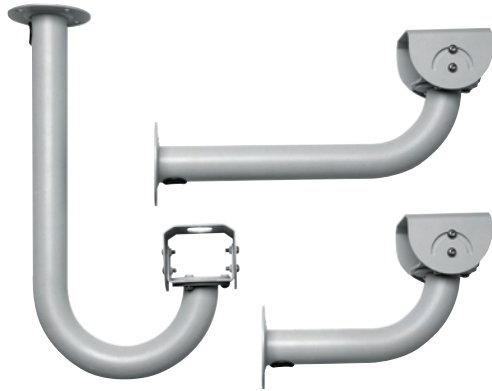
Approx. Weights

LTC 9210/00	300 g (0.6 lb)
LTC 9223/00	544 g (1.2 lb)
LTC 9213/01 Pole Mount Adapter	
Mounting Hardware	(2) 1.5 m (5 ft) stainless steel straps, (2) banding clips, (4) hex head cap screws, and (4) lock-washers are furnished with unit.
Options	TC9311PM3T strapping tool available. Refer to Data Sheet for Accessories For Domed Housings.
Approx. Weight	850 g (1.9 lb)

Ordering Information

LTC 9210/00 Column Mount for 8-inch, 9 kg (20 lb) max load, light gray finish	LTC9210/00
LTC 9212/00 Wall Mount for 12-inch, 9 kg (20 lb) max load, for 938x & 948x series housings, light gray finish	LTC9212/00
LTC 9223/00 Column Mount for 24-inch, 9 kg (20 lb) max load, light gray finish	LTC9223/00
LTC 9213/01 Pole Mount Adapter for LTC 9210, LTC 9212 & LTC 9215, light gray finish	LTC9213/00

LTC 9215/00 (S), 9219/01 Indoor/Outdoor Mounts



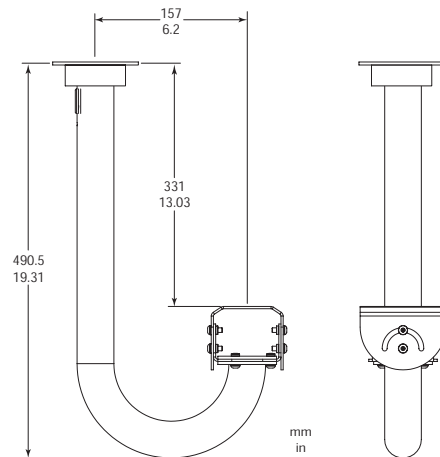
Features

- Feed-through Design for Cable Management
- Maximum Load - 9kg (20lb)
- 360° Rotation, 180° Tilt
- Versatile Design
- Adjustable Mount Heads
- Lightweight
- Corrosion-resistant Finish

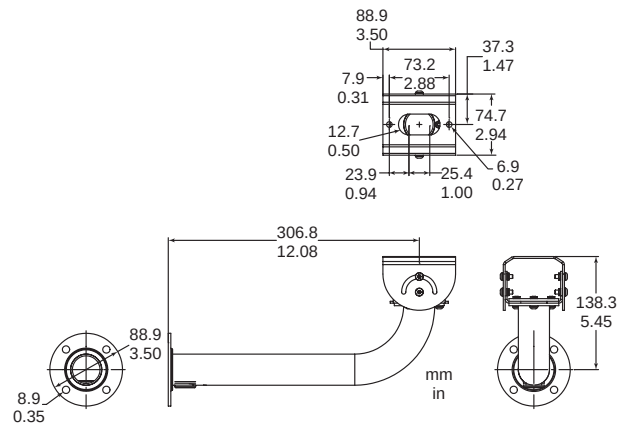
The LTC 9215/00, LTC 9215/00S, and LTC 9219/01 feed-through mounts are indoor/outdoor mounting units designed for fixed camera, or camera housing installations with up to a 9 kg (20lb) rated load. These models are made of lightweight aluminum and feature welded construction, providing an extremely rigid camera mount. In addition, the versatile swivel head rotates 360° and tilts 180° for maximum flexibility. The tubular feed-through design provides cable management from mounting head to mounting surface.

The smallest of the three mounts, LTC 9215/00S, has been designed specifically for the LTC 9480 Series housings, while the larger LTC 9215/00 and LTC 9219/01 can be used with the LTC 9480, HSG 9483, and LTC 9488 Series camera housings. All mounts come fully assembled.

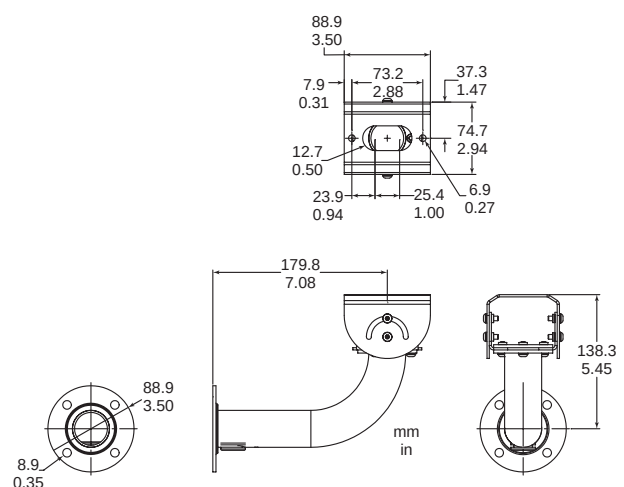
Installation/Configuration Notes



LTC 9219/01 Feed-through J-Mount



LTC 9215/00 Wall Bracket



LTC 9215 / 00S Short Wall Bracket

Technical Specifications

LTC 9215/00 30 mm (12 in) Indoor/Outdoor

Feed-through Wall Mount

Maximum Load	9 kg (20 lb)
Mounting Head	Adjustable 360° pan, 180° tilt
Finish	Light gray
Approx. Weight	0.4 kg (0.9 lb)
Accessory for LTC9215/00	LTC9213/01 Pole Mount Adapter

LTC 9215/00S 18 cm (7 in) Indoor/Outdoor

Feed-through Wall Mount

For use with LTC 9480 Series housings.

Maximum Load	9 kg (20 lb)
Mounting Head	Adjustable 360° pan, 180° tilt
Finish	Light gray
Approx. Weight	0.3 kg (0.7 lb)
Accessory for LTC9215/00S	LTC9213/01 Pole Mount Adapter

LTC 9219/01 40 cm (15 in) Indoor/Outdoor

Feed-through Ceiling J-Mount

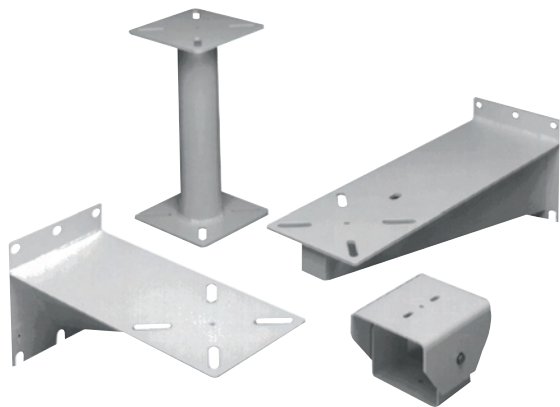
Maximum Load	9 kg (20 lb).
Mounting Head	Adjustable 360° pan, 180° tilt
Finish	Light gray
Approx. Weight	0.55 kg (1.2 lb)

Warning: Mounts must be mounted as shown.

Ordering Information

LTC 9215/00 Wall Bracket for 12-inch, 9 kg (20 lb) max load, for 9380x & 948x series housings, feed-through version, light gray finish	LTC9215/00
LTC 9215/00S Short Wall Bracket for 7-inch, 9 kg (20 lb) max load, for 938x & 948x series housings, feed-through version, light gray finish	LTC9215/00S
LTC 9219/01 Feed-through J-Mount for 15-inch, 9 kg (20 lb) max load, for 938x & 948x series housings, light gray finish	LTC9219/01

LTC 921x, 922x Versatile Mounts



Features

- ▶ Maximum Load – 45 kg (100 lb) & 90 kg (200 lb)
- ▶ Attractive Appearance
- ▶ Corrosion-resistant
- ▶ Versatile Mounting Hole Pattern
- ▶ Wide Range of Models

Our wide selection of indoor/outdoor mounting brackets includes column, wall, pole, corner, and adjustable head mounts. These versatile mounts accommodate fixed cameras, environmental camera housings and pan/tilts.

All units are made of a lightweight aluminum alloy with a corrosion-free exterior coating. These products meet the Military Salt Atmosphere Standard MIL-STD-810E, Method 509, Procedure I. The column and wall mounts feature welded construction providing an extremely rigid camera mount one-third the weight of steel.

Installation of a wide range of devices is facilitated with generous wrench and socket clearances. Unique slotted mounting hole patterns are on the mounting surface.

The LTC 9214/00 is a 356 mm (14-inch) column mount for medium and heavy duty camera assembly installations. It is constructed of 76mm (3-inch) OD aluminum tubing with welded end flanges. The center of each flange is fitted with a 1/4-20 threaded stainless steel insert for center mounting.

The LTC 9224/00 is identical to the LTC 9214/00, except the overall length is 610 mm (24-inch).

The LTC 9216/00 is a 409 mm (16-inch) wall mount, designed for light to medium duty camera installations.

The LTC 9222/00 is a 564 mm (22-inch) wall mount, designed for heavy duty cameras installations.

The LTC 9227/00 is an adjustable head bracket, designed for medium and heavy duty fixed camera installations. This easy-to-assemble bracket includes stainless steel assembly hardware and neoprene washers.

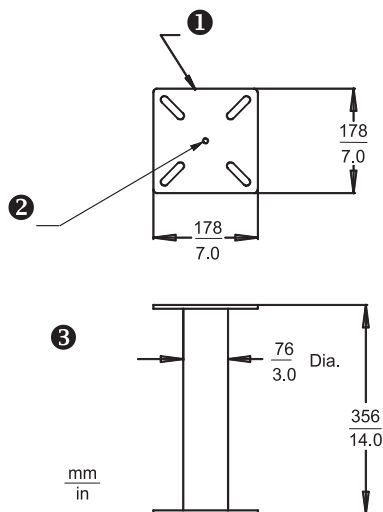
The LTC 9227/00 can be used with all mounts in this series.

The LTC 9228/00 flange bracket is used to increase the weight distribution when the LTC 9216/00 or LTC 9222/00 wall mounts are required for use on insufficient load bearing surfaces.

The LTC 9225/00 pole mount is a mounting bracket designed to install LTC 9216/00 and LTC 9222/00 wall mounts to poles measuring 76 mm (3-inch) to 381 mm (15-inch) in diameter.

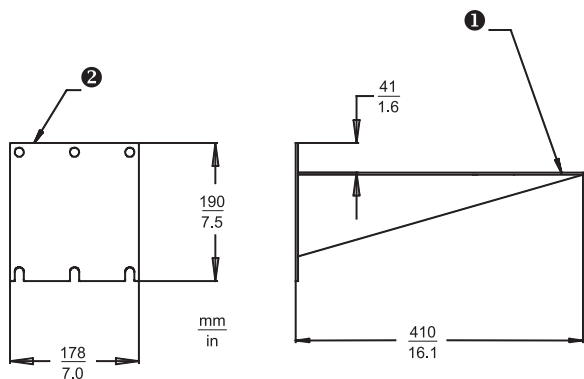
The LTC 9226/00 corner bracket is an adapter designed to install the LTC 9216/00 or LTC 9222/00 wall mounts to a building corner.

Installation/Configuration Notes



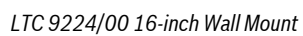
LTC 9214/00 14-inch Column Mount

1	Bolt Circle View same as wall mounts
2	1/4-20 Top and bottom
3	Side View



LTC 9216/00 16-inch Column Mount

1	See detail A for Top view of mounting pattern
2	SeeDetail B



-
- Technical drawing of a mechanical part, showing front and side views with dimensions in mm and inches.
- Front View (Left):**
- Overall width: 178 mm (7.0 in)
 - Overall height: 190 mm (7.5 in)
 - Two circular holes are located near the top corners.
 - A small rectangular feature is located near the bottom center.
 - Dimension ② points to the top edge of the part.
- Side View (Right):**
- Overall depth: 564 mm (22.2 in)
 - Overall height: 190 mm (7.5 in)
 - A horizontal line is located at a height of 41 mm (1.6 in) from the bottom.
 - A diagonal line is shown, sloping upwards from the bottom left towards the top right.
 - Dimension ① points to the top edge of the part.

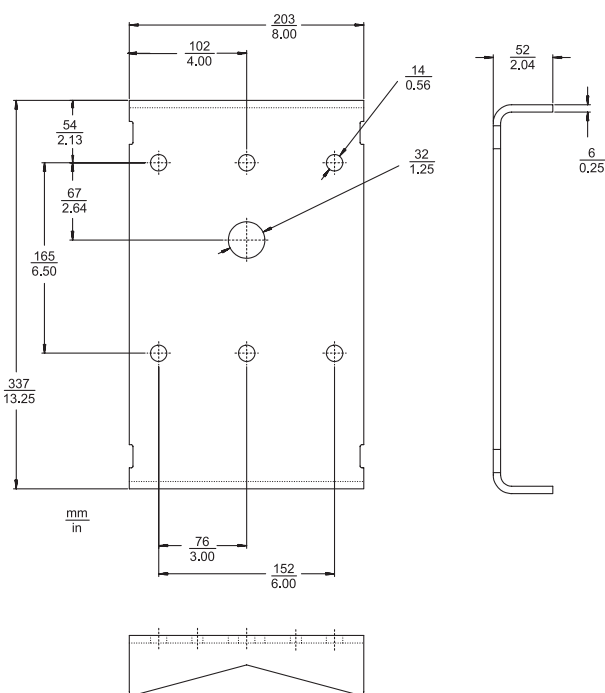
LTC 9222/00 22-inch Wall Mount

-
- Technical drawing of a square plate with four holes. The drawing includes the following dimensions and tolerances:
- Top-left hole: $\frac{51}{2.0} \times 4$
 - Top-right hole: $\frac{13}{0.5} \times 4$
 - Bottom-left hole: $\frac{85}{3.36}$ Min.
 - Bottom-right hole: $\frac{140}{5.50}$ Max.
 - Right side dimension: $\frac{197}{7.75}$ Max.
 - Bottom right dimension: $\frac{121}{4.75}$ Min.
 - Thread specification: 1/4-20
 - Unit specification: mm / in
 - Feature callouts: 1 and 2

Detail A – LTC 9216/00 and LTC 9222/00 Bolt Circle Pattern

-
- Technical drawing of a square frame structure. The drawing includes dimensions in millimeters (mm) and inches (in). The overall width is 15.2 mm (6.0 in). The overall height is 16.5 mm (6.5 in). The frame consists of four vertical legs and four horizontal rails. The top rail is 7.6 mm (3.0 in) wide. The bottom rail is 1.3 mm (0.5 in) wide. The side rails are 1.3 mm (0.5 in) wide. The frame is shown in a perspective view with a dashed line indicating the back edge of the bottom rail.

Detail B – LTC 9216 and LTC 9222/00 Wall Mount



Technical drawing of a mechanical part, showing dimensions in millimeters (mm) and inches (in). The drawing includes a side view and a top view.

Side View Dimensions:

- Overall width: 254 mm (10.00 in)
- Overall height: 152 mm (6.00 in)
- Top flange thickness: 6 mm
- Top flange width: 32 mm (1.25 in)
- Top flange hole diameter: $\varnothing 1.25$ in
- Top flange hole spacing: 6 x $\varnothing 0.50$ in
- Top flange hole diameter: 76 mm (3.00 in)
- Top flange hole spacing: 13 mm (0.50 in)
- Top flange hole diameter: 210 mm (8.25 in)
- Top flange hole spacing: 74 mm (2.90 in)
- Top flange hole diameter: 157 mm (6.20 in)
- Top flange hole spacing: 67 mm (2.64 in)
- Top flange hole diameter: 229 mm (9.00 in)
- Top flange hole spacing: 8 x $\varnothing 14$ (0.54 in)

Top View Dimensions:

- Overall width: 254 mm (10.00 in)
- Overall height: 152 mm (6.00 in)
- Top flange thickness: 6 mm
- Top flange width: 32 mm (1.25 in)
- Top flange hole diameter: $\varnothing 1.25$ in
- Top flange hole spacing: 6 x $\varnothing 0.50$ in
- Top flange hole diameter: 76 mm (3.00 in)
- Top flange hole spacing: 13 mm (0.50 in)
- Top flange hole diameter: 210 mm (8.25 in)
- Top flange hole spacing: 74 mm (2.90 in)
- Top flange hole diameter: 157 mm (6.20 in)
- Top flange hole spacing: 67 mm (2.64 in)
- Top flange hole diameter: 229 mm (9.00 in)
- Top flange hole spacing: 8 x $\varnothing 14$ (0.54 in)

Technical Specifications

Column Mounts

Maximum Rated Load

Upright	90.6 kg (200 lb)
Inverted	45.3 kg (100 lb)
Mounting Hardware	Not furnished
Finish	Light gray
Weight	
LTC 9214/00	2.3 kg (5.1 lb)
LTC 9224/00	3.3 kg (7.2 lb)

LTC 9228/00 Flange Bracket Mount

LTC 9216/00 409 mm (16-inch) and LTC 9222/00 564 mm (22-inch)**Wall Mounts**

Maximum Rated Load	
LTC 9216/00	45.3 kg (100 lb)
LTC 9222/00	90.6 kg (200 lb)
Mounting Hardware	Not furnished
Finish	Light gray
Weight	
LTC 9216/00	1.6 kg (3.5 lb)
LTC 9222/00	2.9 kg (6.5 lb)

Note: Do Not Mount The LTC 9216/00 Or LTC 9222/00 Wall Mounts In An Inverted Position.

LTC 9227/00 Adjustable Head Mount

Maximum Rated Load	45.3 kg (100 lb)
Mounting Hardware	Not furnished
Finish	Light gray
Weight	0.55 kg (1.2 lb)

LTC 9228/00 Flange Bracket

Maximum Rated Load	45.3 kg (100 lb)
Mounting Hardware	(5) 3/8-16 x 1 1/4 studs, (5) 3/8 flat washers, and (5) 3/8-16 lock nuts
Finish	Light gray
Weight	2.1 kg (4.6 lb)

LTC 9225/00 Pole Mount

Maximum Rated Load	45.3 kg (100 lb)
Mounting Hardware	Two (2) 5 ft stainless steel straps, two (2) banding clips, six (6) hex head cap screws, six (6) flat and lock washers, and six (6) hex nuts furnished with unit
Accessory	TC9311PM3T strapping tool available
Finish	Light gray
Weight	1.4 kg (3.0 lb)

LTC 9226/00 Corner Bracket

Maximum Rated Load	45.3 kg (100 lb)
Mounting Hardware	Not furnished
Finish	Light gray
Weight	2.9 kg (6.5 lb)

Ordering Information

LTC 9214/00 Versatile Mount	LTC9214/00
for 14-inch, 90.6 kg (200 lb) max load upright, light gray finish	
LTC 9224/00 Versatile Mount	LTC9224/00
for 24-inch, 90.6 kg (200 lb) max load upright, light gray finish	
LTC 9216/00 Versatile Mount	LTC9216/00
for 16-inch, 45.3 kg (100 lb) max load, light gray finish	

Ordering Information

LTC 9222/00 Versatile Mount	LTC9222/00
for 22-inch, 90.6 kg (200 lb) max load, light gray finish	
LTC 9227/00 Versatile Mount	LTC9227/00
for LTC 9216 & 92220 , 45,3 kg (100 lb) max load, adjustable head, light gray finish	
LTC 9228/00 Versatile Mount	LTC9228/00
for LTC 9216/00 & LTC 9222/00 wall mounts, 45,3 kg (100 lb) max load, flange bracket	
LTC 9225/00 Pole Mount	LTC9225/00
45,3 kg (100 lb) max load, pole mount, light gray finish	
LTC 9226/00 Versatile Mount	LTC9226/00
for LTC 9216 & LTC 9222, 45,3 kg (100 lb) max load, corner mount bracket, light gray finish	

MTC-G1001 and MTC-S1001 Indoor Camera Mounts



Features

- ▶ Created for Bosch Dinion cameras
- ▶ Versions to complement all Dinion and Dinion^{XF} models
- ▶ Sturdy yet lightweight construction
- ▶ Cable feed-through construction
- ▶ Attractive and versatile in design
- ▶ Fully adjustable

The MTC-S1001 and MTC-G1001 Indoor Camera Mounts are specifically designed for Bosch's Dinion cameras. The MTC-S1001 has a silver finish and works with the Dinion^{XF} series. In addition to being highly attractive, this silver coating meets UN-D-1235 standards and is resistant to chemical substances. The MTC-G1001 comes in a classic gray color to complement all other Dinion models.

Both Camera Mounts are lightweight and extremely sturdy - they can withstand a pulling force of up to 250N when mounted with the supplied screws. When installed with the extra washers the Camera Mounts can handle a pulling force of up to 430N before breaking or before damaging the fixation holes*.

The versatile MTC-S1001 and MTC-G1001 are easy to install – all of the mounting accessories are included. A discrete opening in the base of each shaft enables a cable to be easily fed to the camera. The length of the camera mounts are designed specifically for the Bosch Dinion range, and with camera mounting heads that can be panned through 360° pan and tilted 180°, they offer maximum adjustment flexibility. The Camera Mounts are available in 5-pack or 50-pack boxes for customer convenience.

*Based on the test reports for each model

Technical Specifications

MTC-G1001 Economical Wall Mount (for Dinion)

Maximum load	15 kg (33 lb)
Mounting head	Adjustable; 360° pan, 180° tilt
Mounting bolt	Standard 1/4-20
Mounting hardware	Screws and plastic wall anchors
Finish	Off-white / gray semi-gloss
Weight	100 g (0.22 lb)

MTC-S1001 Economical Wall Mount (For DinionXF)

Maximum load	15 kg (33 lb)
Mounting head	Adjustable; 360° pan, 180° tilt
Mounting bolt	Standard 1/4-20
Mounting hardware	Screws and plastic wall anchors
Finish	Silver
Weight	100 g (0.22 lb)

Ordering Information

MTC-G1001 Indoor Camera Wall Mount for Dinion cameras, off white/gray semigloss, delivery pack of 5	MTC-G1001
MTC-S1001 Indoor Camera Wall Mount for DinionXF cameras, off-white, delivery pack of 5	MTC-S1001

Lenses

5

Lenses

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Fixed Focal-length Lenses



Features

- ▶ High quality optics
- ▶ DC-iris types (direct drive)
- ▶ Reliable, robust DC-iris mechanism
- ▶ 1/3-inch and 1/2-inch formats
- ▶ Standard CS-mounts
- ▶ Standard 4-pin miniature plug for simple connection

As CCTV cameras become more reliable and maintenance-free through the use of solid-state charge-coupled device (CCD) technology, the lenses also need to have the same high standards of quality and reliability.

The range of Fixed Focal-length Lenses meets these tough requirements by providing long and reliable operation with no maintenance. Comprising DC-IRIS and video-iris types, the lens range from wide-angle to telephoto to cover virtually all applications in CCTV observation systems.

Functions

Designed for easy installation onto a wide variety of CCTV cameras, they are available for cameras with 1/3" and 1/2" image sensor formats. The extent of the range of lenses means that an installer will always be able to select the most appropriate lens for both camera and application.

DC-iris and video-iris lenses include manual focus adjustment types and can be used in applications with widely varying lighting conditions. These lenses are available with a standard 4-pin connector.

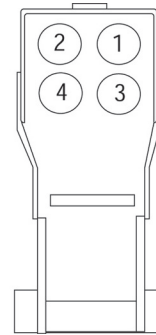
Installation/Configuration Notes

Choosing the correct lens

There is a simple relationship between the required field of view and the focal length of the lens to be used (see Field of View figure).

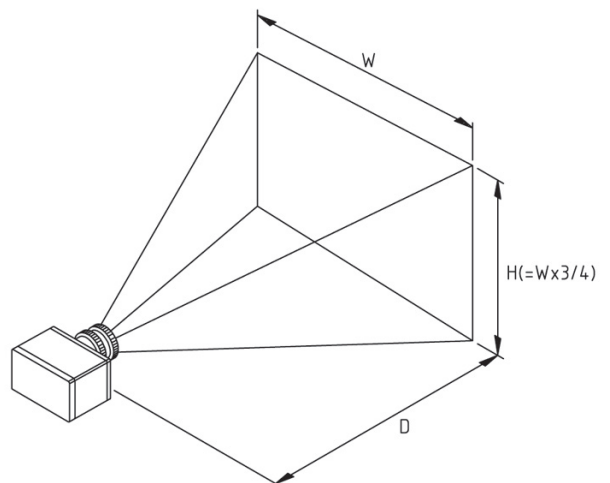
To determine this:

- Estimate or measure the maximum width "W" of the field of view.
- Estimate or measure the distance "D" between the camera and the object to be viewed.
- For 1/3" lens, use Graph 1 and for 1/2" lens use Graph 2. Find the point on the graph for the lens and the sensor format corresponding to the "W" and "D" co-ordinates. To ensure complete coverage of the object, select the lens indicated by the line above this object. Normally, for optimum coverage of the field of view, 1/3" and 1/2" lenses are used with camera heads with 1/3" and 1/2" format sensors respectively. However, 1/2" lenses may be used with 1/3" cameras but the outer areas of the field of view of the lens will not be seen by the sensor.

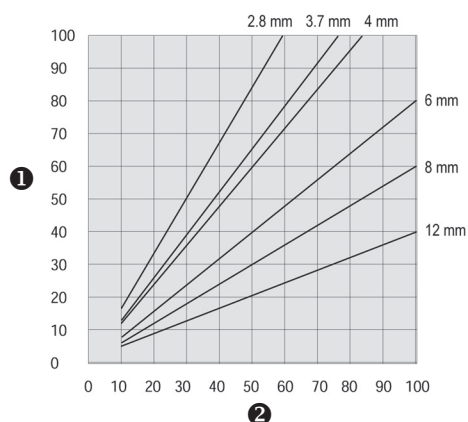


4-pin DC-iris Connector (Front view)

Pin 1:	Damping coil -
Pin 2:	Damping coil +
Pin 3:	Driving coil + (open)
Pin 4:	Driving coil -

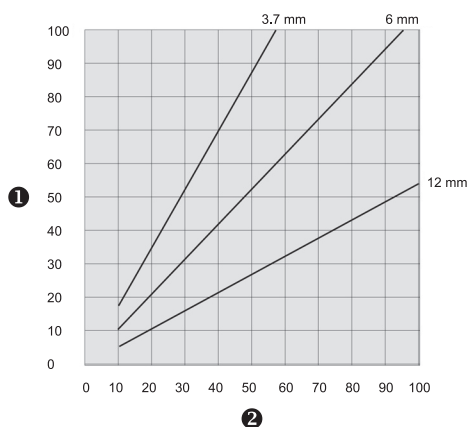


Field of view



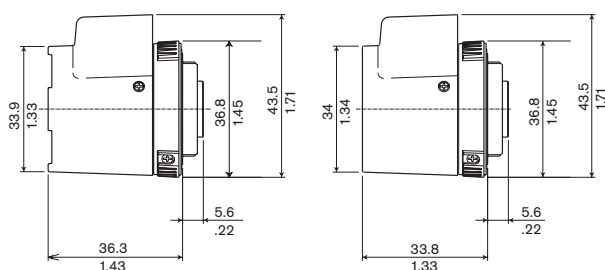
Graph 1 – Field of view (1/3-inch cameras)

- 1 Object width (m)
2 Object distance (m)

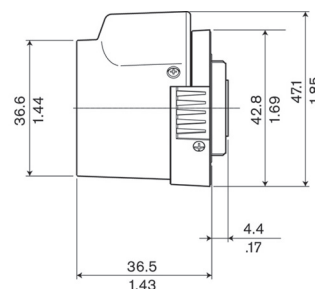


Graph 2 – Field of view (1/2-inch cameras)

- 1 Object width (m)
2 Object distance (m)



Dimensions LTC 3314/21 LTC 3334/21 & LTC 3344/21
In mm (inch)



Dimensions LTC 3214/20, LTC 3234/20 & LTC 3244/20
In mm (inch)

Ordering Information

LTC 3314/21 Fixed Focal-length Lens 1/3-inch, 2.8 mm, direct drive, CS-mount F1.2-100, 4-pin	LTC3314/21
LTC 3334/21 Fixed Focal-length Lens 1/3-inch, 4 mm, direct drive, CS-mount F1.2-100, 4-pin	LTC3334/21
LTC 3344/21 Fixed Focal-length Lens 1/3-inch, 8 mm, direct drive, CS-mount F1.2-100, 4-pin	LTC3344/21
LTC 3214/20 Fixed Focal-length Lens 1/2-inch, 3.7 mm, direct drive, CS-mount F1.6-300, 4-pin	LTC3214/20
LTC 3234/20 Fixed Focal-length Lens 1/2-inch, 6 mm, direct drive, CS-mount F1.4-300, 4-pin	LTC3234/20
LTC 3244/20 Fixed Focal-length Lens 1/2-inch, 12 mm, direct drive, CS-mount F1.4-300, 4-pin	LTC3244/20

Accessories

S1374 Adapter converts C mount lens to CS mount camera	S1374
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Fixed Focal-length Lenses

**LTC3314/21****LTC3334/21****LTC3344/21****LTC3214/20**

Image format	1/3 inch	1/3 inch	1/3 inch	1/2 inch
Focal length	2.8 mm	4 mm	8 mm	3.7 mm
Iris range	F1.2 - 200	F1.2 - 200	F1.2 - 200	F1.6 - 300
Min. Object Distance	0.3 m (1 ft)	0.3 m (1 ft)	0.3 m (1 ft)	0.2 m (0.65 ft)
Weight	52 g (.115 lb)	49 g (1.08 lb)	44 g (.097 lb)	57 g (.12 lb)
Lens mount	CS-mount	CS-mount	CS-mount	CS-mount
Angle of view (1/2")	N/A	N/A	N/A	95 X 73
Angle of view (1/3")	94 X 72	64 X 49	33 X 25	73 X 54
Focus control	manual	manual	manual	manual
4-pin conn.	DC-IRIS	DC-IRIS	DC-IRIS	DC-IRIS

**LTC3234/20****LTC3244/20**

Image format	1/2 inch	1/2 inch
Focal length	6 mm	12 mm
Iris range	F1.4 - 300	F1.4 - 300
Min. Object Distance	0.2 m (0.65 ft)	0.3 m (1 ft)
Weight	60 g (.13 lb)	46 g (.1 lb)
Lens mount	CS-mount	CS-mount
Angle of view (1/2")	58 X 45	30 X 23
Angle of view (1/3")	45 X 34	23 X 17
Focus control	manual	manual
4-pin conn.	DC-IRIS	DC-IRIS

Varifocal Lenses



Features

- ▶ High-quality optics
- ▶ 1/3-inch and 1/2-inch formats
- ▶ Reliable, robust construction
- ▶ Focal length options
- ▶ Compact design
- ▶ Manual and DC-iris versions
- ▶ Manual focus and zoom control

For optimizing angular fields right on site, varifocal lenses are the most versatile and practical solution available. These lenses allow for setting virtually any angle of field, which maximizes surveillance effects. Installers do not need to carry several different focal length lenses – and installation is more efficient because they can find the right angles of field without moving the camera set-up. If the field-of-view requirements change after installation, modification is simple by just altering the lens' focal length settings.

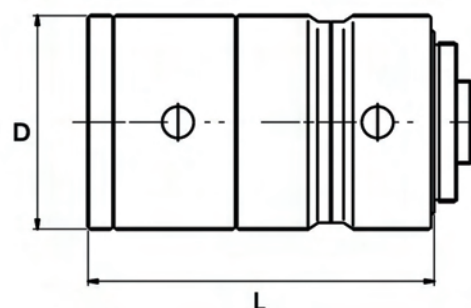
Functions

This series includes both manual and DC-iris varifocal lenses. They are compact, rugged, and available in 1/3-inch and 1/2-inch image formats. The series is organized by sensitivity, optical resolution, and range to match the wide range of Dinion camera applications.

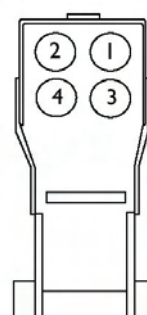
These varifocal lenses come with a standard C or CS mount for use with a variety of cameras. The DC-iris control connection is a four-pin standard plug that fits directly into the camera's iris output. And the lenses deliver impressive optical quality due to their high standards for resolution, contrast reproduction, and coating.

The mechanical construction is designed to withstand both frequent DC-iris control operations and the environmental stress of security installations. For flexible, high-quality, reliable lenses that match a camera's performance, this varifocal series is the ideal solution.

Installation/Configuration Notes

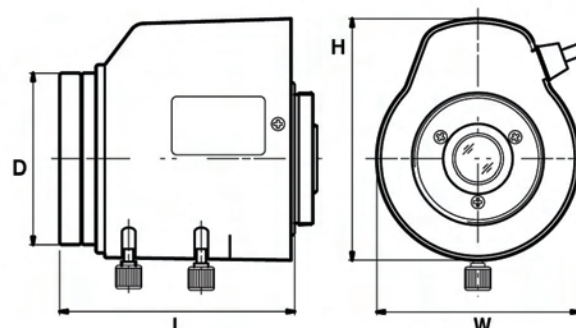


Lens Type	L mm (in)	D mm (in)
LTC 3361/32	42 (1.65)	36 (1.42)
LTC 3361/40	59 (2.32)	44 (1.73)
LTC 3361/50	55 (2.17)	34 (1.34)
LTC 3361/60	45.3 (1.78)	33 (1.3)
LTC 3371/20	59.2 (2.33)	44 (1.73)
LTC 3371/50	61.5 (2.42)	44 (1.73)

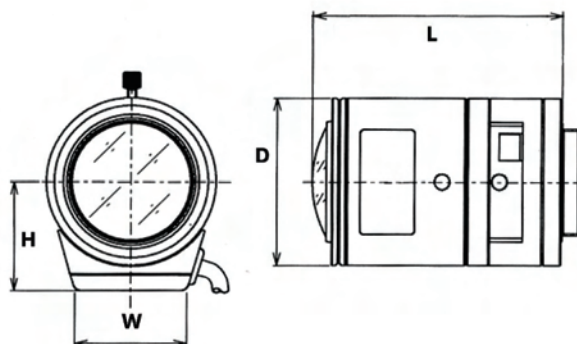


4-pin Passive-iris Connector (Front view)

Pin 1:	Damping coil -
Pin 2:	Damping coil +
Pin 3:	Driving coil + (open)
Pin 4:	Driving coil -



Lens Type	L mm (in)	D mm (in)	H mm (in)	W mm (in)
LTC 3274/41	77 (3.03)	42 (1.65)	56.8 (2.24)	46.5 (1.83)
LTC 3364/21	44 (1.73)	35.2 (1.39)	45.7 (1.8)	40.4 (1.59)
LTC 3664/30	44.4 (1.75)	35.2 (1.39)	44.7 (1.76)	38.3 (1.51)
LTC 3364/50	55 (2.17)	34 (1.34)	46 (1.81)	40 (1.57)
LTC 3364/60	45.3 (1.78)	33 (1.3)	46.5 (1.83)	39 (1.54)
LTC 3374/50	61.5 (2.42)	44 (1.73)	52.2 (2.06)	44.4 (1.75)



Lens Type	L mm (in)	D mm (in)	H mm (in)	W mm (in)
LTC 3364/40	59 (2.32)	44 (1.73)	26.2 (1.03)	26.4 (1.04)
LTC 3374/20	59.2 (2.33)	41 (1.61)	33.2 (1.31)	25 (0.98)
LTC 3664/40	59 (2.32)	44 (1.73)	26.2 (1.03)	26.4 (1.04)
LTC 3674/20	55.2 (2.17)	38 (1.5)	27.2 (1.07)	31 (1.22)
LTC 3764/20	53.9 (2.12)	40 (1.57)	31 (1.22)	24.6 (0.97)
LTC 3774/30	62 (2.44)	38.6 (1.52)	31.1 (1.22)	31.8 (1.25)

Technical Specifications

Environmental

Operating Temperature	-10°C to +50°C (+14°F to +122°F)
Storage Temperature	-40°C to +70°C (-40°F to +158°F)
Operating Humidity	Up to 93% non-condensing
Cerification	CE (DC-iris models)

Ordering Information

LTC 3361/32 Varifocal Lens	LTC3361/32
1/3-inch, 3.0 – 8 mm, manual-iris, CS-mount F1.0-close	

Ordering Information

LTC 3361/40 Varifocal Lens	LTC 3361/40
1/3-inch, 2.8 – 12 mm, manual-iris, CS-mount F1.4-close	
LTC 3361/50 Varifocal Lens	LTC3361/50
1/3-inch, 2.8 – 10 mm, manual-iris, CS-mount F1.4-close	
LTC 3361/60 Varifocal Lens	LTC3361/60
1/3-inch, 3.5 – 8 mm, manual-iris, CS-mount F1.4-close	
LTC 3364/21 Varifocal Lens IR corrected	LTC3364/21
1/3-inch, 2.8 – 6 mm, DC-iris, CS-mount F1.4-200, 4-pin	
LTC 3664/30 Varifocal Lens IR corrected	LTC3664/30
1/3-inch, 3.0 – 8 mm, DC-iris, CS-mount F1.0-360, 4-pin	
LTC 3364/40 Varifocal Lens	LTC3364/40
1/3-inch, 2.8 – 12 mm, DC-iris, CS-mount F1.4-360, 4-pin	
LTC 3364/50 Varifocal Lens	LTC3364/50
1/3-inch, 2.8 – 10 mm, DC-iris, CS-mount, F1.4-360, 4 pin	
LTC 3364/60 Varifocal Lens	LTC3364/60
1/3-inch, 3.5 – 8 mm, DC-iris, CS-mount F1.4-360, 4-pin	
LTC 3371/50 Varifocal Lens	LTC3371/50
1/3-inch, 5 – 50 mm, manual iris, CS-mount F1.7-close	
LTC 3374/20 Varifocal Lens	LTC3374/20
1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.4-185, 4-pin	
LTC 3374/50 Varifocal Lens	LTC3374/50
1/3-inch, 5 – 50 mm, DC-iris, CS-mount F1.7-360, 4-pin	
LTC 3664/40 Varifocal Lens IR corrected	LTC3664/40
1/3-inch, 2.8 – 11 mm, DC-iris, CS-mount F1.4-360, 4-pin	
LTC 3264/30 Varifocal Lens	LTC3264/30
1/2-inch, 4.5 – 10 mm, DC-iris, CS-mount F1.6-360, 4-pin	
LTC 3274/41 Varifocal Lens	LTC3274/41
1/2-inch, 7.5 – 75 mm, DC-iris, C-mount, F1.7-360, 4-pin	

Accessories

S1374 Adapter	S1374
converts C mount lens to CS mount camera	

Varifocal Lenses 1/3 and 1/2 inch

**LTC3361/32****LTC 3361/40****LTC3361/50****LTC3361/60**

Image format	1/3 inch	1/3 inch	1/3 inch	1/3 inch
Focal length	3 – 8 mm	2.8 – 12 mm	2.8 – 10 mm	3.5 – 8 mm
Iris range	F1.0 to close	F1.4 to close	F1.4 to close	F1.4 to close
Focus range	0.2 m (0.66 ft)	0.3 m (1 ft)	0.3 m (1 ft)	0.3 m (1 ft)
Back focus distance	8.36 mm (0.33 in)	8.6 mm (0.34 in)	7.8 mm (0.3 in)	8.4 mm (0.33 in)
Weight	39 g (0.09 lb)	72 g (0.16 lb)	57 g (0.13 lb)	41 g (0.1 lb)
Lens mount	CS	CS	CS	CS
Angle view Wide (1/3 in)	91 x 67	97.4 x 72.5	83 x 62.4	77.6 x 58.2
Angle view Tele (1/3 in)	36 x 27	24.1 x 18.1	28.8 x 21.6	33.6 x 25
Angle view Wide (1/2 in)	-	-	-	-
Angle view Tele (1/2 in)	-	-	-	-
Iris control	manual	manual	manual	manual
Focus ctrl	manual	manual	manual	manual
Zoom ctrl	manual	manual	manual	manual

**LTC3371/50****LTC3371/20****LTC3664/30****LTC3364/40**

Image format	1/3 inch	1/3 inch	1/3 inch (IR)	1/3 inch
Focal length	5 – 50 mm	5 – 50 mm	3 – 8 mm	2.8 – 12 mm
Iris range	F1.7 to close	F1.4 to close	F1.0 - 360	F1.4 - 360
Focus range	1 m (3.3 ft)	1 m (3.3 ft)	0.3 m (1 ft) to inf.	0.3 m (1 ft) to inf.
Back focus distance	7.6 mm (0.3 in)	10.05 mm (0.4 in)	7.5 mm (0.3 in)	8.6 mm (0.34 in)
Weight	149 g (0.33 lb)	85 g (0.187 lb)	60 g (0.13 lb)	79 g (0.17 lb)
Lens mount	CS	CS	CS	CS
Angle view Wide (1/3 in)	50 x 37.8	53.4 x 40.1	93.2 x 69	97.4 x 72.4
Angle view Tele (1/3 in)	5.5 x 4.1	5.3 x 4.1	35.2 x 26.4	26.2 x 19.7
Angle view Wide (1/2 in)	-	-	-	-
Angle view Tele (1/2 in)	-	-	-	-
Iris control	manual	manual	4-pin, DC control	4-pin, DC control
Focus ctrl	manual	manual	manual	manual
Zoom ctrl	manual	manual	manual	manual

**LTC3364/50****LTC3364/60****LTC3374/50****LTC3374/20**

Image format	1/3 inch	1/3 inch	1/3 inch	1/3 inch
Focal length	2.8 – 10 mm	3.5 – 8 mm	5 – 50 mm	5 – 50 mm
Iris range	F1.4 - 360	F1.4 - 360	F1.7 - 360	F1.4 - 185
Focus range	0.3 m (1 ft)	0.3 m (1 ft)	1 m (3.3 ft)	1 m (3.3 ft)
Back focus distance	7.8 mm (0.3 in)	8.4 mm (0.33 in)	7.6 mm (0.3 in)	10.05 mm (0.4 in)
Weight	69 g (0.15 lb)	53 g (0.13 lb)	160 g (0.35 lb)	97 g (0.213 lb)
Lens mount	CS	CS	CS	CS
Angle view Wide (1/3 in)	83 x 62.4	77.6 x 58.2	50 x 37.8	53.4 x 40.1
Angle view Tele (1/3 in)	28.8 x 21.6	33.6 x 52	5.5 x 4.1	5.3 x 4.1
Angle view Wide (1/2 in)	-	-	-	-
Angle view Tele (1/2 in)	-	-	-	-
Iris control	4-pin, DC control	4-pin, DC control	4-pin, DC control	4-pin, DC control
Focus ctrl	manual	manual	manual	manual
Zoom ctrl	manual	manual	manual	manual

**LTC3364/21****LTC3664/40****LTC 3674/20****LTC 3764/20**

Image format	1/3 inch (IR)	1/3 inch (IR)	1/3 inch (IR)	1/2 inch (IR)
Focal length	2.8 – 6 mm	2.8 – 11 mm	7.5 – 50 mm	4 – 12 mm
Iris range	F1.4 - 200	F1.4 - 360	F1.3 - 360	F1.2 - 360
Focus range	0.3 m (1.0 ft)	0.35 m (1.1 ft)	0.4 m (1.3 ft)	0.3 m (1.0 ft)
Back focus distance	7.6 mm (0.3 in)	8.6 mm (0.34 in)	8.1 mm (0.32 in)	9 mm (0.35 in)
Weight	59 g (0.13 lb)	79 g (0.17 lb)	68 g (0.15 lb)	68 g (0.15 lb)
Lens mount	CS	CS	CS	C
Angle view Wide (1/3 in)	96.9 x 72.5	97.4 x 72.4	36.6 x 27.4	68.9 x 51.3
Angle view Tele (1/3 in)	46.7 x 35.1	26.2 x 19.7	5.6 x 4.3	23.4 x 17.5
Angle view Wide (1/2 in)	-	-	-	93.6 x 68.9
Angle view Tele (1/2 in)	-	-	-	31.2 x 23.4
Iris control	4-pin, DC control	4-pin, DC control	4-pin, DC control	4-pin, DC control
Focus ctrl	manual	manual	manual	manual
Zoom ctrl	manual	manual	manual	manual



LTC 3774/30

LTC3274/41

Image format	1/2 inch (IR)	1/2 inch
Focal length	10 – 40 mm	7.5 – 75 mm
Iris range	F1.4 - 360	F1.7 – 360
Focus range	0.5 m (1.6 ft)	0.3 m (1 ft)
Back focus distance	12.4 mm (0.49 in)	8.5 mm (0.34 in)
Weight	87 g (0.19 lb)	220 g (0.48 lb)
Lens mount	C	C
Angle view Wide (1/3 in)	27.5 x 20.4	35.5 x 26.6
Angle view Tele (1/3 in)	7.0 x 5.2	3.7 x 2.8
Angle view Wide (1/2 in)	37.5 x 27.5	46.2 x 35.5
Angle view Tele (1/2 in)	9.2 x 7.0	4.9 x 3.7
Iris control	4-pin, DC control	4-pin, DC control
Focus ctrl	manual	manual
Zoom ctrl	manual	manual

Auto-iris Motorized Zoom Lenses



Features

- ▶ High Quality Optics
- ▶ Reliable, Robust Construction
- ▶ 1/3-inch Format with DC-iris Control
- ▶ 1/2-inch Format with Video-iris Control
- ▶ 6x, 10x, 15x, and 20x Zoom Ranges
- ▶ Optional Pre-positioning
- ▶ 15x with Manual Override

These Motorized Zoom Lenses are compact, rugged, 1/3-inch and 1/2-inch image format auto iris lenses. Their high sensitivity and reliability provide optimal performance in all environments.

The 1/3-inch DC-iris Series Lenses have been designed for more economical uses and are provided with a standard CS mount for use with a wide variety of cameras.

The 1/2-inch Video-iris Series are high quality lenses, and are provided with both CS and C mount options.

Functions

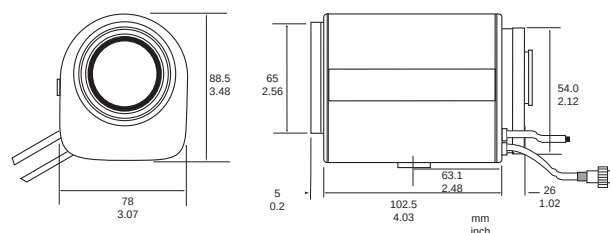
For the auto iris control, all lenses use the standard 4 pin EIAJ connector which fits directly into the camera's iris output. For zoom, focus, and pre-position control, the lenses are fitted with an 8-pin DIN connector.

Impressive optical quality is a result of combined high standards for resolution, contrast reproduction, and lens coating. The lenses have been designed to match with the complete range of Bosch cameras. When used in combination with the 1/2-inch Series cameras they provide the necessary large F/stop and high quality camera optic features.

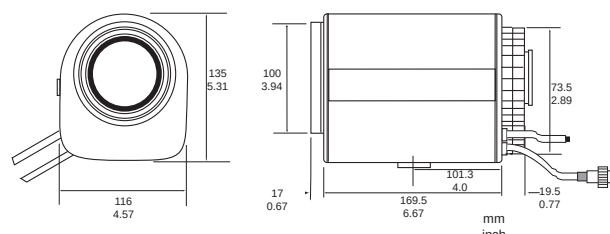
Lenses in this series include 6x, 10x, 15x, and 20x zoom range models. Some models provide optional pre-position and manual iris override functions.

The mechanical construction has been designed to withstand the frequent control operations of the iris, zoom, and focus operations. For a cost effective lens that provides the high quality and reliability needed to enhance camera images, these lenses are the ideal solution.

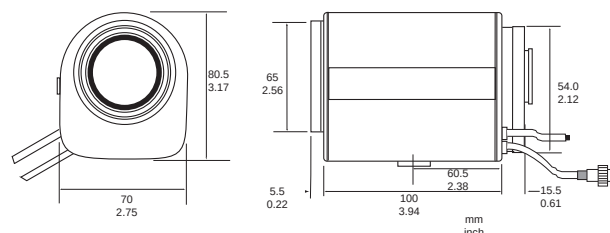
Installation/Configuration Notes



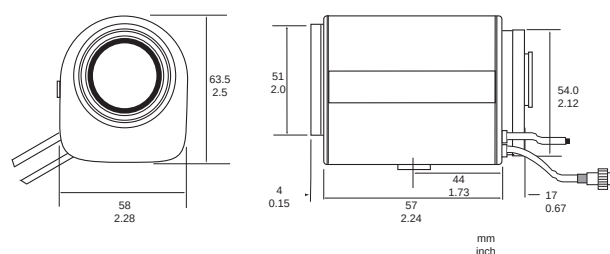
Dimensions LTC 3293 / 20 & LTC 3293 / 30



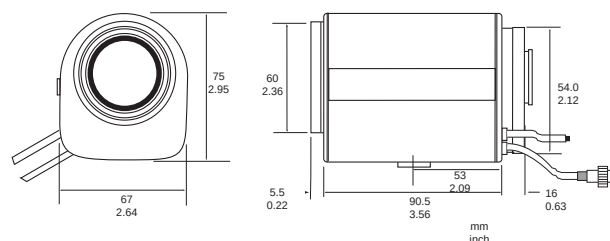
Dimensions LTC 3293 / 40 & LTC 3293 / 50



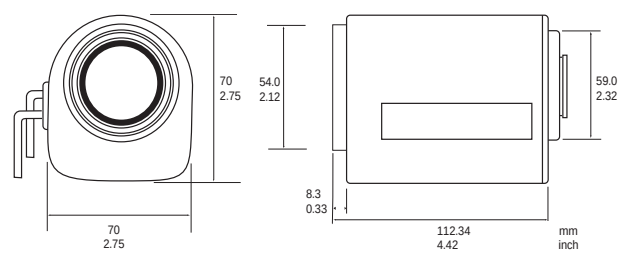
Dimensions LTC 3283/50



Dimensions LTC 3283/20



Dimensions LTC 3283/40



Dimensions LTC 3384/21

Ordering Information

LTC 3384/21 Zoom Lens 1/3-inch, 6 – 60 mm, DC-iris, CS-mount F1.4-360, 4-pin	LTC3384/21
LTC 3293/20 Zoom Lens 1/2-inch, 8 – 120 mm, Video-iris, C-mount F1.6-1000, 4-pin	LTC3293/20
LTC 3293/30 Zoom Lens 1/2-inch, 8 – 120 mm, Video-iris, C-mount F1.6-1000, 4-pin, pre-position and manual over-ride	LTC3293/30
LTC 3293/40 Zoom Lens 1/2-inch, 12 – 240 mm, Video-iris, C-mount F1.6-720, 4-pin	LTC3293/40
LTC 3293/50 Zoom Lens 1/2-inch, 12 – 240 mm, Video-iris, C-mount F1.6-720, 4-pin, pre-position	LTC3293/50
LTC 3283/20 Zoom Lens 1/2-inch, 8.0 – 48 mm, Video-iris, CS-mount F1.4-360, 4-pin	LTC3283/20
LTC 3283/40 Zoom Lens 1/2-inch, 7.5 – 75 mm, Video-iris, CS-mount F1.4-360, 4-pin	LTC3283/40
LTC 3283/50 Zoom Lens 1/2-inch, 7.5 – 75 mm, Video-iris, C-mount F1.2-512, 4-pin, pre-position	LTC3283/50
Accessories	
S1374 Adapter converts C mount lens to CS mount camera	S1374

Auto-iris Motorized Zoom Lenses



LTC3384/21

LTC3293/20

LTC3293/30

LTC3293/40

Image format	1/3-inch	1/2-inch	1/2-inch	1/2-inch
Zoom	10x	15x	15x	20x
Focal length	6 - 60 mm	8 - 120 mm	8 - 120 mm	12 - 240 mm
Iris range	F1.4-360	F1.6-1000	F1.6-1000	F1.6-720
Min. object distance	1.3 m	1.5 m	1.5 m	2.8 m
Pre-position	N/A	N/A	Yes	N/A
Manual override	N/A	N/A	Yes	N/A
Lens mount	CS	C	C	C
Dimensions	See drawing	see drawing	see drawing	see drawing
Weight	380 g 0.84 lb	800 g 1.76 lb	800 g 1.76 lb	2630 g 5.79 lb
Temp. range	-5°C to +50°C +23°F to 122°F	-10°C to +50°C (+14°F to 22°F)	-10°C to +50°C +14°F to 122°F	-10°C to +50°C +14°F to 122°F
Iris characteristics				
Iris control	4-pin video iris	4-pin video iris	4-pin video iris	4-pin video iris
Operating voltage	8 - 12 VDC	8 - 12 VDC	8 - 12 VDC	8 - 12 VDC
Response speed	Approx. 2 s	Approx. 1.5 s	Approx. 1.5 s	Approx. 1.5 s
Operating current	70 mA (max.)	50 mA (max.)	50 mA (max.)	50 mA (max.)
Input signal	VS or V	VS or V	VS or V	VS or V
Impedance	10 kOhm	10 kOhm	10 kOhm	10 kOhm
Iris accuracy	Approx. 8 s	+20% (signal level)	+20% (signal level)	+20% (signal level)
Sensitivity	0.5-1.0 Vp-p	0.5-1.0 Vp-p	0.5-1.0 Vp-p	0.5-1.0 Vp-p
Zoom characteristics				
Zoom control	Motor drive	Motor drive	Motor drive	Motor drive
Motorized spd.(app.)	8 s	6 sec	6 sec	10 sec
Operating voltage	12 VDC	12 VDC	12 VDC	12 VDC
Operating current	70 mA (max.)	55 mA (max.)	55 mA (max.)	55 mA (max.)
Focus characteristics				
Focus control	Motor drive	Motor drive	Motor drive	Motor drive
Motorized spd.(app.)	5.5 s	8 sec	8 sec	10 sec
Operating voltage	12 VDC	12 VDC	12 VDC	12 VDC
Operating current	55 mA (max.)	55 mA (max.)	55 mA (max.)	55 mA (max.)
Angle of view 1/3-inch camera (Wide - Tele)				
Horizontal	43.4°-4.5°	32°56'-2°20'	32°56'-2°20'	23°01'-1°10'
Vertical	32.7°-3.5°	24°49'-1°45'	24°49'-1°45'	17°13'-0°52'
Angle of view 1/2-inch camera (Wide - Tele)				
Horizontal	-	43°29'-3°05'	43°29'-3°05'	30°52'-1°33'
Vertical	-	32°56'-2°20'	32°56'-2°20'	23°01'-1°10'



	LTC3293/50	LTC3283/20	LTC3283/40	LTC3283/50
Image format	1/2-inch	1/2-inch	1/2-inch	1/2-inch
Zoom	20x	6x	10x	10x
Focal length	12 - 240 mm	8 - 48 mm	7.5 - 75 mm	7.5 - 75 mm
Iris range	F1.6-720	F1.4-360	F1.4-360	F1.2-512
Min. object distance	2.8 m	1.8 m	1.8 m	1.8 m
Pre-position	Yes	N/A	N/A	Yes
Manual override	N/A	N/A	N/A	N/A
Lens mount	C	CS	CS	C
Dimensions	see drawing	see drawing	see drawing	see drawing
Weight	2630 g 5.79 lb	400 g 0.88 lb	580 g 1.28 lb	740 g 1.63 lb
Temp. range	-10°C to +50°C +14°F to 122°F	-10°C to +50°C +14°F to 122°F	-10°C to +50°C +14°F to 122°F	-10°C to +50°C +14°F to 122°F
Iris characteristics				
Iris control	4-pin video iris	4-pin video iris	4-pin video iris	4-pin video iris
Operating voltage	8 - 12 VDC	8 - 12 VDC	8 - 12 VDC	8 - 12 VDC
Response speed	Approx. 1.5 s	Approx. 1.5 s	Approx. 1.5 s	Approx. 1.5 s
Operating current	50 mA (max.)	50 mA (max.)	50 mA (max.)	50 mA (max.)
Input signal	VS or V	VS or V	VS or V	VS or V
Impedance	10 kOhm	10 kOhm	10 kOhm	10 kOhm
Iris accuracy	+20% (signal level)	+20% (signal level)	+20% (signal level)	+20% (signal level)
Sensitivity	0.5-1.0 Vp-p	0.5-1.0 Vp-p	0.5-1.0 Vp-p	0.5-1.0 Vp-p
Zoom characteristics				
Zoom control	Motor drive	Motor drive	Motor drive	Motor drive
Motorized spd.(app.)	10 sec	5 s	5.5 s	5.5 s
Operating voltage	10 sec	12 VDC	12 VDC	12 VDC
Operating current	55 mA (max.)	55 mA (max.)	55 mA (max.)	55 mA (max.)
Focus characteristics				
Focus control	Motor drive	Motor drive	Motor drive	Motor drive
Motorized spd.(app.)	10 sec	5 s	6.5 s	5.5 s
Operating voltage	12 VDC	12 VDC	12 VDC	12 VDC
Operating current	55 mA (max.)	55 mA (max.)	55 mA (max.)	55 mA (max.)
Angle of view 1/3-inch camera (Wide - Tele)				
Horizontal	23°01' - 1°10'	32°42' - 5°05'	34°38' - 3°46'	34°57' - 3°46'
Vertical	17°13' - 0°52'	24°40' - 4°23'	26°81' - 2°50'	26°27' - 2°50'
Angle of view 1/2-inch camera (Wide - Tele)				
Horizontal	30°52' - 1°33'	42°47' - 7°43'	45°11' - 4°58'	45°38' - 5°00'
Vertical	23°01' - 1°10'	32°42' - 5°50'	34°38' - 3°46'	34°57' - 3°46'

IR-Corrected Zoom and Varifocal Lenses



Features

- ▶ IR corrected for operation with high performance day/night and monochrome cameras
- ▶ 1/3-inch and 1/2-inch formats
- ▶ High-quality optics
- ▶ DC-iris and Video-iris models
- ▶ Varifocal and zoom lenses
- ▶ Zoom lenses with pre-positioning
- ▶ Reliable, robust construction

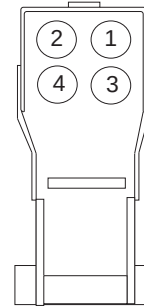
With the introduction of true day/night cameras, CCTV cameras have become more versatile -- and now lenses must match the wide range of light conditions covered by those cameras. (Infrared) corrected lenses provide fully adjusted and sharp focused images in daylight and at night when used in conjunction with IR illuminators. This makes IR lenses the best choice for high performance true day/night cameras.

The IR range includes 1/3-inch and 1/2-inch format lenses. The 1/3-inch lenses are used exclusively for 1/3-inch type cameras. The high design standards of the 1/2-inch lenses make them a perfect match for both 1/3-inch and 1/2-inch type cameras. When used with 1/3-inch type cameras, the 1/2-inch lenses provide a more "telephoto" effect.

For auto iris control, all lenses use the standard four-pin EIAJ connector, which fits directly into the camera's iris output. Varifocal lenses are DC iris direct drives, while zoom lenses have Video-iris drives.

For zoom focus and pre-position control, the lenses are fitted with an 8-pin DIN connector. The 18x zoom lens also features manual iris override. Impressive optical quality is a result of ED glass elements, aspherical lenses, and multi-layer coatings. These lenses maintain focus to IR wavelengths of 950 nm.

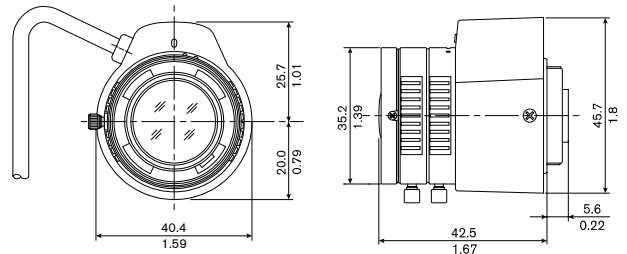
The mechanical construction is robust enough to withstand frequent control operations of the iris, zoom, and focus functions.



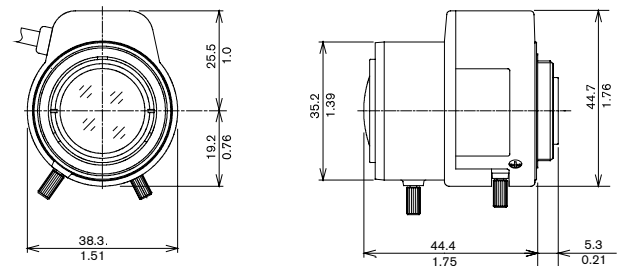
Auto iris Connector (Solder side view)

1	Power
2	Not Used
3	Video
4	Ground

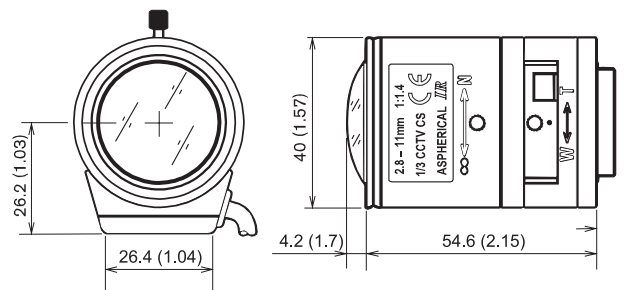
Installation/Configuration Notes



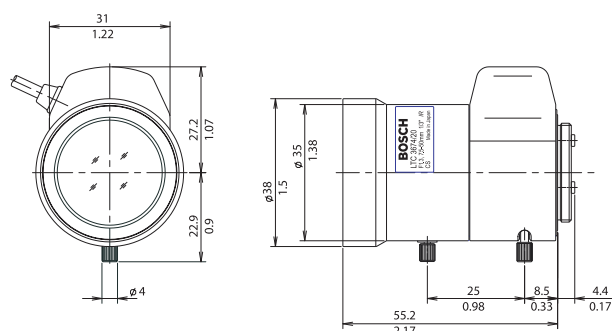
Dimensions LTC 3364/21



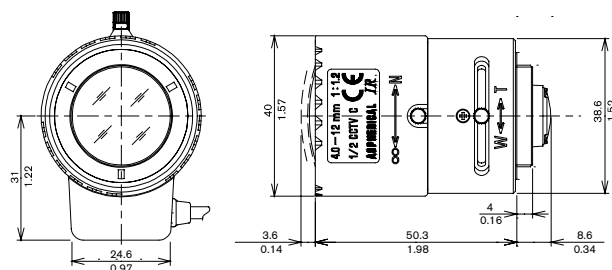
Dimensions LTC 3664/30



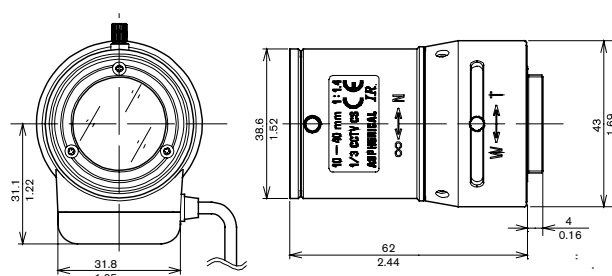
Dimensions LTC 3664/40



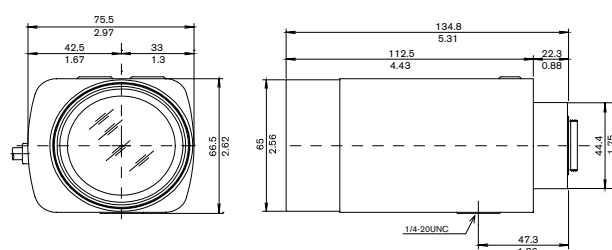
Dimensions LTC 3674/20



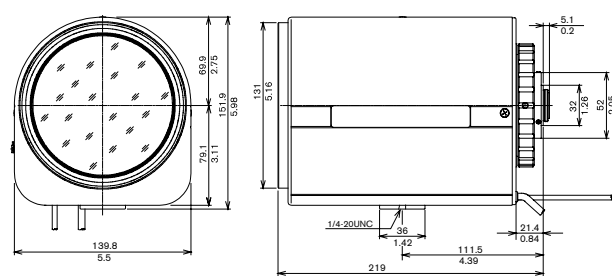
Dimensions LTC 3764/20



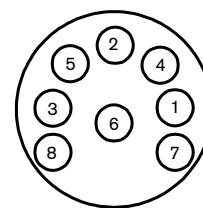
Dimensions LTC 3774/40



Dimensions LTC 3783/50



Dimensions LTC 3793/50



Zoom/Focus Connector (Solder side view)

1	Pre-pos. Zoom Pot. Wiper	5	Focus Motor Control (+near)
2	Focus Motor Return	6	Zoom Motor Return
3	Pre-pos. Focus Pot. Wiper	7	Pre-pos. Pot. Supply
4	Zoom Motor Control (+tele)	8	Pre-pos. Pot. Return

Ordering Information

LTC 3364/21 Varifocal Lens IR corrected LTC3364/21
1/3-inch, 2.8 – 6 mm, DC-iris, CS-mount
F1.4-200, 4-pin

LTC 3664/30 Varifocal Lens IR corrected LTC3664/30
1/3-inch, 3.0 – 8 mm, DC-iris, CS-mount
F1.0-360, 4-pin

LTC 3664/40 Varifocal Lens IR corrected LTC3664/40
1/3-inch, 2.8 – 11 mm, DC-iris, CS-mount
F1.4-360, 4-pin

LTC 3674/20 Varifocal Lens IR corrected LTC 3674/20
1/3-inch, 7.5 – 50 mm, DC-iris, CS-mount,
F1.3-360, 4-pin

LTC 3764/20 Varifocal Lens IR corrected LTC3764/20
1/2-inch, 4 – 12 mm, DC-iris, C-mount,
F1.2-360, 4-pin

LTC 3774/30 Varifocal Lens IR corrected LTC3774/30
1/2-inch, 10 – 40 mm, DC-iris, C-mount,
F1.4-360, 4-pin

LTC 3783/50 Zoom Lens IR corrected LTC3783/50
1/2-inch, 8.5 – 85 mm, Video-iris, C-mount
F1.6-360, 4-pin

LTC 3793/50 Zoom Lens IR corrected LTC3793/50
1/2-inch, 8 – 144 mm, Video-iris, C-mount,
F1.6-360, 4-pin

Accessories

S1374 Adapter S1374
converts C mount lens to CS mount camera

IR-Corrected Varifocal Lenses



LTC3364/21



LTC3664/30



LTC3664/40



LTC 3674/20

	LTC3364/21	LTC3664/30	LTC3664/40	LTC 3674/20
Image format	1/3 inch	1/3 inch	1/3 inch	1/3 inch
Zoom Range	2.1x Varifocal	2.7x Varifocal	3.9x Varifocal	6.7x Varifocal
Focal length	2.8-6 mm	3-8 mm	2.8-11 mm	7.5-50 mm
Iris range Color	F1.4 to 300	F1.0 to 360	F1.4 to 360	F1.3 to 360
Iris range IR	F1.4 to 300	F1.0 to 360	F1.4 to 64	F1.3 to 64
Wavelength	400 to 950 nm	400 to 950 nm	400 to 950 nm	400 to 950 nm
Min. Object Distance	0.30 m (1.0 ft)	0.30 m (1.0 ft)	0.35 m (1.1 ft)	0.40 m (1.3 ft)
Back focus Distance	7.5 mm (0.30 in)	7.5 mm (0.30 in)	8.6 mm (0.34 in)	8.1 mm (0.32 in)
Lens mount	CS-mount	CS-mount	CS-mount	CS-mount
Flange back distance	12.5mm	12.5mm	12.5mm	12.5mm
Weight	59 g (0.13 lb)	60 g (0.13 lb)	79 g (0.17 lb)	68 g (0.15 lb)
Angle of view				
1/3 " wide (HxV)	96.9° x 72.5°	93.2° x 69°	97.4° x 72.4°	36.6° x 27.4°
1/3 " tele (HxV)	46.7° x 35.1°	35.2° x 26.4°	26.2° x 19.7°	5.64° x 4.26°
1/2 " wide (HxV)	-	-	-	-
1/2 " tele (HxV)	-	-	-	-
Pre-Position	-	-	-	-
Iris Specs.				
Iris control	DC-iris	DC-iris	DC-iris	DC-iris
Op. Voltage	-	-	-	-
Response Speed	-	-	-	-
Op. Current	-	-	-	-
Input Signal	-	-	-	-
Impedance	-	-	-	-
Iris Accuracy	-	-	-	-
Sensitivity				
Autoiris Override	-	-	-	-
Zoom Specs.				
Zoom control	Manual	Manual	Manual	Manual
Zoom Speed	-	-	-	-
Op. Voltage	-	-	-	-
Op. Current	-	-	-	-
Focus Specs.				
Focus Control	Manual	Manual	Manual	Manual
Focus Speed	-	-	-	-
Op. Voltage	-	-	-	-
Op. Current	-	-	-	-
Temperature Range	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)

**LTC3764/20****LTC3774/30****LTC3783/50****LTC3793/50**

Image format	1/2 inch	1/2 inch	1/2 inch	1/2 inch
Zoom Range	3x Varifocal	4x Varifocal	10x Zoom	18x Zoom
Focal length	4-12 mm	10-40 mm	8.5 – 85 mm	8 – 144 mm
Iris range Color	F1.2 to 360	F1.4 to 360	F1.6 to 360	F1.6 to 360
Iris range IR	F1.2 to 64	F1.4 to 64	F1.6 to 180	F1.6 to 360
Wavelength	400 to 950 nm	400 to 950 nm	400 to 950 nm	400 to 950 nm
Min. Object Distance	0.30 m (1.0 ft)	0.5 m (1.6 ft)	1.5 m (5 ft)	4 m (13 ft)
Back focus Distance	9.0 mm (0.35 in)	12.4 mm (0.49 in)	14.65 mm (0.3 inch)	13.75 mm (0.3 inch)
Lens mount	C-mount	C-mount	C-mount	C-mount
Flange back distance	17.526mm	17.526mm	17.526mm	17.526mm
Weight	68 g (0.15 lb)	87 g (0.19 lb)	900 g (1.98 lb)	3840 g (8.47 lb)
Angle of view				
1/3 " wide (HxV)	68.9° x 51.3°	27.5° x 20.4°	31.3° x 23.5°	34.1° x 26.0°
1/3 " tele (HxV)	23.4° x 17.5°	7.0° x 5.2°	3.28° x 2.47°	1.94° x 1.47°
1/2 " wide (HxV)	93.6° x 68.9°	37.5° x 27.5°	41.5° x 31.3°	45.1° x 34.1°
1/2 " tele (HxV)	31.2° x 23.4°	9.2° x 7.0°	4.34° x 3.28°	2.6° x 1.94°
Pre-Position	-	-	Yes	Yes
Iris Specs.				
Iris control	DC-iris	DC-iris	4-pin Video-iris	4-pin Video-iris
Op. Voltage	-	-	8 to 15 VDC	8 to 15 VDC
Response Speed	-	-	approx. 2 sec	approx. 1.5 sec
Op. Current	-	-	40 mA	50 mA
Input Signal	-	-	VS or V	VS or V
Impedance	-	-	5 kOhm	5 kOhm
Iris Accuracy	-	-	+/- 20% of V-signal	+/- 20% of V-signal
Sensitivity	-	-	0.5 - 1.0Vpp of V-signal	0.5 - 1.0Vpp of V-signal
Autoiris Override	-	-	-	Yes
Zoom Specs.				
Zoom control	Manual	Manual	Motor drive	Motor drive
Zoom Speed	-	-	5 sec (adjustable)	3.5 sec
Op. Voltage	-	-	6 to 12 VDC	6 to 12 VDC
Op. Current	-	-	60 mA	85 mA
Focus Specs.				
Focus Control	Manual	Manual	Motor drive	Motor drive
Focus Speed	-	-	5 sec (adjustable)	4 sec
Op. Voltage	-	-	6 to 12 VDC	6 to 12 VDC
Op. Current	-	-	60 mA	50 mA
Temperature Range	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)	-10 °C to +50 °C (+14 °F to +122 °F)

Switching and Control

6

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LTC 5231/90 and LTC 5234/90 Video Distribution Amplifiers



6

Features

- ▶ Compatible with NTSC/PAL video standards
- ▶ No user adjustments needed
- ▶ Supports Bilinx video signals
- ▶ Video presence indicators
- ▶ Video-Loss-Detection output
- ▶ Optional rack-mounting

The LTC 5231/90 and LTC 5234/90 are video distribution amplifiers that provide multiple video outputs identical to the video input signal. Their ample bandwidth easily supports today's high-resolution video signals. A video-loss-detection feature is available for interfacing to external monitoring equipment.

The LTC 5231/90 and the LTC 5234/90 also support Bilinx technology, allowing bidirectional communication through the video cable to access and control Bilinx-enabled devices such as AutoDome® and Dinion® cameras. A maximum of two (2) different types of Bilinx controller models can communicate to a common Bilinx-capable camera. Contact a Bosch Security Systems Sales Representative regarding future product capabilities.

The LTC 5231/90 is a single-channel video distribution amplifier with four (4) video outputs for distribution to other video devices. A front panel LED indicates the presence of video.

The LTC 5234/90 is a 4-channel video distribution amplifier. It has four (4) independent distribution amplifiers, each with one input and three outputs. Front panel LEDs for each distribution amplifier channel indicates the presence of video.

These are indoor products and supplied as desktop units. Rack-mount kits are available from Bosch Security Systems for mounting in a standard EIA 48-cm (19-in.) rack.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Technical Specifications

Electrical

LTC 5231/90: Single-channel

Model Number	LTC 5231/90
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	108 to 264
Power at Rated Voltage	3.5 W
Video Inputs	One (1), fixed 75 Ohm termination
Signal Range	0.7 Vp-p to 1.4 Vp-p
Video Outputs	Four (4) isolated, 75 Ohm
Video Gain	Unity +1.0/-0%
Signal-to-noise	-72 dB typical
Bandwidth-3 dB Point	33 MHz typical
Differential Gain	0.7% typical
Differential Phase	0.8° typical
Field Time Distortion	2.9%
Video-loss Output	Relay contact pair Rating: 1 A at 40 VAC/VDC max.
Indicators	Power on LED (green) Video presence LED (green)

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal
Size (H x W x D)	4.1 x 23.4 x 26.2 cm (1.6 x 8.8 x 10.3 in.)
Weight	Approximately 1.5 kg (3.4 lb)

Environmental

Operating Temperature	0°C to 50°C (32°F to 122°F)
Humidity	20% to 90% relative, non-condensing

Options

EIA 48-cm (19-in.) rack kit	LTC 9101/00
	Height: 1 standard rack unit
	Width: 1 standard rack unit

Electrical

LTC 5234/90: 4-channel

Model Number	LTC 5234/90
Rated Voltage	120/230 VAC, 50/60 Hz
Voltage Range	108 to 264
Power at Rated Voltage	5.5 W
Video Inputs	Four (4), fixed 75 Ohm termination
Signal Range	0.7 Vp-p to 1.4 Vp-p
Video Outputs	Three (3) for each channel, 75 Ohm

Electrical

Video Gain	Unity +1.0/-0%
Signal-to-noise	-72 dB Typical
Bandwidth-3 dB Point	33 MHz Typical
Differential Gain	0.6% Typical
Differential Phase	0.6° Typical
Field Time Distortion	2.2%
Video-loss Output	Relay contact pair for each channel Rating: 1 A at 40 VAC/VDC max.
Indicators	Power on LED (green) Four (4) video presence LEDs (green)

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal
Size (H x W x D)	4.1 x 23.4 x 26.2 cm (1.6 x 8.8 x 10.3 in.)
Weight	Approximately 1.6 kg (3.6 lb)

Environmental

Operating Temperature	0°C to 50°C (32°F to 122°F)
Humidity	20% to 90% relative, non-condensing

Bilinx, AutoDome, and Dinion are registered by Bosch Security Systems, Inc. in the US patent trademark office.

Ordering Information

LTC 5231/90 Video Distribution Amplifier 1 input, 4 output, half rack, 120/230 VAC, 50/60 Hz, mounting only with LTC 9101/00	LTC5231/90
LTC 5234/90 Video Distribution Amplifier 1 input, 3 output, half rack, 120/230 VAC, 50/60 Hz, mounting only with LTC 9101/00	LTC5234/90

VMD01-Mx0 Series Digital Motion Detector



Features

- ▶ Intelligent digital video motion detector
- ▶ Detects, tracks and stores motion images
- ▶ Automatic self-adaptation to changing environmental conditions
- ▶ Maximizes detection rate and reduces unwanted alarms
- ▶ Stand alone or system integration
- ▶ Intuitive graphical interface for fast effective set up

Whenever you need reliable video motion detection, for indoor or outdoor use, the Bosch VMD01 is the unit of choice. The VMD01 is an intelligent digital motion detector that uses advanced video content analysis to reliably detect moving objects while suppressing unwanted alarms from spurious sources in the image. The unit intelligently adapts to changing lighting and environmental conditions such as rain, snow and leaves blowing in the wind.

The VMD01 can easily be configured to select the sensitive areas of the image, the minimum object size and the motion direction that will trigger an alarm, so that it only detects the important moving objects in a scene. A graphical display allows the sensitive area, size and perspective for objects, and movement direction to be simply drawn on the image. Once movement has been detected, the object causing the alarm is outlined on the screen, the motion tracked on the monitor, and pre and post alarm images are stored. The alarm condition can be signaled by means of a standard relay output and LED on the unit. The stored alarm images can be replayed on the monitor using the front panel rotary switch or by remote control.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Emission: EN50081-1, EN50130-4, EN50130-5, According FCC, UR
Safety	EN 60950

Parts Included

Quantity	Component
1	VMD01
4	Rubber feet for table top mounting

Technical Specifications

Electrical		
Power Supply		
Type		
VMD-PS90	External plug power adapter	
VMD-RA90/VMD-RA00	Integrated in a 48-cm (19-in.) rack	
	VMD01-M50	VMD01-M60
Operating Voltage	5 VDC, 50 Hz	5 VDC, 60 Hz
Power Consumption	6 W	6 W
Connection	RJ-12 (+5 V to 1.2; GND to 4.6)	
Video		
Input	1 x BNC, VMD01-M50: PAL/CCIR, VMD01-M60: NTSC/EIA, 75 Ohm (internal termination), 1 Vp-p (0.5–2.0 Vp-p)	
Output	1 x BNC, VMD01-M50: PAL/CCIR, VMD01-M60: NTSC/EIA, 1 Vp-p; live images, live images with outlined objects, stored alarm images, GUI for setup	
Contacts		
Input	Internal pull up to ground; 1: Arm/disarm sensor 2: Toggle parameter set	
Output	Open collector, 100 mA, 12 V	
	1. Object detection; adjustable at peak, periodic peak or as long as object is detected 2. Video signal supervision	
Relay		
Output	30 V max., 1.0 A; 1: System/common failure (break contact); 2: Object detection, until reset (minimal for 1 second)	
LED		
Conditions Indicated	1: (Green) power on, system failure 2: (Red) detector armed, video loss, or object detected	
Serial Port		
Type	RS-232, 115 kBaud max. (for back-up purposes, connection of mouse)	
VMD		
Type	Digital image analysis; multi-level changes in illumination, texture and motion; primarily outdoor applications (indoor use acceptable)	

Electrical

Results Display	Superimposed in video-out signal, yellow outline = initial position; red outline = present position; green = trajectory (B/W-lines if B/W signal at video-in)
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Alarm Image Storage

Alarm Images	Five (5) pre-alarm images, one (1) alarm image, ten (10) post-alarm images
VMD results	Superimposed outlines, fade out after five (5) seconds
Access	Via rotary switch on front panel or remote controlled (toggle) between live image and image storage; forward and backward stepping

Operation Modes

1	Reset of Alarms	Automatic
	Normal Operation	Live image on video-out
	Object Detection	Superimposed outlines in live image on video-out (last alarm sequence in storage)
2	Reset of Alarms	Manual
	Normal Operation	Live image on video-out
	Object Detection	Superimposed outlines in live image on video-out (first, not reset alarm sequence in storage)
3	Reset of Alarms	Manual
	Normal Operation	Live image on video-out
	Object Detection:	Automatic switchover to the alarm image storage / first alarm image with superimposed outlines on video-out (first, not reset alarm sequence in storage)

Security

Passcode	Five (5) digits
Video Signal	Signal loss, bad signal-to-noise ratio, camera
Supervision	Blinded, insufficient scene illumination

Mounting Possibilities

Desktop (stand alone or as stack), wall or ceiling mounted (use VMD- WM), 48-cm (19-in.) rack mounted (use VMD-RA90 or VMD-RA00)

Mechanical

Dimensions (H x W x D)	110 x 48 x 207 mm (4.3 x 1.88 x 8.1 in.)
Weight	0.5 kg (1.1 lb) (without mouse and power supply unit)

Environmental

Operating Temperature	0°C to 45°C (32°F to 113°F)
Operation Humidity	8% to 80% (relative, non-condensing)

Ordering Information

VMD01-M50 Digital Motion Detector	VMD01-M50
single-channel, stand alone, indoor and outdoor, 50 Hz, 5 VDC, 6 W	

Ordering Information

Accessories

VMD-PS90 Power Supply	VMD-PS90
for VMD01-Mx0, required if using as a single stand alone unit, 100–240 VAC/5 VDC, max. 2.4 A, cord 2.0 m, 4 x 0.6 with RJ-11 plug (+5 V to 1.2 V; GND to 4.6), 4 different adapters included for UK, US, Europe and AUS, approximately 85 x 50 x 32 mm (3.28 x 1.93 x 1.24 in.) (depth without contacts)	
VMD-SM Serial Mouse	VMD-SM
required for set-up for VMD01-Mx0 Note: This product has not been listed by UL.	
VMD-RA90 Rack Mount	VMD-RA90
48-cm (19-in.), with power supply for up to eight VMD01-Mx0, 3VU, depth: 378 mm (14.88 in.), including eight bracket sets for VMD01 mounting, power supply: primary 110–230 VAC, Euro and US power cord 1.5 m (4.92 ft), secondary 8x5 VDC, 8 x 2 A (including cable set) Note: This product has not been listed by UL and is currently not for sale in the United States and Canada.	
VMD-RA00 Rack Mount	VMD-RA00
48-cm (19-in.), without power supply, 3 VU, depth: 378 mm (14.88 in.), including eight bracket sets for VMD01 mounting	
VMD-RADC Front Panel Covers	VMD-RADC
dummy cover for VMD-RA00 and VMD-RA90, set of 4	
VMD-WM Wall Mount Bracket	VMD-WM
for one (1) VMD01-Mx0, 165 x 205 x 10 mm (6.6 x 8.05 x 0.39 in.), 0.4 kg (0.99 lb)	

LTC 2380/90, LTC 2382/90 Digital Video Quad Processor



6

Features

- ▶ Auto detects Color and B/W cameras and PAL/NTSC signals
- ▶ Real-time display and record update rate
- ▶ Sequencing Full Screen or Quad display
- ▶ Video loss detection
- ▶ RS-232 control
- ▶ Programmable alarm features
- ▶ Two relay outputs

The LTC 238x/90 Digital Video Processors use the latest integrated technology to produce high quality, real time video in both Full and Quad Screen Modes. The video processor auto detects the applicable video standard, PAL or NTSC, and configures itself accordingly. In addition the unit will detect color or B/W cameras and configures itself accordingly.

The display is updated at the field rate of 60 fields per second for EIA/NTSC or 50 fields per second for CCIR/PAL, providing real time video. These video processors require no external synchronization and accept video inputs with 2:1interlaced source.

System Overview

LTC 2380/90

The LTC 2380/90 Digital Video Processor is designed for easy installation in applications where four cameras need to be viewed on a single monitor. It offers a quad display with no user controls required - truly plug and play.

LTC 2382/90

The LTC 2382/90 is a full-featured Digital Video Processor that includes a monitor output plus a second output (REC Out) for video recording devices. The Monitor output can be set for the following display options:

- Quad display (all four cameras).
- Full Screen display (any camera).
- Sequencing with programmable dwell time.

The LTC 2382/90 allows recording in Quad mode or Full-screen mode of individual cameras. Quad recorded images can be viewed in full screen using the built-in zoom playback.

These units allow user-friendly on-screen programming for quick-and-easy setup, including setting 8-character camera titles.

The LTC 2382/90 allows for remote control and external time/date synchronization via an RS-232 connection. Several units may be daisy chained together so that all can be controlled from one PC.

Other features include a flashing Alarm indicator, programmable audible alarm, a video loss output relay and an alarm output relay for control of a VCR or a DVR. Also available are front panel alarm clear, user programmable alarm dwell time and a video loss indicator.

Certifications and Approvals

Electromagnetic Com- patibility (EMC)	Complies with FCC part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Technical Specifications

Input Mains Voltage to External Power Supply (all mod- els)

Voltage	90 to 265 VAC
Frequency	47 to 63 Hz
Nominal Power	10 W

DC Voltage (into unit)

Voltage	5 VDC $\pm$ 5%, 10 W
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Video Format

Resolution

All models auto detect the applicable video standard, PAL or NTSC, and con-
figures itself accordingly.

• PAL	720 x 625
• NTSC	720 x 525

Controls and Indicators

Front Panel-LTC 2382/90

Power Indicator is illuminated when Power is applied to the unit.

• PLAY	Button with LED indicator; selects playback video display on monitor
• MENU	Button; selects on-screen menu
• SEQ/ALM	Button with LED indicator; selects sequencing and alarm clear functions
• Camera Select (Ar- row)	Four (4) push buttons with LED indicators; selects a video input (camera 1, 2, 3 or 4) for full screen display. Used as menu navigation keys during pro- gramming.

Controls and Indicators

- **QUAD/RETURN** Button with LED indicator; selects quad display on the monitor. Used to enter or set parameters during programming.

Connectors—LTC 2382/90

• Video Input	Four (4) BNC, with auto switched 75 Ω termination ¹
• Video Output	Four (4) BNC, loop through ¹
• Monitor Output	One (1) BNC, 75 Ω output impedance
• PLAY IN	One (1) BNC, 75 Ω terminated
• REC OUT	One (1) BNC, 75 Ω output impedance
• ALM/RS232	15-way D-type, breakout terminal block
• Power Input	DC power jack
• Chassis Earth	Phillips screw

Connectors—LTC 2380/90

• Video Input	Four (4) BNC, with auto switched 75 Ω termination ¹
• Video Output	Four (4) BNC, loop through ¹
• Monitor Output	One (1) BNC, 75 Ω output impedance
• Power Output	DC power jack
• Chassis Earth	Phillips screw

1. 75 Ω termination is normally connected to the video input. If a loop through is connected, however, this 75 Ω termination is switched out and termination must be supplied by the down-

Ordering Information**Digital Video Quad Processor** LTC 2380/90

Four (4) BNC video inputs, four (4) BNC video outputs, PAL/NTSC, 90-265 VAC, 47-63 Hz, 1.5 Kg (3.31 lbs)

Programmable Digital Video Quad Processor LTC 2382/90

Four (4) BNC video inputs, four (4) BNC video outputs, video recording and playback, PAL/NTSC, 90-265 VAC, 47-63 Hz, 1.81 Kg (3.97 lbs)

Electrical Ratings—Rear Panels

Video Input Voltage	2 Vp-p max. 0.5 Vp-p min.
Relay Outputs	30 V max. at 1 A
Alarm Inputs	–0.3 V to 30 V max.; internal 22 K pull-up
Alarm I/P Threshold	1.5 VDC
Alarm I/P Voltage (Low)	0.7 VDC max.
RS232	Fully compliant EIA-232

Mechanical

Rack Mount Kit	Hardware included to mount either a single unit or two connected units in a 19-in. rack
Construction	Steel chassis
Finish	Charcoal
Dimensions (W x D x H)	220 x 296 x 42 mm (8.66 x 11.65 x 1.65 in.)
Weight	
• LTC 2380/90	1.5 Kg (3.31 lbs)
• LTC 2382/90	1.8 Kg (3.97 lbs)

Environmental

Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	–35°C to 65°C (–31°F to 149°F)
Humidity	< 95%

LTC 2372, LTC 2376, LTC 2375 and LTC 2377 Series VidQuad Digital Video Processors



6

Features

- ▶ Basic or full-featured
- ▶ Color or monochrome
- ▶ Real time update rate
- ▶ Sequencing or quad display
- ▶ Alarms and video loss
- ▶ Programmable titles and time/date
- ▶ External control via RS-232
- ▶ Zoom playback
- ▶ Supports external RS-232 time/date input

VidQuad Digital Video Processors use advanced circuitry to produce high quality, true-to-life video. Each input uses an automatic gain and level circuit that increases image accuracy without the annoying on-screen flickering (aliasing) commonly associated with multiscreen displays. The image display is updated at the field rate of 60 fields per second for EIA/NTSC or 50 fields per second for CCIR/PAL, providing genuine real time video. These video processors require no external synchronization and accept video inputs with 2:1 interlaced source.

The LTC 2372 Series and LTC 2375 Series VidQuad Digital Video Processors are designed for easy installation in applications where you want to view up to four cameras on a single monitor. They offer a full time quad display with no user controls required - truly plug and play.

The LTC 2376 Series and LTC 2377 Series units are full featured Digital Video Processors which include a primary output and a secondary output (VCR Out).

The primary output can be set for the following display options:

- Quad display (all four cameras).
- Full screen display (any camera).
- Sequencing with programmable dwell time.

Functions

Both of the outputs that display time/date are programmable. Camera titles can accept eight characters per camera.

These video processors always record in Quad mode, but recorded images can be viewed full screen using the built-in electronic zoom playback.

These units allow user-friendly on-screen programming for quick-and-easy setup. In addition, remote control of the unit, as well as synchronization with external time/date signals, is available via an RS-232 connection. Other features include a flashing Alarm indicator, programmable audible alarm, and an alarm output relay for control of a VCR or other device. Also included are front panel alarm clear, user programmable alarm dwell time, and a video loss indicator

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Technical Specifications

Electrical

Model No.	Rated Voltage	Voltage Range ¹	Nominal Power ²	Sync Format
Monochrome Models				
LTC 2372/50	230 VAC, 50 Hz	210 to 260 VAC	5.0 W	CCIR
LTC 2372/60	120 VAC, 60 Hz	105 to 135 VAC	5.0 W	EIA, RS-170
LTC 2376/50	230 VAC, 50 Hz	210 to 260 VAC	5.5 W	CCIR
LTC 2376/60	120 VAC, 60 Hz	105 to 135 VAC	5.5 W	EIA, RS-170
Color Models				
LTC 2375/50	230 VAC, 50 Hz	100 to 240 VAC	6.0 W	PAL
LTC 2375/60	120 VAC, 60 Hz	100 to 240 VAC	6.0 W	NTSC
LTC 2377/50	230 VAC, 50 Hz	100 to 240 VAC	7.0 W	PAL
LTC 2377/60	120 VAC, 60 Hz	100 to 240 VAC	7.0 W	NTSC

¹ Using included power adapter.

Digital Memory

LTC 2372 Series	704 x 525 CCIR; 704 x 480 EIA, RS-170
LTC 2376 Series	704 x 525 CCIR; 704 x 480 EIA, RS-170
LTC 2375 Series	720 x 576 PAL; 720 x 480 NTSC
LTC 2377 Series	720 x 576 PAL; 720 x 480 NTSC

Video

Monochrome	9-bit, 182 gray scales
Color	8-bit and 16-bit, 16 million color palette

Controls and Indicators (LTC 2376, LTC 2377 Series)

VCR	One push button with LED indicator; selects VCR display on monitor
Menu	One push button; selects on-screen menu

Electrical

Sequence/Alarm	One push button with LED indicator; selects sequencing and alarm clear functions
Camera Select (Arrow)	Four push buttons with LED indicators; selects one input for full screen display of cameras 1, 2, 3, or 4. During programming, used as directional keys.
Quad/Enter	One push button with LED indicator; selects quad display on monitor. During programming, used to enter or set parameters.

LTC 2372, LTC 2375 Series

Video Inputs	Four (4), BNC
Video Outputs	One (1), BNC
Monitor Output	One (1), BNC
Power Input	One (1), Class II Bayonet
Earth Ground	One (1), Phillips head screw

LTC 2376, LTC 2377 Series

Video Inputs	Four (4), BNC
Video Outputs	Four (4), BNC, loop-through, auto-terminating
Monitor Output	One (1), BNC
VCR Input	One (1), BNC
VCR/Video Output	One (1), BNC (secondary monitor output)
Alarms/RS-232	One (1), 15-pin D
Power Input	One (1), Class II Bayonet
Earth Ground	One (1), Phillips head screw

Power Adapters (Included)

All models	Input 100–240 VAC, 50/60 Hz Output 5 VDC, 2.0 A
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Mechanical

Construction	Steel chassis with sheet metal cover
Finish	Charcoal
Dimensions (W x D x H)	430 x 300 x 44 mm (16.9 x 11.8 x 1.73 in.)

Weight

LTC 2372 Series, LTC 2375 Series	2.8 kg (6.1 lb)
LTC 2376 Series, LTC 2377 Series	3.0 kg (6.5 lb)

Environmental

Operating Temperature	0°C to 55°C (32°F to 131°F)
Storage Temperature	–40°C to 70°C (–40°F to 158°F)
Humidity	10%–95% relative, non-condensing

Ordering Information

LTC 2372/50 VidQuad Monochrome Digital Video Processor	LTC2372/50
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four (4) BNC video inputs, one (1) BNC video input, 230 VAC, 50 Hz

LTC 2376/50 VidQuad Monochrome Digital Video Processor	LTC2376/50
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four (4) BNC video inputs, four (4) BNC, loop-through auto-terminating video outputs, RS-232 connection, 230 VAC, 50 Hz

Ordering Information

LTC 2375/50 VidQuad Color Digital Video Processor	LTC2375/50
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four (4) BNC video inputs, one (1) BNC video input, 230 VAC, 50 Hz

LTC 2377/50 VidQuad Color Digital Video Processor	LTC2377/50
--	------------

four (4) BNC video inputs, four (4) BNC, loop-through auto-terminating video outputs, RS-232 connection, 230 VAC, 50 Hz

LTC 2672/90, LTC 2682/90 Series System4 Video Management System



Features

- ▶ True Triplex operation
- ▶ Simultaneous playback and live view multiscreen display
- ▶ Playback six (6) recording formats
- ▶ Timed events feature
- ▶ Log events feature
- ▶ Custom alarm display with multiple presets
- ▶ Full duplex VCR controls with on-line status and time/date/search functions
- ▶ Remote VCR setup
- ▶ Master clock synchronization

System4 Video Management Systems incorporate advanced circuitry and expanded memory with improved color sampling and processing to produce high quality, true-to-life color video images. Enhanced circuitries allow increased image accuracy and faster display rates without annoying onscreen flickering (aliasing) common with multiscreen displays. These units can be used as matrix switchers, displaying any camera to either monitor A or B and include custom alarm display on monitor A with up to 4 pre-position call-ups in a single alarm contact. Also, with the internal universal power supply, the System4 intelligently detects the video input signal input voltage and automatically sets the unit for PAL/NTSC or EIA/CCIR.

Functions

The advanced features of System4 are accessible through the optional remote keyboards LTC 2601/00 or LTC 2602/00, with controls identical to the front panel. Both keyboards are capable of controlling Bosch AutoDome systems and receiver/drivers for pan/tilt/zoom control. The System4 remote keyboards control all primary functions of any selected Bosch VCR. Up to 30 System4 units and 30 VCRs can be programmed and controlled by one keyboard. With Master Clock Synchronization, the System4 automatically synchronizes all of the clocks. With a keyboard port expander unit (see OPTIONS), up to four keyboards can be used to program and control a System4 video controller.

The LTC 2672/90 9-channel and the LTC 2682/90 16-channel Triplex version multiplexers allow for the following:

- Simultaneous recording and multiscreen viewing on both monitors.
- Simultaneous recording and playback and live viewing multiscreen.

All models can play back the recording formats of 6 different manufacturers.

The system's user-friendly controls allow fast and easy programming and operation. System4 units include an onscreen menu for programming which is available in English, French, German, Spanish, Dutch, or Italian. Programming allows for either AutoSet or customized system configuration via the Advanced Setup program. Help screens provide explanation and instruction, guiding operators step-by-step through the setup process. When the AutoSet feature is enabled, System4 will automatically configure itself for recording, sequencing, and video loss listing based on the number of connected cameras.

All System4 models provide digital motion detection, ensuring that cameras with motion present become the priority for recording. Recording may be programmed as either "exclusive" or "interleave", based on motion or alarm detection. Four levels of sensitivity are available including direction sensing, target size, and a special walk-through setup to eliminate false alarms. A selectable audible buzzer is available in this mode. Parameter setup can be preprogrammed using the Timed Events feature, which allows several configurations for system operation and recording. Up to six separate System4 operational parameters may be programmed and stored in the system memory for manual call-up or time activation.

System4 units include front panel controls, synchronization with VCR head switching, freeze, 4X zoom, video loss indicators, alarm capture, password security, multi-relay outputs, and full function time/date with 16-character titling record capability. All units are compatible with standard VHS and SVHS formats and normal and high density VCRs. No external synchronization of camera inputs is required, as integrated time based correction is included in all models.

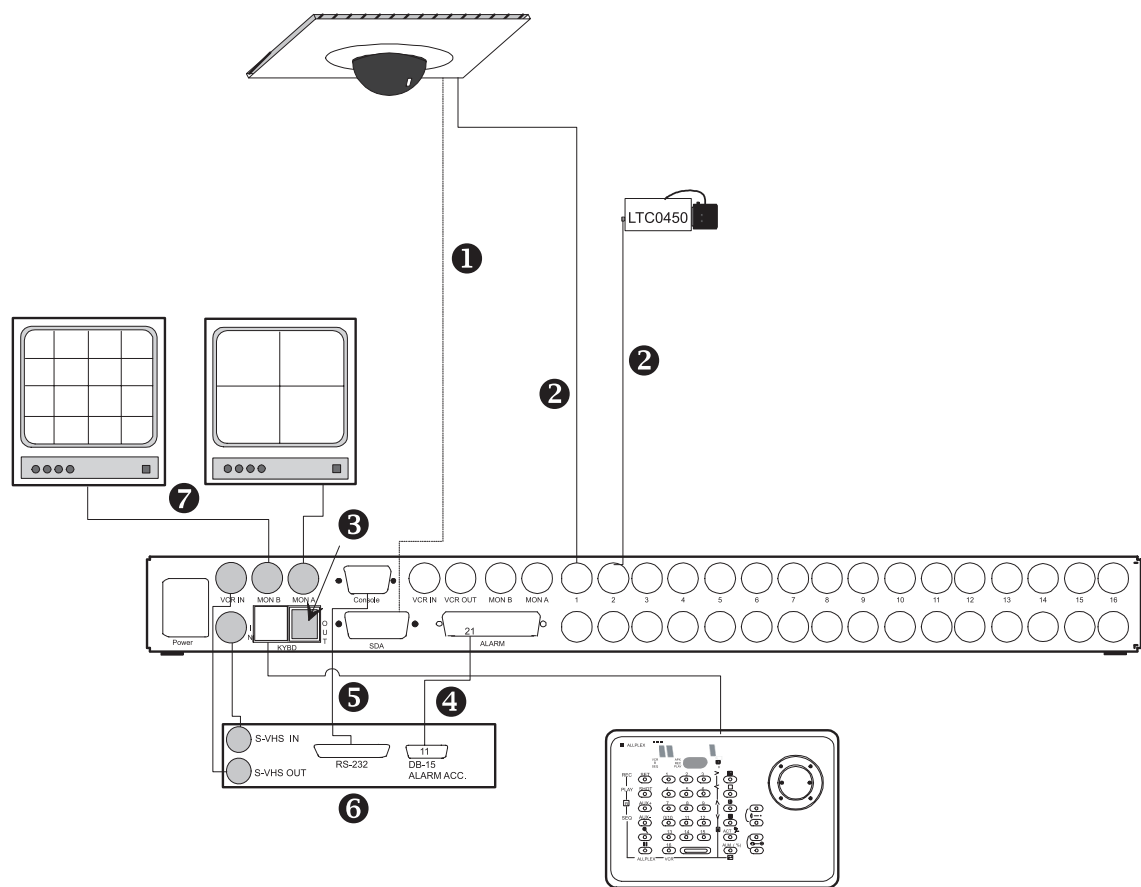
A Log Events feature tracks event history and a console port allows PC control of the system, full duplex VCR control including remote VCR setup and a time/date/search function to reduce tape viewing time, or interaction with Access Control Systems and Bosch LTC 2650/00 Graphical User Interface (GUI) software packages.

Today's growing business demands security that is sophisticated, reliable and easy to use. From discount stores to commercial offices, System4 intelligently provides a multifunction system capable of handling up to 9 or 16 camera inputs with switching and multiplexer control, pan/tilt/zoom, and VCR control in one compact unit.

Certifications and Approvals

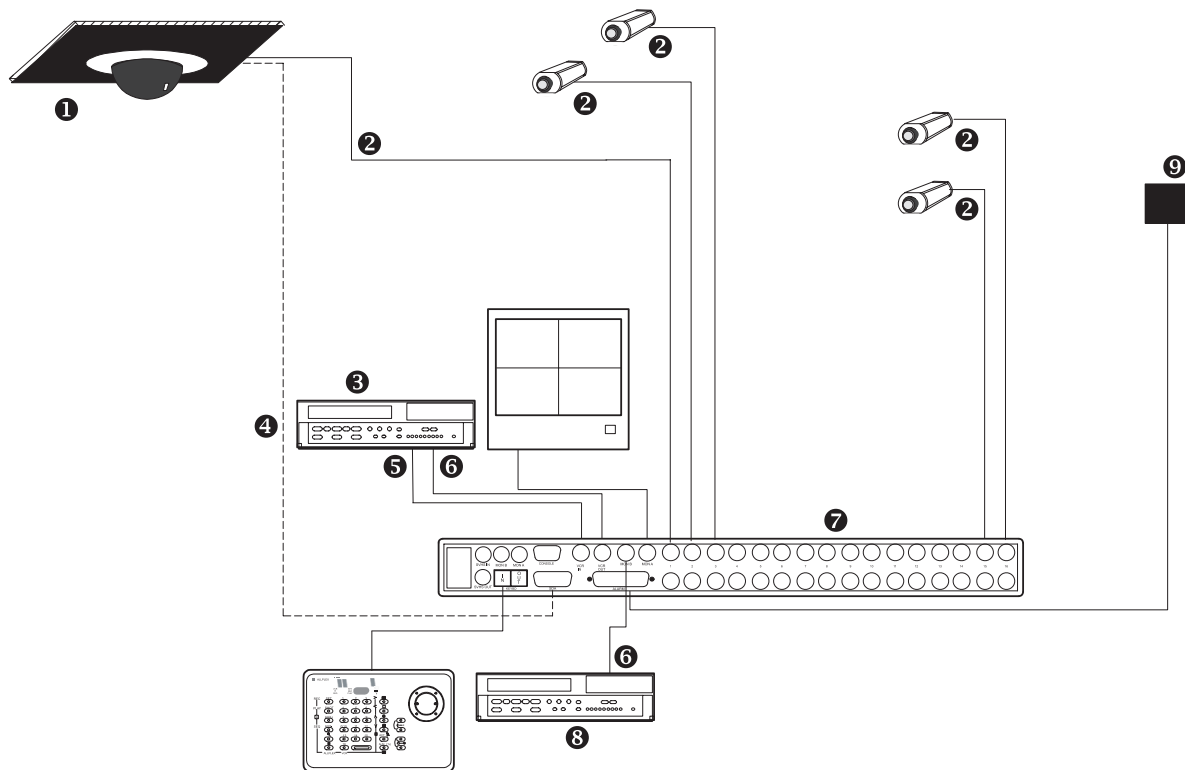
Electromagnetic Compatibility (EMC)	CE Immunity, CE Emission Class A, FCC Class A
Safety	CE, UL, cUL

Installation/Configuration Notes



System4 Triplex, Typical Operation

1	Data
2	Video
3	Terminated Resistor
4	VEXT Connection 21 to 11 and 25 to 15 (GND)
5	S1383
6	S-VHS Type VCR
7	S-VHS Video



System 4, Typical Configuration

1	AutoDome
2	Video
3	Record/Playback VCR
4	Data
5	Out
6	In
7	Up to 16 Cameras
8	Recording VCR
9	PIR Sensor

Simultaneous Recording to Two VCR's (Triplex Operation)

The LTC 2682 provides two independent VCR outputs; each output can be programmed to encode camera sequences. Using the LTC 2682 in this mode offers the flexibility to distribute the number of cameras between two VCRs to provide a fast update rate for each camera. Two VCRs may also be programmed so that one VCR may be used for normal encoding while the other is used for action/alarm encoding. In this triplex mode of operating, Monitor A always displays the image in multi-screen, quad, full, or multiple cameras in a sequence mode.

Technical Specifications

Electrical

Model No.	Description	Voltage Range	Power/ Current
LTC 2672/90	9-channel Triplex	108 to 253 VAC, 50/ 60 Hz	30 W/0.3 A

Electrical

LTC 2682/90	16-channel Triplex	108 to 253 VAC, 50/ 60 Hz	30 W/0.5 A
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Synchronization

Full time-based correction	
Monochrome	625 line, 50 Hz, CCIR
Monochrome	525 line, 60 Hz, EIA RS-170
Color	625 line, 50 Hz, PAL
Color	525 line, 60 Hz, NTSC

Digital Memory

720 H x 576 V
AGC: Automatic or manual adjustment for each video input. Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Operating Modes

Simultaneous record and multi-screen viewing on both monitors. Simultaneous record and playback and multi-screen viewing.

Display Modes

Live	
Monitor A	Full, quad, or multi-screen display
Monitor B	Full (alarm or action call-up only), quad, or multi-screen display

Playback	
Monitor A	Full, quad, or multi-screen display
Monitor B	Full

Controls and Indicators - Front panel

Inputs

Camera	9 (16) inputs; 18 (32) BNC connectors, automatic looping termination BNC
VCR IN	One (1) BNC
VCR IN	One (1) Y/C

Electrical

Outputs

Monitor A	One (1) BNC
Monitor B	One (1) BNC
VCR OUT	One (1) BNC
Monitor A	One (1) Y/C
Monitor B	One (1) Y/C
VCR OUT	One (1) Y/C

Connectors

Power	IEC socket, 3-wire power cord with grounded plug; 1.8 m (6 ft)
Accessory Inputs/Out-puts	One (1), 25-pin D-type connector for alarms and accessories
Alarm Inputs	9 (16) individually selectable NO or NC alarm

Inputs

Relay Output	Three (3) relay outputs (selectable NO or NC), one (1) for action/alarm (VCR # 1), one (1) for action/alarm (VCR # 2) and one (1) for video loss (These relay contacts handle up to 1 A at 40 VAC/VDC)
SDA	15-pin D type for 5 Bi-Phase outputs
Console	9-pin D type for RS-232 controls
VEXT inputs	Two (2)

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal case.
Dimensions (W x H x D)	440 x 305 x 40 mm (17.3 x 12 x 1.7 in.)
Weight	5 kg (11 lb)
Rack Mount Kit (Included)	For mounting one unit in an EIA 48 cm (19 in.) rack

Environmental

Operating Temperature	10°C to 55°C (50°F to 131°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Humidity	0% to 90% relative, non-condensing

Ordering Information

LTC 2682/90 Video Management System 16 channel multiplexer, color and B&W, triplex, 105-253 VAC, 50/60 Hz	LTC2682/90
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Accessories

LTC 2601/00 Keyboard for 6Plex and System4, with push button PTZ control	LTC2601/00
LTC 2604/50 Keyboard Port Expander Unit System4, 230 V, 50 Hz	LTC2604/50
LTC 2609/00 System4 Extension Kit links up to six (6) System4 Multiplexers, 90 units	LTC2609/00
LTC 2650/00 Graphical User Interface (GUI) Graphical User Interface for programming and controlling	LTC2650/00

Ordering Information

LTC 2605/91 System4 Video Manager for use with Divar and System 4 Multiplexers, 105-253 VAC, 50/60 Hz	LTC2605/91
S1383 VCR Control Cable VCR control cable for mux to VCR	S1383
LTC 8558/00 Keyboard Cable optional, 30.5 m (100 feet)	LTC8558/00

LTC 2605/91 Video Manager



Features

- ▶ Centralized monitors and multiplexer operation
- ▶ Controls up to 16 Divar Digital Video Recorders or System4 Multiplexers
- ▶ Uses up to four keyboards with optional port expander
- ▶ Auto-sensing setup - no user programming required

The LTC 2605/91 Video Manager provides advanced switching capability in system configurations that incorporate either Divar Digital Video Recorder devices or System4 Series Multiplexer devices. The unique video management capability of this unit reduces the number of monitors required in the system. This way, a single control station can easily control up to sixteen connected devices.

The Video Manager supports up to six monitor outputs, and using the LTC 2604 Series Keyboard Port Expander, it can accommodate up to four independent keyboards. Each keyboard is able to direct switching of the devices, mode selection, programming, and pan/tilt/zoom functions on the monitors under its control. When using the Video Manager with at least one IntuiKey Series keyboard, automatic alarm switching is supported. Two of the Video Manager’s monitor outputs can be connected to dedicated monitors for automatic display of alarm video from any of the devices during alarm conditions. When alarms are not present, these monitor outputs simply generate a black raster signal.

By design, system setup of the Video Manager is quick and easy - just plug it in and it is ready to operate.

Functions

Operation is simple: As shown in the following figures, the Video Manager accepts the Monitor A and Monitor B outputs from each of the video devices. Using the system keyboard, the system intelligently routes the video outputs from any one of the sixteen devices, to a dedicated pair of monitor outputs.

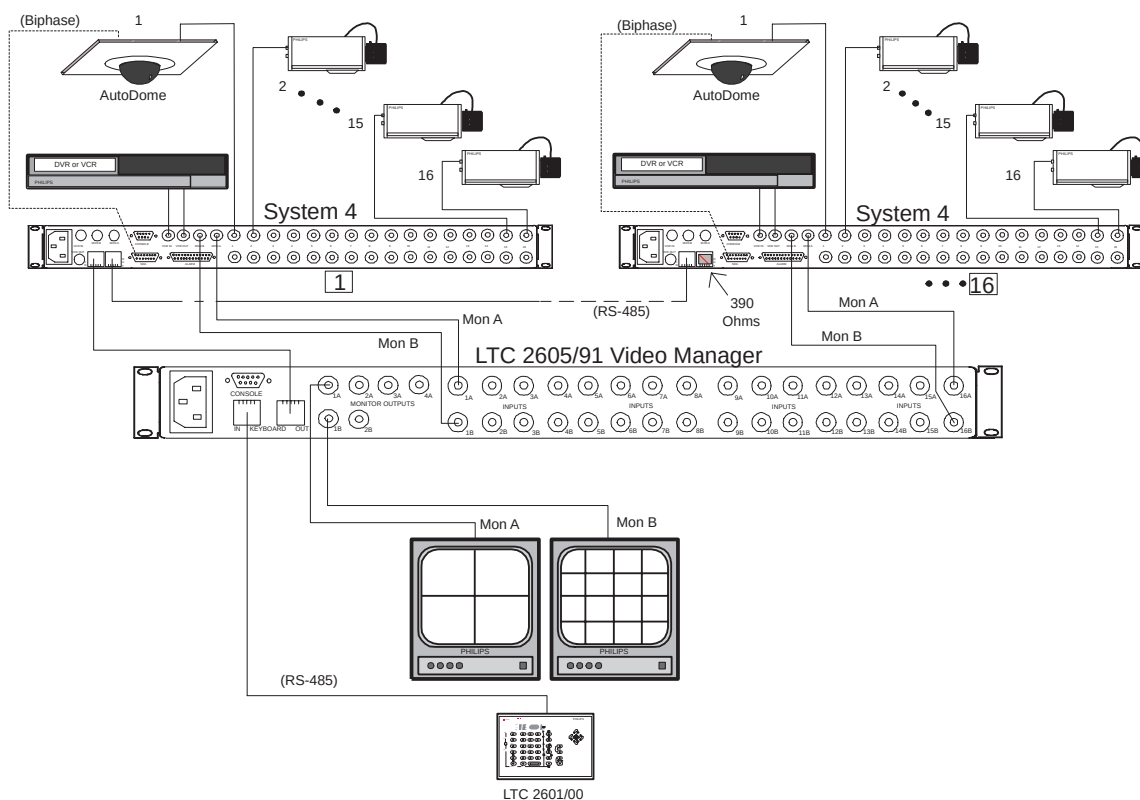
When using two keyboards, the system intelligently routes the video outputs from any of the sixteen devices to two pairs of monitor outputs. Each keyboard has independent control of the video from any of the devices to its associated monitor pair.

Adding a third keyboard to the system allows video to be routed from any of the devices to a third station having a single monitor. Complete control over this monitor is available using the keyboard dedicated to the station. Connection of a fourth keyboard provides similar functionality to a monitor at a fourth monitoring station. As before, complete control over this monitor is available using the keyboard at this location.

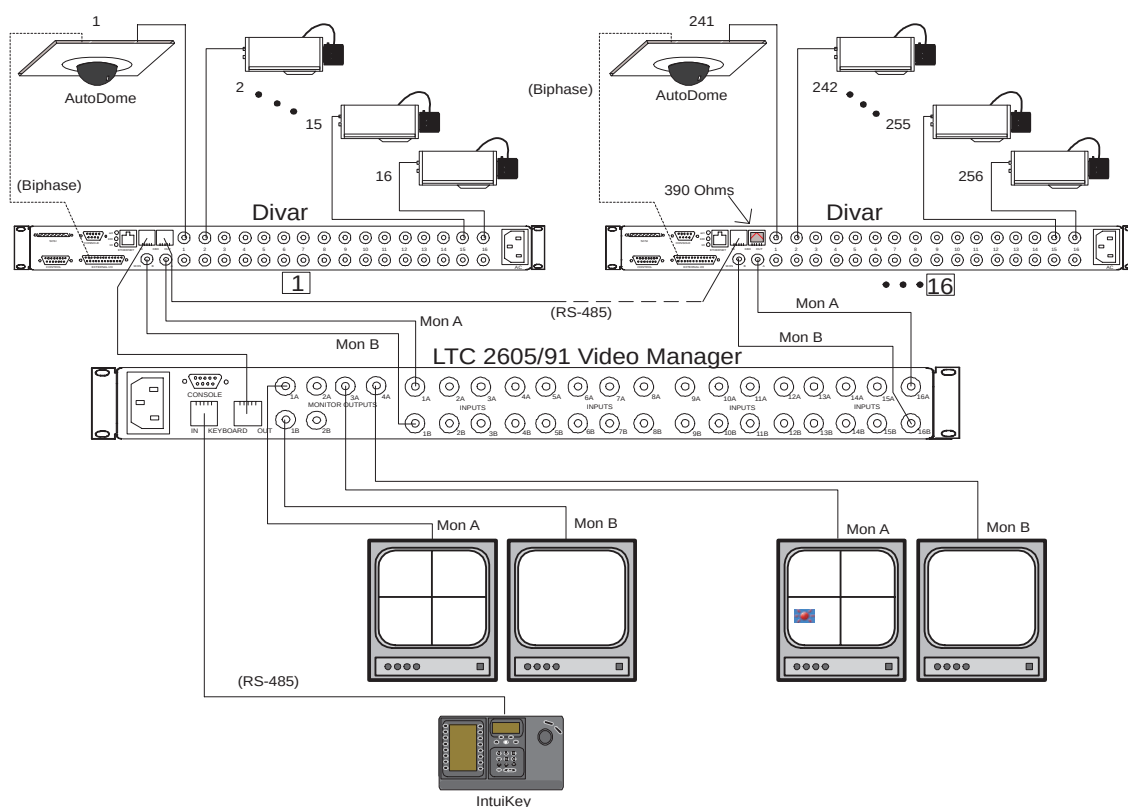
Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

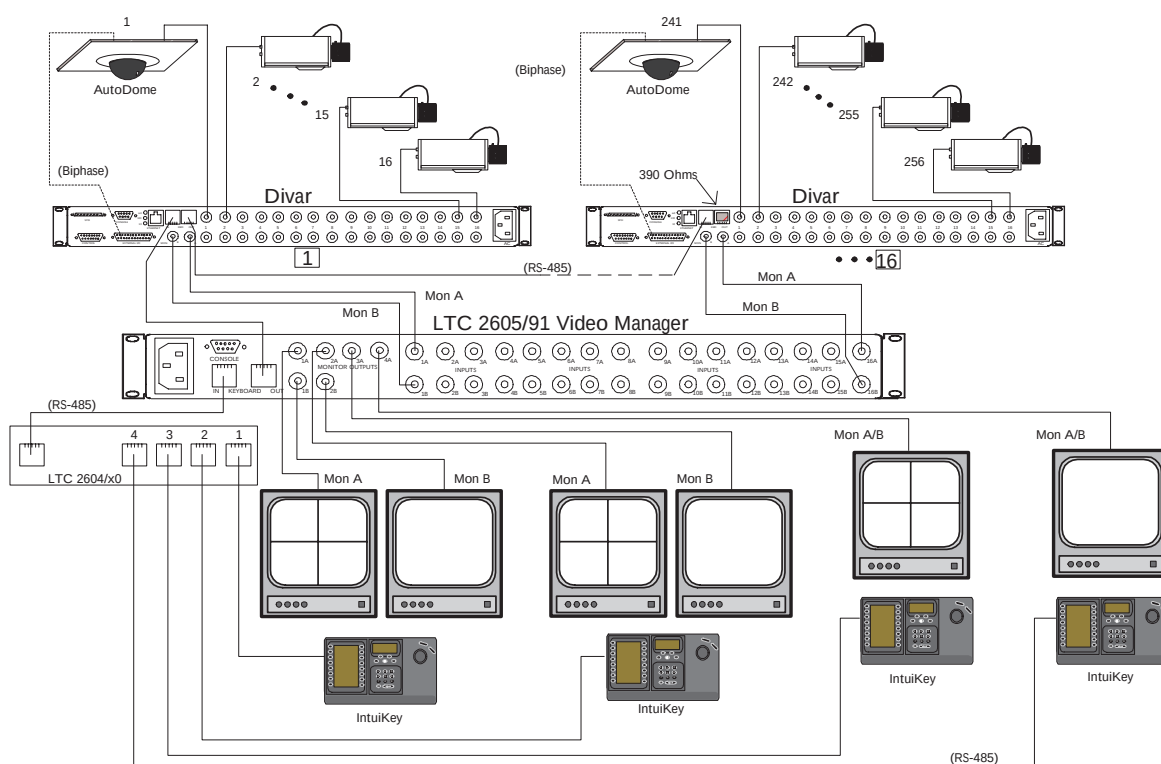
Installation/Configuration Notes



LTC 2605/91 Video Manager with System4 Multiplexers and
LTC 2601/00 Keyboard



Video Manager with Divar Digital Video Recorders Including Alarm Monitor Pair



LTC 2605/91 Video Manager with Divar Digital Video Recorders and 4 Keyboard Control Stations

Parts Included

Quantity	Component
1	LTC 2605/91 Video Manager

Technical Specifications

Electrical

Model Number	LTC 2605/91
Voltage Range ¹	108 to 253, 50/60 Hz
Power at Rated Voltage	10 W

1. Unit contains a switching power supply.

Synchronization	Accepts PAL, CCIR, NTSC, and EIA RS-170
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Connectors	Video inputs and monitor outputs: 32 BNC Monitor connections: 6 BNC
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External Accessory Interfaces

Console	Not used
Keyboard	Two (2) RJ-11

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal
Dimensions (W x D x H)	440 x 305 x 44 mm (17.3 x 12 x 1.73 in.)
Weight	4 kg (8.8 lb)

Environmental

Operating Temperature	4°C to 55°C (40°F to 131°F)
Storage Temperature	-40°C to +60°C (-40°F to 140°F)
Humidity	0%–95% relative, non-condensing

Ordering Information

LTC 2605/91 Video Manager	LTC2605/91
for use with Divar and System4 Multiplexer, 120/230 VAC, 50/60 Hz	

LTC 51x1 Series 2- and 4- position Economical Sequential Switchers

Certifications and Approvals

Electromagnetic Com-	EMC Requirements: CE Immunity, CE Emission Class
patibility	B, FCC Class B, ICES-003
Safety	CE, UL, cUL

6



Features

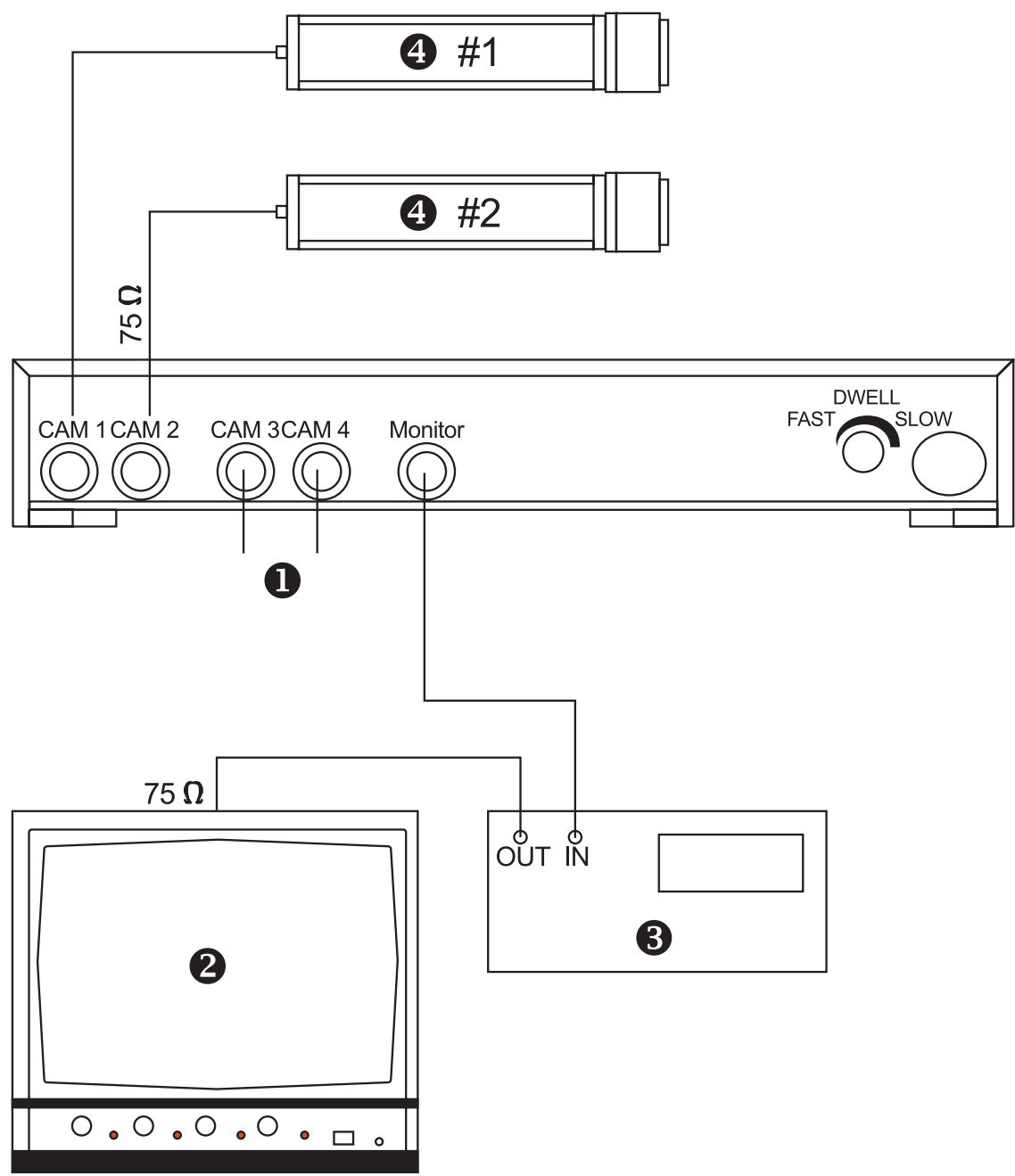
- ▶ Automatic sequencing and adjustable dwell
- ▶ Vertical interval switching
- ▶ Instant homing and automatic skip
- ▶ LED indicators
- ▶ Optional rack mounting
- ▶ Color compatible

The LTC 5121 Series and LTC 5141 Series are automatic sequential video switchers. The LTC 5121 Series have 2-camera inputs and 1-monitor output; the LTC 5141 Series have 4-camera inputs and 1-monitor output. The LTC 5121/60 and the LTC 5141/60 operate from 120 VAC, 50/60 Hz; the LTC 5121/50 and the LTC 5141/50 operate from 220–240 VAC, 50/60 Hz.

Functions

These switchers feature automatic sequencing, adjustable dwell time, vertical interval switching, instant homing, camera indicators, and automatic skip. These units automatically sequence from camera to camera; dwell time is adjustable from 2 to 45 seconds. Vertical interval switching is provided to reduce picture distortion during automatic sequencing. Any camera can instantly be called up using the camera selection buttons. Camera indicators are provided to indicate the currently selected camera. When camera inputs 3 or 4 are not used on the LTC 5141 Series, the unused camera input(s) will automatically be skipped during automatic sequencing. Simple front panel controls include RUN and camera-select pushbuttons for easy operation. An adjustable DWELL control is provided on the back panel. Supplied as compact desktop units, these switchers can also be mounted with a rack-mount kit.

Installation/Configuration Notes



Typical Installation

1	Additional Cameras
2	Main Monitor
3	Time Lapse VCR
4	Camera

Technical Specifications

Electrical			
Model No.	Rated Motor Voltage	Voltage Range	Power at Rated Voltage
LTC 5121/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5121/50	230 VAC, 50/60 Hz	198 to 204	4 W
LTC 5141/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5141/50	230 VAC 50/60 Hz	198 to 204	4 W

Electrical**Synchronization**

LTC 5121/60	525 line, 60 Hz; EIA, NTSC system compatible
LTC 5141/60	
LTC 5121/50	625 line, 50 Hz; CCIR, PAL system compatible
LTC 5141/50	
Dwell Range	Approximately 2 seconds to 45 seconds
Video Gain	Unity
Bandwidth (–3 dB point)	12 MHz minimum
Differential Gain	Less than 0.5%
Differential Phase	Less than 1.5°
Video Crosstalk (Input to Input Isolation)	45 dB typical at 3.58 MHz
Video Feed-through (Input to Output Isolation)	–42 dB typical at 3.58 MHz

Controls

Momentary RUN pushbutton
Momentary pushbuttons for each camera selection
DWELL potentiometer on rear panel

Indicators

Green RUN LED indicates automatic sequencing mode
Green LEDs indicate each camera input

Connectors

Video Inputs	
Signal Input Range	0.5 Vp-p to 2 Vp-p, 75 Ohm
LTC 5121 Series	Two (2), BNC
LTC 5141 Series	Four (4), BNC.
Video Outputs	One (1), BNC, 75 Ohm

Mechanical

Finish	Charcoal
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11.0 x 1.59 in.)
Height	One (1) standard rack unit
width	1/2 standard rack unit
Weight	2 kg (4.5 lb)

Environmental**Temperature**

Operating	–18°C to 50°C (0°F to 122°F)
Storage	–40°C to 60°C (–40°F to 140°F)
Humidity	10% to 80% relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 ms, 1/2 sine
Humidity	10% to 80% relative, non-condensing

Options

LTC 9101/00	For mounting one or two units in an EIA 48 cm (19 in.) rack
Rack Kit	
Height	One (1) standard rack unit
Width	One (1) standard rack unit

Ordering Information

LTC 5121/50 2-position Economical Sequential Switchers	LTC5121/50
2 camera input, 1 monitor output, 230 VAC, 50 Hz	
LTC 5121/60 2-position Economical Sequential Switchers	LTC5121/60
2 camera input, 1 monitor output, 115 VAC, 60 Hz	
LTC 5141/50 4-position Economical Sequential Switchers	LTC5141/50
4 camera input, 1 monitor output, 230 VAC, 50 Hz	
LTC 5141/60 4-position Economical Sequential Switchers	LTC5141/60
4 camera input, 1 monitor output, 115 VAC, 60 Hz	

LTC 510x Series 4- and 8- position Premium Sequential Switchers



Features

- ▶ Microprocessor-based
- ▶ On-screen status line and setup menus
- ▶ 16 character camera titles
- ▶ Programmable dwell times and alarm dwell/capture time
- ▶ Automatic termination
- ▶ Foreign language on-screen menus available

The LTC 5104 Series and LTC 5108 Series are automatic sequential video switchers. The LTC 5104 Series have 4-camera inputs and 1-monitor output; the LTC 5108 Series have 8-camera inputs and 2-monitor outputs. All models are microprocessor-based.

Functions

The auto-terminating BNC connectors eliminate the need for the user to select a 75 Ohm terminated video input or high impedance, un-terminated video input with looping video output. The switcher sets itself correctly for either situation. The looping video output allows another piece of equipment to be connected to the same video line.

Features include a 16-character camera title, nonvolatile memory back-up, on-screen status line, on-screen configuration menus in English, French, German, and Spanish (11 for the LTC 5104 Series and 12 for the LTC 5108 Series), and a SMART Setup. The status line displays the present camera number, the operation status, and camera title. There are five operation status notations:

- S – skipped camera displayed
- RUN – sequence running
- MA – monitor armed
- ALARM – alarm closure call-up

- HOLD – camera held.

The Configuration Menus include Dwell Adjust, Operating Mode (LTC 5108 Series only), Alarm Reset Mode, Alarm Capture, Capture Time, Alarm Dwell Time, Alarm Contacts Option, Status Line, Brightness and Background of titles, Display Position, System Reset, and Camera Title. The VideoSearch™ feature detects any camera inputs without video and sets them to be skipped.

These versatile switchers provide individually or globally adjustable camera dwell times from 1 to 64 seconds. Automatic camera call-up can be activated by motion detectors or remote alarm closures. Alarm contact can be selected either normally-open or normally-closed. Alarms override normal operating mode to home on alerted camera. Vertical interval switching gives roll-free viewing. An alarm output is provided to activate a VCR to record alarms. The minimum time that an alarm will be held once triggered (unless cleared or the alarm input is disabled) can be set to 1 to 63 seconds. Sequencing through multiple alarms can be set to occur at a dwell of 1 to 64 seconds.

Two modes of operation can be selected for the LTC 5108 Series switchers. The two modes only affect Monitor B; Monitor A continuously sequences regardless of mode. In the Sequencing Mode, Monitor B will show either an alarm call up of a camera, a camera under a HOLD condition or normal sequencing of cameras. In the Blanking Mode, Monitor B will show either an alarm call-up of a camera, a camera under a HOLD condition or a blank screen.

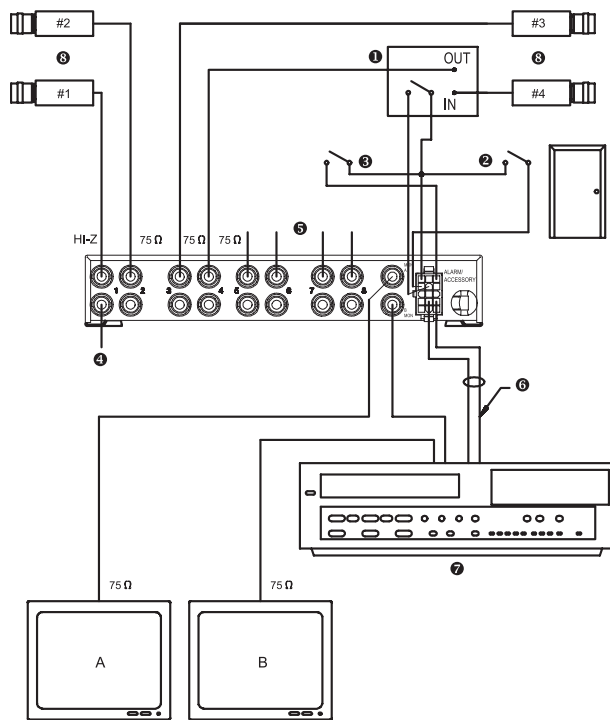
Simple front panel controls insure easy operation. They include: a dwell button for a dwell adjust menu; select buttons to select each channel; a skip/clear button to skip channels or to clear alarms; an alarm button to arm the monitor (Monitor B for the LTC 5108 Series); and a run button to initiate auto-sequencing or to select the next camera in the sequence.

Supplied as compact desk-top units, these switchers can also be mounted with a rack-mount kit. A 609 mm (24 in.) cable with 15-pin connectors is provided for connecting a motion detector or remote alarm closures to the switcher.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Installation/Configuration Notes



Typical Installation Using LTC 5108 Series Switcher

1	Motion Detector	5	Additional Cameras
2	Door Switch	6	Alarm Output Relay Closure
3	Smoke Detector	7	Video Recorder
4	To Terminated Auxiliary Monitor or Terminated Switcher	8	Cameras

Monitor A

Sequencing Mode

1. Normal sequencing of camera inputs

Blanking Mode

1. Normal sequencing of camera inputs

Monitor B

Sequencing Mode

1. Normal sequencing (same as Monitor A)

2. "HOLD" condition

3. "ALARM" condition

Blanking Mode

1. Blank screen

2. "HOLD" condition

3. "ALARM" condition

Technical Specifications

Electrical

Model No. ¹	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5104/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5104/50	230 VAC, 50/60 Hz	198 to 264	4 W

Electrical

LTC 5108/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 5108/50	230 VAC, 50/60 Hz	198 to 264	4 W

1 Models shown are for English on-screen menus model.

Switching Time	Less than 1 μ s
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Dwell Time	Each camera individually or globally set from 1 sec. to 64 sec.
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Alarm Dwell Time	1 sec. to 64 sec.
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Alarm Capture Time	1 sec. to 63 sec.
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Video Gain	Unity
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Bandwidth (–3 dB point)	5 MHz minimum
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Differential Gain	1% typical
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Differential Phase	1°
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Video Crosstalk (Input to input isolation)	–50 dB typical at 3.58 MHz
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Video Feedthrough (Input to output isolation)	–65 dB typical at 3.58 MHz
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Memory Back-Up	Nonvolatile memory back-up
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Controls

Front Panel	Momentary Push Button Controls: DWELL, SKIP/CLR, ALARM, RUN/NEXT, each video input
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Internal	Video input has automatic termination
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Indicators	ALARM, RUN/NEXT, each video input
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Titling	16-character camera titling
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Connectors

Video Inputs

0.5 Vp-p to 2 Vp-p	
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LTC 5104 Series	Four (4) inputs; 8 BNC connectors
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LTC 5108 Series	Eight (8) inputs; 16 BNC connectors
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Video Outputs

LTC 5104 Series	One (1), BNC 75 Ohm
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LTC 5108 Series	Two (2), BNC 75 Ohm
-----------------	---------------------

Alarm Inputs

LTC 5104 Series	Four (4)
-----------------	----------

LTC 5108 Series	Eight (8)
-----------------	-----------

Alarm Outputs

Isolated contact closures 1 A, 40 VAC/DC	
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Accessory Output²

2 One 15-pin alarm/accessory connector.

Mechanical

Cable (Included)	One cable with a 15-pin connector
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Finish	Gray
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Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11.0 x 1.59 in.)
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Weight	2 kg (4.5 lb)
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Environmental

Temperature

Operating	–18°C to 50°C (0°F to 122°F)
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Storage	–40°C to 60°C (–40°F to 140°F)
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Humidity	10% to 80% relative, non-condensing
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Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
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Shock	50 g, 11 ms, 1/2 sine
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Options

Environmental

LTC 9101/00 Rack Kit	For mounting one or two units in an EIA 22.86 cm (9 in.) rack
Height	One (1) standard rack unit
Width	One (1) standard rack unit

Ordering Information

LTC 5104/50 4-position Premium Sequential Switchers 4 camera input, 1 monitor output, 230 VAC, 50 Hz	LTC5104/50
LTC 5104/51 4-position Premium Sequential Switchers - French 4 camera input, 1 monitor output, 230 VAC, 50 Hz	LTC5104/51
LTC 5108/50 8-position Premium Sequential Switchers 8 camera input, 2 monitor output, 230 VAC, 50 Hz	LTC5108/50
LTC 5108/51 8-position Premium Sequential Switchers - French 8 camera input, 2 monitor output, 230 VAC, 50 Hz	LTC5108/51

LTC 2642/90, LTC 2662/90 Series Color Universal Video Multiplexers

6



Features

- ▶ User-friendly
- ▶ AutoSet startup
- ▶ High quality video image
- ▶ Digital motion detection
- ▶ Timed events feature
- ▶ Camera display lockout
- ▶ Compatible with all VCR types
- ▶ Decodes multiple recording formats

The Universal Multiplexer uses state-of-the-art technology to produce high quality, true-to- life color video images. Enhanced circuitry allows increased image accuracy and faster display rates without annoying on-screen-flickering (aliasing) common with multiscreen displays. These units can display any camera to either monitor A or B and include camera sequencing and alarm or action call-up. With an additional unique camera display lockout feature, the selected camera will not display on both monitors. However, selected video camera(s) will record in the background. These units can simultaneously record and view on multiscreens and can playback previously recorded tapes from 6 different manufacturers.

Functions

Furnished with a switching power supply, the Universal Multiplexer intelligently detects the input signal and input voltage and automatically sets the unit for PAL/NTSC or EIA/ CCIR. User-friendly controls make these units fast and easy to program and operate. An on-screen programming menu in English, French, German, Spanish, Dutch, or Italian is included. A Quick Setup feature or customized system configuration is available through the advanced setup program. Help screens guide the operator through the setup process.

When the AutoSet feature is enabled, the system automatically configures itself for recording, sequencing, and video loss listing based on the number of connected cameras. These multiplexers also include a Timed Events feature, which allows preprogrammed set up parameters, including the record functions, to be activated based on the time of day. Up to six separate operational settings can be programmed and stored in memory. To enhance the recording of cameras, the Digital motion Detection feature intelligently analyzes the motion content of all camera inputs and ensures that the camera(s) with motion are recorded as a priority. There are two modes of the activity detection, "exclusive" and "interleave" which are also operational under alarm conditions.

In addition, the Digital Motion Detection feature provides four levels of sensitivity, including direction sensing and a special walk-through setup to eliminate false alarms. A selectable audible buzzer is available in this mode. Additionally, these units include a wide selection of features such as front panel controls, synchronization with VCR head switching, freeze, 4X zoom, video loss indicators, alarm capture, password security protection, multirelay function outputs, and full function time and date with 16 character titling record capability. All units are compatible with standard VHS and Super VHS format Normal or High Density VCRs and require no external synchronization of camera inputs since they employ time-based correction in all modes.

Certifications and Approvals

Electromagnetic Require-ments (EMC)	CE Immunity, CE Emission Class A, FCC Class A
Safety	CE, UL, cUL

Technical Specifications

Electrical

Model No.	Description	Voltage Range	Power / Current
LTC 2642/90	9-channel Duplex	105 to 253, 50/60 Hz	30 W / 0.3 A
LTC 2662/90	16-channel Duplex	105 to 253, 50/60 Hz	30 W / 0.5 A

Synchronization

Full time-based correction	
Monochrome	625 line, 50 Hz, CCIR
Monochrome	525 line, 60 Hz, EIA RS-170

Electrical

Color	625 line, 50 Hz, PAL
Color	525 line, 60 Hz, NTSC

Digital Memory

720 H x 576 V	
AGC	Automatic or manual adjustment for each video input
Video Input Level	0.5 Vp-p to 2.0 Vp-p composite video signal

Operating Modes

Simultaneous record and multiscree viewing	
Simultaneous playback and multiscree viewing	

Display Modes

Live	
Monitor A and B	Full, quad, or multiscree display.
Monitor B	Full screen video viewing or sequence or alarm call-up monitors (during recording)
Playback	
	Full, quad, or multiscree display
	4X electronic zoom and freeze capability

Inputs

Camera	9 (16) inputs; 18 (32) BNC connectors, automatic looping termination BNC
VCR IN	One (1) BNC

Outputs

Monitor A	One (1) BNC
Monitor B	One (1) BNC
VCR OUT	One (1) BNC

Connectors

Power	IEC socket, 3-wire power cord with grounded plug; 1.8 m (6 ft)
Accessory Inputs/Outputs	One 25-pin D-type connector for alarms and accessories
Alarm Inputs	9 (16) individually selectable NO or NC alarm inputs
Relay Output	Two relay outputs (selectable NO or NC, one (1) for action/alarm and one (1) for video loss (the relay contacts handle up to 1 A at 40 VAC/VDC)
Vext Input	One (1)

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal case
Dimensions (W x D x H)	440 x 305 x 40 mm (17.3 x 12 x 1.7 in.)
Weight	5 kg (11 lb)
Rack Mount Kit (Included)	For mounting one unit in an EIA 48 cm (19 in.) rack

Environmental

Temperature:	
Operating	10°C to 55°C (50°F to 131°F)
Storage	-20°C to 60°C (-4°F to 140°F)
Humidity	0% to 90% relative, non-condensing

Ordering Information

LTC 2662/90 Color Universal Video Multiplexer	LTC2662/90
16 channel, color, duplex, 105 – 253 VAC, 50/60 Hz	

Integrated Series Allegiant Matrix/Control Systems



6

Features

- ▶ Models from 8 camera by 2 monitor to 32 camera by 6 monitor
- ▶ Compact single bay construction
- ▶ Integral alarm interface and signal distribution
- ▶ Powerful alarm handling features
- ▶ SalvoSwitching® and SatelliteSwitch® capability
- ▶ PC-based software package available

The LTC 8100 Series, LTC 8200 Series, and LTC 8300 Series Allegiant® video switcher/control systems combine both switching and computer technology to provide powerful performance and unique system features for the security user. Offering full matrix switching capability, these systems can be programmed to display the video from any camera on any monitor, either manually or via independent automatic switching sequences.

These systems provide from 8 camera inputs, 2 monitor outputs to 32 camera inputs, 6 monitor outputs, 2 to 4 keyboards, 8 to 32 direct connect alarm input points, an integral signal distribution unit, and a computer interface port. A logging printer port is available in the LTC 8300 Series systems.

These systems can be programmed with up to 60 sequences which can be run independently of each other in either a forward or reverse direction.

Any of the sequences can utilize the SalvoSwitching capability where any number of system monitors may be selected to switch as a group. Using the optional LTC 8059/00 Master Control Software package or the LTC 8850/00 Graphical User Interface software package, sequences can be made to activate and deactivate automatically based upon the time of day and the day of week.

Utilizing the unit's integral signal distribution ports, connections to on-site receiver/drivers are easily made. On-site receiver/drivers provide operator control of pan, tilt, zoom; multiple pre-positions; four auxiliaries; auto-pan, and random scan. These systems also support variable speed operation and full programming functions of AutoDome® Series dome cameras.

When combined with an LTC 8016 Allegiant Bilinx™ Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion™ and AutoDome® CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

With their built-in alarm interface capability, an external contact closure or logic level can be used to automatically activate any camera to be displayed. Any monitor or group of monitors can be set to display cameras under alarm conditions. The base system contains three built in alarm response modes: basic, auto-build, and sequence & display. In addition to these three modes, the PC-based software packages offer the ability to combine any or all of the three standard modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, a 16-character alarm title can be selected to appear instead of the camera title during alarm conditions.

System operation and programming is accomplished using a full-function, ergonomically designed keyboard (sold separately). Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

These systems include a black outlined 48-character on-screen display for time-date, camera number, camera ID (16-characters), an icon to identify controllable cameras, and monitor (12-characters) or status information. Over 235 characters are available when programming camera ID and monitor titles.

Utilizing a Windows®-based PC and the optional LTC 8059/00 Master Control Software package or LTC 8850/00 GUI software, enhanced programming and switching features can be obtained. A user-friendly spreadsheet format provides the ability to enter camera and monitor titles, program of operator names and priorities, 64 timed event actions, change system parameters, program camera sequences, install lockouts, and access the advanced alarm handling screens with speed and efficiency. The programmed information may then be transferred into the Allegiant system, stored on disk, or printed out directly from a printer connected to the PC.

The LTC 8850/00 Bosch GUI software is designed around an intuitive graphic-based interface. The GUI provides high performance programming, control and monitoring of all system functions by using on-screen icons to reflect real time status of the devices controlled by the system. The LTC 8850/00 GUI software also provides the ability to monitor system status events. System alarms, switching functions, sequence events, keyboard actions, and video loss information can be viewed in real time on the PC screen and, if desired, logged to the PC hard drive.

The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras.

The LTC 8300 Series contain a logging printer output port which accepts a standard RS 232 serial printer. This provides a permanent record of system status showing time and date for changes such as: incoming alarms, acknowledgment of alarms, sequence loading, user log-on to keyboard, transfer of system tables and sequences, video loss messages, and a power up reset message. In addition, the printer can be used to obtain a hard copy of the system's configuration tables and sequences.

These systems provide powerful macro capabilities. The macros can be activated using Allegiant Series keyboards, system time event functions, alarm activations, and via special function icons in the LTC 8850/00 GUI software.

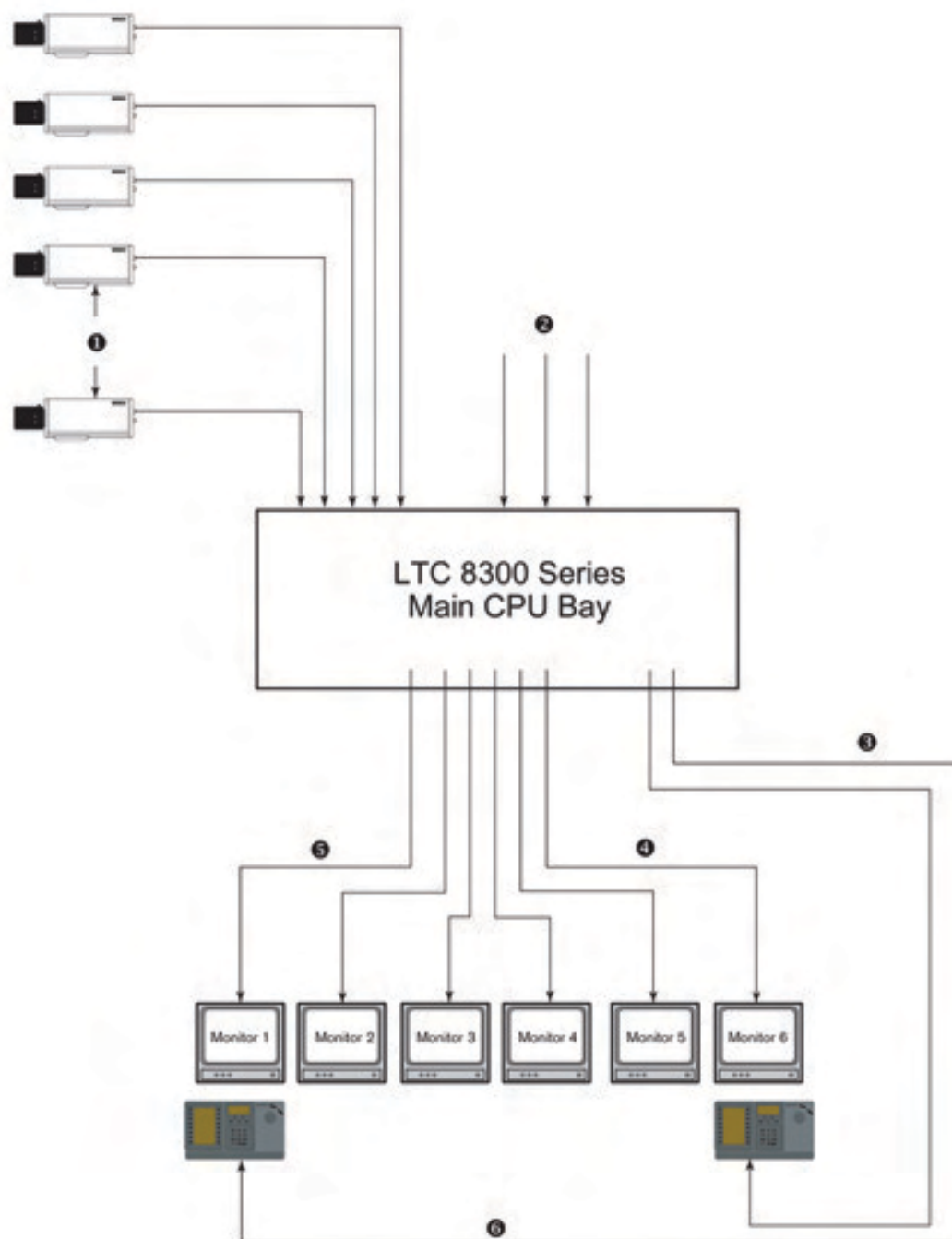
These systems can serve as the master switcher in a SatelliteSwitch[®] configuration. This innovative SatelliteSwitch feature enables a single system to communicate with remotely located "Satellite" systems. Any Allegiant model can serve as a master or remote Satellite switcher. This powerful feature permits the design of a distributed matrix video switching system with control at one central location and individual control at the local sites. The main control site can view/control local cameras plus cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view/control only cameras associated with their own site. When used in this type of configuration, the main system can access up to 256 cameras located anywhere in the system.

Windows is a registered trademark of Microsoft Corp.

Certifications and Approvals	
Electromagnetic Com- patibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

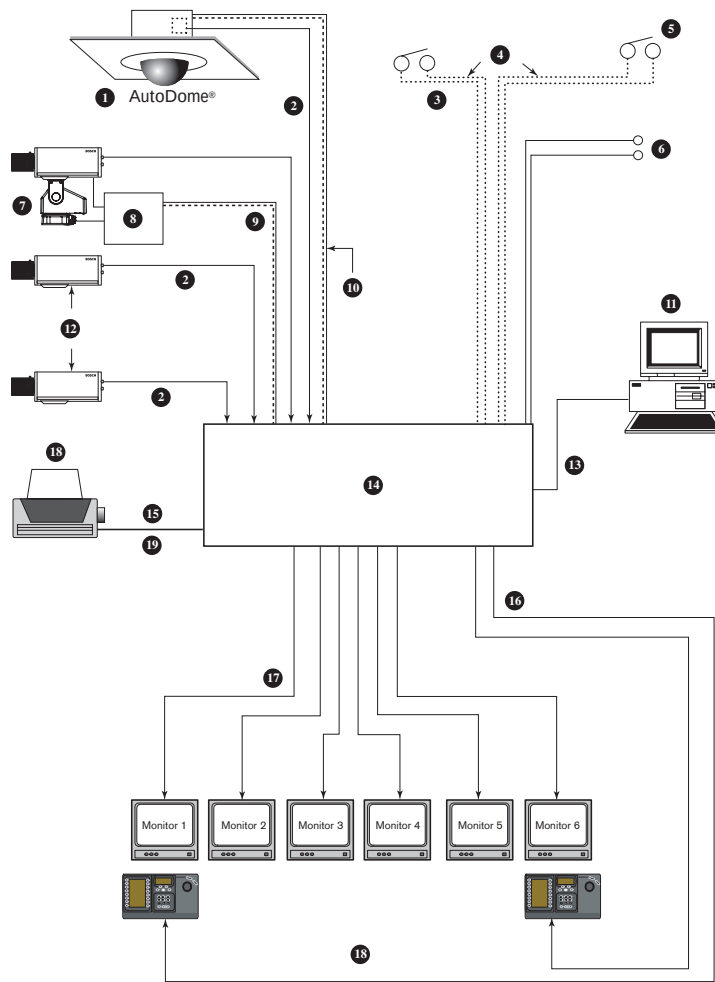
Installation/Configuration Notes

6



Typical LTC 8300 Series Configuration Diagram

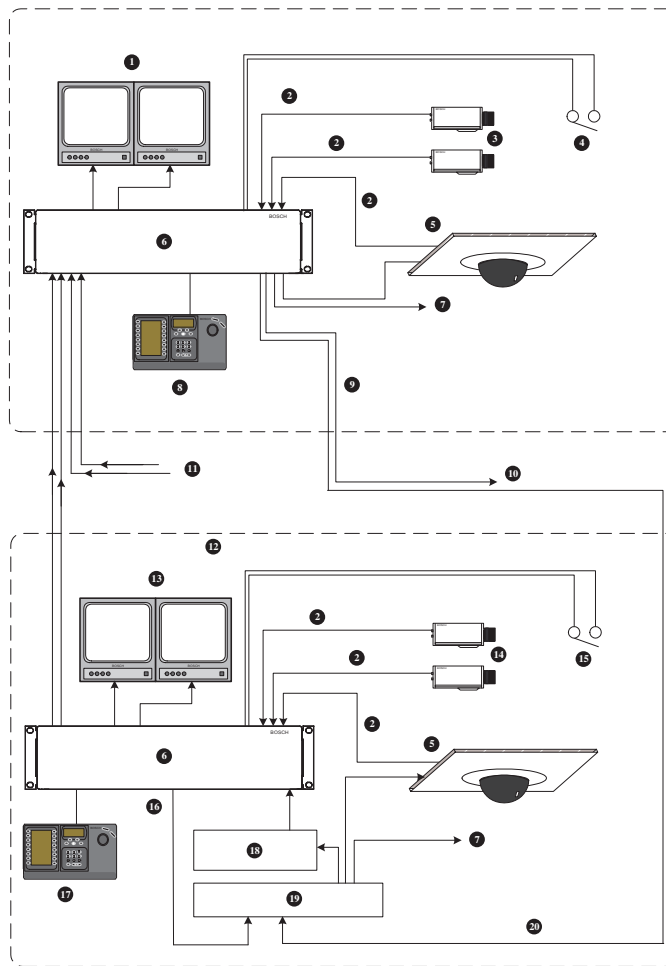
- | | |
|---|---|
| 1 | Additional System Cameras |
| 2 | Up to 32 Video Inputs Maximum |
| 3 | 3 m (10 ft) Interconnect Cable Supplied with Keyboard |
| 4 | Video Coax |
| 5 | Up to six (6) Monitor Outputs |
| 6 | Maximum of four (4) Allegiant Series Full Function Keyboards up to 1.5 km (5000 ft) Away Using Optional Remote Hookup Kit |



*LTC 8300 Series Full Capacity Configuration Diagram
(32 Cameras by 6 Monitors)*

01	Typical AutoDome Camera	07	Pan and Tilt
02	Video Coax	08	Receiver/Driver
03	Twisted-Pair Typical	09	Up to 32 Receiver/Driver Units
04	32 Separate Alarm Inputs	10	Up to 1.5 km (5000 ft) Using 18 AWG Shielded Twisted Pair Cable (Belden 8786 or Equivalent)
05	Contact Closure or Active Low Logic Level	11	Optional LTC 8059/00 Master Control Software or LTC 8850/00 Graphical User Interface (GUI) Software Package can be Run on a Windows® based PC
06	Six (6) Pairs of Relay Outputs	12	Additional System Cameras

13	3 m (10 ft) RS-232 Interface Cable provided with Optional Software Package	16	3 m (10 ft) Interconnect Cable Supplied with Keyboard
14	LTC 8300 Series Main CPU	17	Up to six (6) Monitor Outputs
15	Serial RS-232 Logging Printer	18	Maximum of Four (4) Allegiant Series Full-Function Keyboards up to 1.5 km (5000 ft) Away Using Optional Remote Hookup Kit



Typical Main Allegiant Control Center

01	Typical System Monitors (Local and/or Remote Video)	11	Incoming Video TRUNK Lines From All Satellite Sites
02	Video	12	Typical Allegiant Satellite Site
03	Typical Fixed Cameras	13	Typical Local Monitors (Local Video Only)
04	Typical Alarm Input Contact to Activate Local or Satellite Cam- eras	14	Typical Fixed Cameras
05	Typical Controllable Camera	15	Typical Alarm Input Contact (For Local Alarms Only)
06	Typical LTC 8100, LTC 8200, or LTC 8300 Allegiant System	16	Bi-Phase Data
07	Bi-Phase Data Lines to All Lo- cal PTZ Camera Sites	17	IntuiKey Keyboard (PTZ Control of Local Cameras Only)
08	Typical IntuiKey Keyboard	18	LTC 8780 Data Converter
09	Bi-Phase Control and Satellite Switching Data	19	LTC 8569 Code Merger
10	One (1) Bi-Phase Data Line to Each Remote Satellite Site	20	Bi-Phase Control + Satellite Data

Technical Specifications

System

Capacities

Model No.	LTC 8100	LTC 8200	LTC 8300
Video Inputs (Standard)	8	16	32
Video Inputs (Looping)	8	16	32
Video Inputs (Satellite)	256	256	256
Video Outputs	2	5	6
Alarm Inputs	8	16	32
Alarm Outputs	2	5	6
Bi-Phase Outputs	8	12	16
Keyboards	2	4	4
RS-232 Ports (Console)	1	1	1
RS-232 Ports (Printer)	0	0	1
Receiver/Drivers (Standard)	8	16	32
Receiver/Drivers (Satellite)	256	256	256

Electrical

Input Voltage Level	0.5 Vp-p to 2 Vp-p (Composite Negative Sync)
Gain	Unity ± 2% (75 Ohm terminated)
Pulse/Bar Ratio ¹	94% to 106%

Electrical

2T Pulse K Factor ¹	2.5% maximum
Bar Amplitude ¹	96% to 106%
Field Time Waveform Distortion ¹	2% maximum
Line Time Waveform Distortion ¹	1% maximum
Short Time Waveform Distortion ¹	2% maximum
Video Bandwidth (-3 dB) ²	22 MHz
Frequency Response ²	± 1.0 dB to 10.5 MHz
Signal-to-Noise ¹	60 dB at 3.58 MHz unweighted minimum (Typical at 3.58 MHz)
Crosstalk (Adjacent Channel)	-52 dB at 3.58 MHz
Differential Gain ¹	2% maximum
Differential Phase ¹	1.3° maximum
Chrominance Luminance Gain ¹	96% to 104%
Chrominance Nonlinear Phase ¹	2° maximum
Luminance Nonlinearity ¹	4% maximum
Switching	Crosspoint matrix
DC Output	0 V

¹ Meets EIA/TIA - 250C Medium Haul Standard.

Environmental

Operating Temperature	4°C to 55°C (40°F to 131°F)
Storage Temperature	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0% to 95% relative, non-condensing

LTC 8100, LTC 8200, LTC 8300 Series Bay**Electrical**

Model No.	Voltage Range	Nominal Power ²
LTC 8100/90	108 to 253 VAC, 50/60 Hz	15 W
LTC 8200/90	108 to 253 VAC, 50/60 Hz	17 W
LTC 8300/90	108 to 253 VAC, 50/60 Hz	18 W

² Power at rated voltage fully loaded.

Connectors	
Video Inputs and Monitor Outputs	BNC
Looping Video Connections	
LTC 8100 Series	8 BNC
LTC 8200 Series	One 34-pin ribbon connector used with the LTC 8808/00 video interconnect panel (not included)
LTC 8300 Series	Two 34-pin ribbon connectors used with the LTC 8808/00 video interconnect panel (not included)

External Accessory Interfaces

CONSOLE	RS-232 port for external PC or control interface (default = 19,200 baud) 9-pin D-type connector
ALARMS	Inputs use removable screw terminal connectors. Relay outputs provide alarm output connections. (Contact rating = 1.5 A at 30 VDC)
PRINTER (LTC 8300 Series only)	RS-232 port for system logging printer (Default = 19,200 baud) 9-pin D-type connector

External Accessory Interfaces

BIPHASE OUT	Multiple ports provide receiver/driver connections when used in a daisy chain configuration. Removable screw terminal connector blocks.
KEYBOARDS	6-pin RS-485 ports for Allegiant keyboard use

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal
Dimensions	
LTC 8100, LTC 8200 Series (H x D x H)	440 x 305 x 40 mm (17.3 x 12 x 1.7 in.)
LTC 8300 Series (H x D x H)	440 x 305 x 89 mm (17.3 x 12 x 3.5 in.)
Weight	
• LTC 8100, LTC 8200 Series	4 kg (8.8 lb)
• LTC 8300 Series	4.8 kg (10.7 lb)
Rack Mount (Integral)	Brackets for mounting one unit in a 48 cm (19 in.) EIA rack
• LTC 8100, LTC 8200 Series	One (1) standard rack unit high
• LTC 8300 Series	Two (2) standard rack units high

Accessories

The Allegiant accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboards, keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, and code merger units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

Ordering Information

LTC 8100/90 Allegiant Matrix Switcher	LTC 8100/90
8 camera inputs/2 monitor outputs, incl. Bi-phase outputs and alarm contacts, 108 to 253 VAC, 50/60 Hz	
LTC 8200/90 Allegiant Matrix Switcher	LTC 8200/90
16 camera inputs/5 monitor outputs, incl. Bi-phase outputs and alarm contacts, 108 to 253 VAC, 50/60 Hz	
LTC 8300/90 Allegiant Matrix Switcher	LTC 8300/90
32 camera inputs/6 monitor outputs, incl. Bi-phase outputs and alarm contacts, 108 to 253 VAC, 50/60 Hz	

LTC 8500 Series Allegiant Matrix/Control Systems - Modular

6



Features

- ▶ 64 Camera by 8 monitor switching
- ▶ 8 Independent keyboards
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ PC-based software package available

The LTC 8500 Series Allegiant Video Switcher/Control Systems combine both switching and computer technology to provide powerful performance and unique system features for the security user. Offering full matrix switching capability, these systems can be programmed to display the video from any camera on any monitor, either manually or via independent automatic switching sequences.

The LTC 8500 Series provide versatile modular construction accommodating up to 64 camera inputs, 8 monitor outputs, 8 keyboards, 128 alarm points, a computer interface port, and a logging printer port.

Functions

Sequencing Capabilities

These systems can be programmed with up to 60 sequences which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the Salvo Switching capability where any number of system monitors may be selected to switch as a group. Using the optional LTC 8559/00 Master Control Software package or LTC 8850/00 GUI Allegiant Server, sequences can be made to activate and deactivate automatically based upon the time of day and the day of week.

Camera Control

On-site receiver/drivers permit operator control of pan, tilt, zoom, multiple pre-positions, four auxiliaries, auto-pan, and random scan. An integral local test function is also a standard feature. The LTC 8500 Series also supports variable speed operation and full programming functions of AutoDome series dome cameras.

Bilinx[®] Capability

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switchers/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bi-directional communication protocol embedded in the video signal of Bosch Dinion and AutoDome[®] CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

Macro Capabilities

The LTC 8500 system provides powerful macro capabilities. The macros can be activated using Allegiant system keyboards, system time event functions, alarm activations, and via special function icons in the LTC 8850/00 GUI software.

Alarm Capabilities

With the addition of the LTC 8540/00 Series alarm interface accessory unit, an external contact closure or logic level can be used to automatically activate any camera to be displayed. Any monitor or group of monitors can be set to display cameras under alarm conditions. The base system contains three built-in alarm response modes: basic, auto-build, and sequence and display. In addition to these three modes, the PC based software packages now includes the ability to combine any or all three standard modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, a 16-character alarm title can be selected to appear instead of the camera title during alarm conditions.

System Operation

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 8 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

Programming/Software Capabilities

The LTC 8500 Series includes a 48-character on-screen display for time-date, camera number, camera ID (16 characters), an icon to identify controllable cameras, and monitor (12 characters) or status information. Over 250 characters are available when programming camera ID and monitor titles.

Utilizing a Windows-based PC and the LTC 8059/00 Master Control Software package or LTC 8850/00 Graphical User Interface (GUI) software, enhanced programming and switching features can be obtained. A user-friendly spreadsheet format provides the ability to enter camera titles, operator names, 64 timed events, change system parameters, program camera sequences, install lockouts, and access the advanced alarm handling screens with speed and efficiency. The program information may then be transferred into the Allegiant system, stored on disk, or printed out directly from a printer connected to the PC.

The LTC 8850/00 Bosch GUI software is designed around an intuitive graphic-based interface; the GUI provides high performance programming, control and monitoring of all system functions by using on-screen icons to reflect real time status of the devices controlled by the system.

The LTC 8850/00 GUI software also provides the ability to monitor system status events. System alarms, switching functions, sequence events, keyboard actions, and video loss information can be viewed in real time on the PC screen and, if desired, logged to the PC hard drive.

The LTC 8500 Series contains a logging printer output port which accepts a standard RS-232 serial printer. This provides a permanent record of system status showing time and date of changes, such as: incoming alarms, acknowledgment of alarms, loading of sequences, user log-on to keyboard, transfer of system tables and sequences, and a power up reset message. In addition, the printer can be used to obtain a hard copy of the system's configuration tables and sequences.

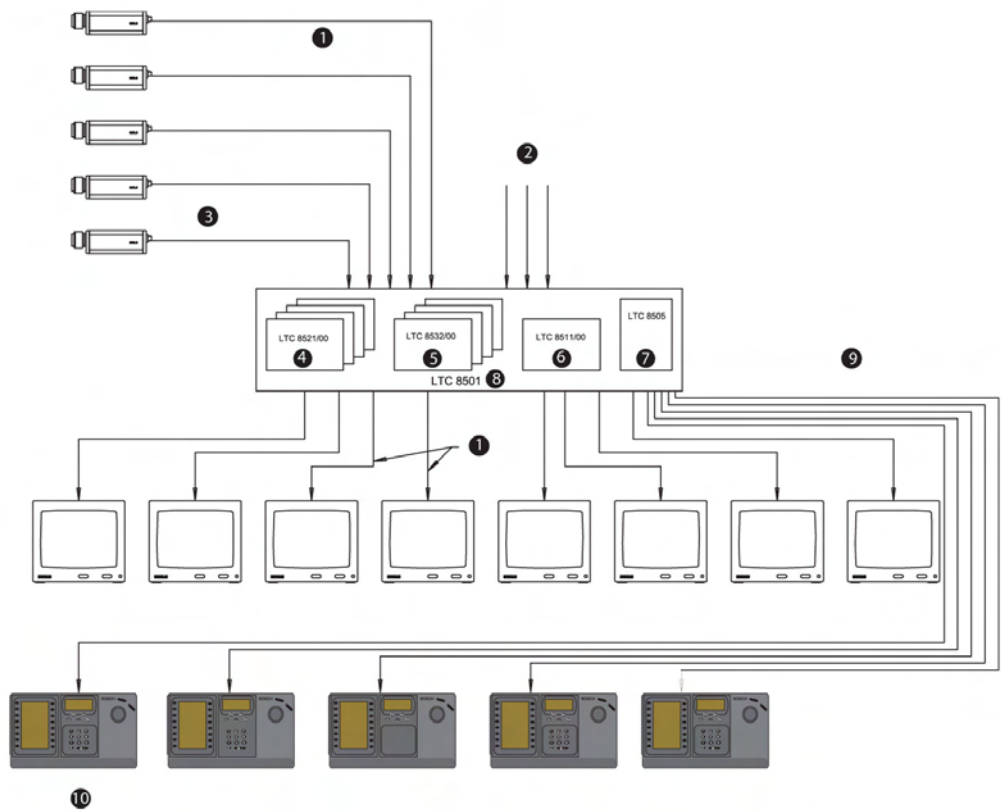
Expansion Capabilities

The LTC 8500 Series can serve as the Master switcher in a SatelliteSwitch configuration. This innovative SatelliteSwitch feature enables a single LTC 8500 Series system to communicate with up to 64 remotely located "Satellite" systems. Any Allegiant system model can serve as a remote Satellite switcher. This powerful feature permits the design of a distributed type system. The main control site can view/control local cameras plus cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view/control only cameras associated with their own site. When used in this type of configuration, the main LTC 8500 Series system can access up to 256 cameras located anywhere in the system.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Installation/Configuration Notes

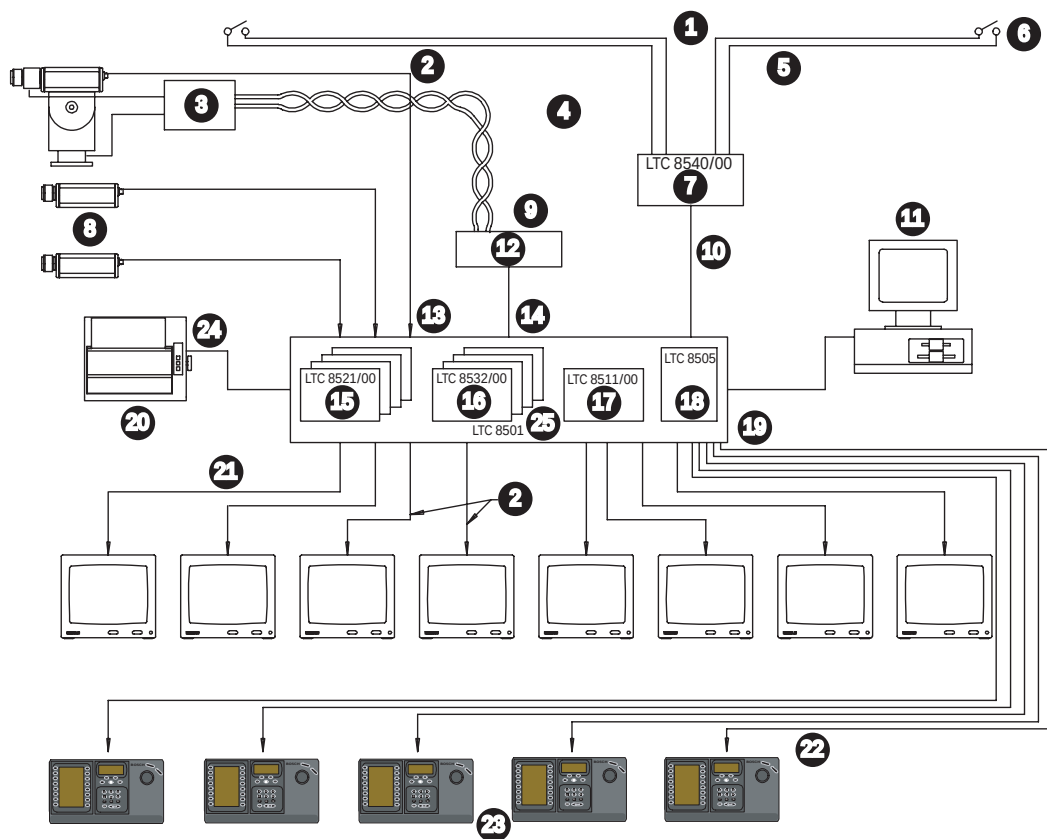


LTC 8500 Series Configuration Diagram
(64 Cameras by 8 Monitors)

- 1 Video Coax
- 2 Up to 64 Maximum Video Inputs

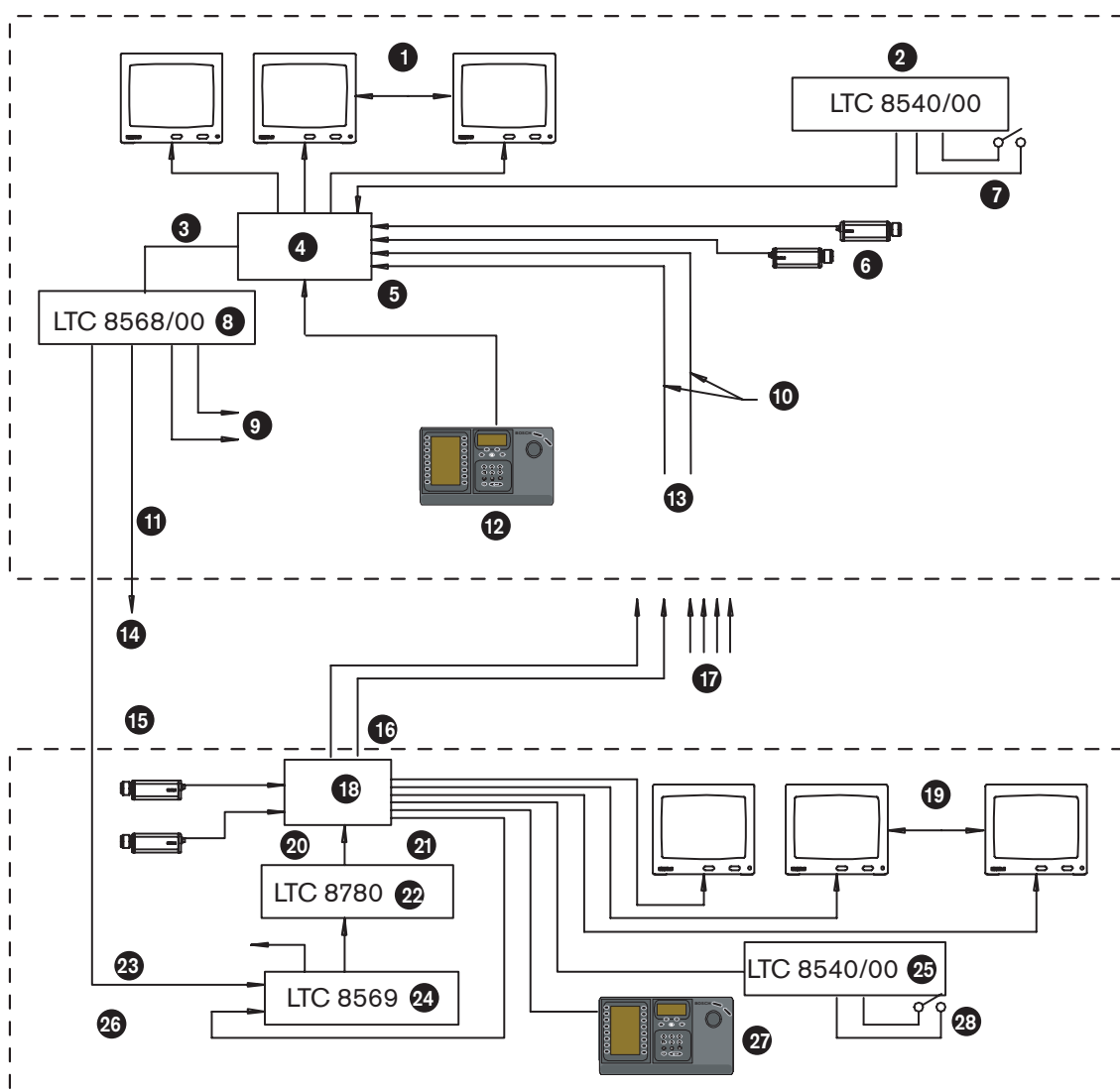
- 3 Additional System Cameras
- 4 8 x 8 Channel Input Cards
- 5 4 x 2 Channel Output Cards
- 6 CPU Module
- 7 Power Supply Module
- 8 Main CPU Bay
- 9 3 m (10 ft) Interconnect Cable Supplied with Keyboard
- 10 Maximum of 8 Full Function Keyboards up to 1.5 km (5000 ft) away using Optional Remote Hook-up Kit

6



LTC 8500 Series Full Capacity Configuration Diagram

1	64 Separate Alarm Inputs	8	Additional System Cameras	14	2 m (6 ft) Interconnect Cable Supplied with LTC 8568/00 Series, providing Data and Power Connections	20	Serial Logging Printer Capability
2	Video Coax	9	32 Separate Outputs	15	8 x 8 Channel Input Cards	21	8 Monitor Output Capability
3	Up to 64 On-Site LTC 8561 Receiver/Driver Units	10	2 m (6 ft) Interconnect Cable Supplied with LTC 8540/00 Series, providing Data and Power Connections	16	4 x 2 Channel Output Cards	22	3 m (10 ft) Interconnect Cable Supplied with Keyboard
4	Up to 1.5 km (5000 ft) using 18 AWG shielded twisted pair cable (Belden 8760 or equiv.)	11	Optional LTC 8059/00 Software Package can be run on a Windows based PC	17	CPU Module	23	Maximum of 8 Full Function Keyboards Up to 1.5 km (5000 ft) away using Optional Remote Hook-up Kit
5	Twisted Pair, Typical	12	Signal Distribution Unit	18	Power Supply Module	24	RS-232 Data
6	Contact closure or active low logic level	13	Up to 64 Video Inputs Maximum logic level	19	3 m (10 ft) Interface Cable Provided with Optional LTC 8059/00 Software Package	25	Main CPU Bay
7	Alarm Interface Unit						



Satellite System Using LTC 5112- or LTC 5124-Series Switchers

1 Monitor Outputs	6 Local Camera Video Inputs
2 Alarm Interface Unit	7 Alarm Inputs May Activate Either Local or Satellite Video on Main Control Center's Monitor
3 Pan/Tilt/Zoom and Satellite Control Data	8 Signal Distribution Unit
4 Allegiant Main CPU Bay	9 To Any Local PTZ Camera Sites
5 Inputs Used for Both Local and Trunk Lines	10 Multiple Video Coax
11 Up to 1.5 km (5000 ft) Using 1 sq mm (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)	16 Monitor Outputs Used As Video Trunk Lines to Main Control Site
12 Allegiant Keyboard controls any local or remote camera on any local monitor (Video and PTZ)	17 Video Trunk Lines From Other Satellite Locations
13 Multiple Video Trunk Lines From Each Remote Satellite Location	18 Any Model Allegiant Main Bay
14 One Line to Each Remote Satellite System Location	19 Local Monitors

15 Pan/Tilt/Zoom and Satellite Control Data	20 Satellite Data Line
21 Console Port Input	25 Alarm Interface Unit
22 Data Converter Units	26 Local PTZ Control Data Line
23 To Any Local PTZ Camera Sites	27 Allegiant Keyboard controls any local or remote camera on any local monitor (Video and PTZ)
24 Code Merger Unit	28 Alarm Inputs Activate Only Local Video on Local Monitors

Technical Specifications

Capacities

Video Inputs	Standard: 64 Satellite configuration: 256
Video Outputs	8
Keyboards	8
Alarm Inputs	128
Receiver Drivers	Standard: 64 Satellite configuration: 256

Electrical

Video Bandwidth (-3 dB)	8 MHz typical
Differential Gain	3% Maximum
Differential Phase	3° Maximum
K Factor	0.5%
Signal-to-Noise-Ratio	60 dB Minimum
Crosstalk (Input Isolation)	70 dB Typical at 3.58 MHz
Feed through (Input to output isolation)	50 dB Typical at 3.58 MHz
Gain	Unity (into 75 Ohm termination)
Tilt	1% Typical

Environmental**Temperature**

Operating	0°C to 50°C (32°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	3000 m (10,000 ft)
Humidity	0 to 95% relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, 1/2 sine wave

LTC 8501 Series Equipment Bay

Includes LTC 8501/00 equipment rack, LTC 8511/00 microprocessor module, and LTC 8505 Series power supply.

Power Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8501/60	120 VAC, 50/60 Hz	100 to 140	192 W
LTC 8501/50	220-240 VAC, 50/60 Hz	198 to 264	192 W

1. Power at rated voltage fully loaded.

Connectors

Video Inputs	1 to 64, 1 Sync input, and 8 monitor inputs
Outputs	BNC

External Accessory Interfaces

	9-pin D-type connectors
Console	RS-232 port for external PC or control interface (default = 1200 baud)
Alarm	RS-232 port for Allegiant alarm accessory units (default = 1200 baud)
Printer	RS-232 port for system logging printer (default = 1200 baud)
SDA	TTL level, high-speed control data output (Bi-Phase) for interface to Allegiant series signal distribution units (data clock rate = 31.25 kHz)
Keyboards	Eight 6-pin RS-485 ports for Allegiant keyboard use (default = 9600 baud)

Equipment Rack

Size (W x D x H)	EIA 48 cm (19 in.) rack 483 x 356 x 178 mm (19 x 14 x 7 in.)
Weight	8.2 kg (18.2 lb)

Construction/Finish

Top and Bottom	Steel
----------------	-------

Equipment Rack

Front, Sides, and Back	Aluminum
Finish	Charcoal

Microprocessor Module (LTC 8511/00)

Size (D x H)	290 x 160 mm (11.5 x 6.25 in.)
Weight	0.34 kg (0.8 lb)

Power Supply

(LTC 8505/60–120 VAC, LTC 8505/50–220-240 VAC)

Size (W x D x H)	90 x 335 x 160 mm (3.46 x 13.2 x 6.25 in.)
Weight	4 kg (9 lb)
Indicators	One power On/Off, seven fuse alert, and one external sync LED

LTC 8521/00 Camera Input Module

Use up to eight (8) per equipment bay

Camera Inputs	8
Size (D x H)	290 x 160 mm (11.5 x 6.25 in.)
Weight	0.23 kg (0.5 lb)

LTC 8532/00 Monitor Output Module

Use up to four (4) per equipment bay.

Monitor Outputs	2
Size (D x H)	290 x 160 mm (11.5 x 6.25 in.)
Weight	0.27 kg (0.6 lb)

Allegiant Accessories

The LTC 8500 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include key-boards, keyboard extension kits, receiver/driver units, switcher/followers, and code merger units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. Refer to the Allegiant Accessories datasheet for complete details.

Ordering Information

LTC 8521/00 Camera Input Module for LTC 8500, 8 camera inputs per card	LTC8521/00
LTC 8532/00 Monitor Output Module for LTC 8500, 2 monitor outputs per card	LTC8532/00
LTC 8501/50 Allegiant Matrix Switcher up to 64 camera inputs, 8 monitor outputs, incl. single bay, CPU & power supply, 230 VAC, 50 Hz	LTC8501/50
LTC 8501/60 Allegiant Matrix Switcher up to 64 camera inputs, 8 monitor outputs, incl. single bay, CPU & power supply, 120 VAC, 60 Hz	LTC850160
LTC 8511/00 Spare CPU Module for LTC 8501 bay	LTC8511/00
LTC 8505/50 Spare Power Supply for LTC 8501/50 bay, 230 VAC, 50 Hz	LTC8505/50
LTC 8505/60 Spare Power Supply for LTC 8501/60 bay, 115 V, 60 Hz	LTC8501/60

Accessories

LTC 8600 Series Allegiant Matrix/Control Systems - Modular



Features

- ▶ 128 Camera by 16 monitor switching
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ PC-based software package available
- ▶ Economical single-bay design

The LTC 8600 Series Allegiant video switcher/control systems combine both switching and computer technology to provide powerful performance and unique system features for the security user. Offering full matrix switching capability, these systems can be programmed to display the video from any camera on any monitor, either manually or via independent automatic switching sequences.

Functions

General Construction

The LTC 8600 Series provide versatile modular construction accommodating up to 128 camera inputs, 16 monitor outputs, 16 keyboards, 512 alarm points, a computer interface port, and a logging printer port.

Sequencing Capabilities

These systems can be programmed with up to 60 sequences which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability where any number of system monitors may be selected to switch as a group. Using the optional LTC 8059/00 master control software package, or the LTC 8850/00 (GUI) Graphical User Interface Software package, sequences can be made to activate and deactivate automatically based upon the time of day and the day of week.

Camera Control

On-site receiver/drivers permit operator control of pan, tilt, zoom, multiple pre-positions, four auxiliaries, auto-pan, and random scan. An integral local test function is also a standard feature. The LTC 8600 Series also supports variable speed operation and full programming functions of AutoDome Series dome cameras.

Bilinx® Capability

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion and AutoDome CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

Alarm Capabilities

With the addition of the LTC 8540/00 Series alarm interface accessory units, an external contact closure or logic level can be used to automatically activate any camera to be displayed. Any monitor or group of monitors can be set to display cameras under alarm conditions. The base system contains three built in alarm response modes: basic, auto-build, and sequence and display. In addition to these three modes, the PC based software packages now includes the ability to combine any or all of the three standard modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, a 16-character alarm title can be selected to appear instead of the camera title during alarm conditions.

Programming/Software Capabilities

The LTC 8600 Series includes a black outlined 48-character on-screen display for time-date, camera number, camera ID (16-characters), an icon to identify controllable cameras, and monitor (12-characters) or status information. Over 1000 characters are available when programming camera ID and monitor titles. Utilizing a standard Windows®-based PC and the optional LTC 8059/00 Master Control Software package or LTC 8850/00 Graphical User Interface (GUI) software, enhanced programming and switching features can be obtained. A user-friendly spreadsheet format provides the ability to enter camera titles, operator names, 64 timed events, change system parameters, program camera sequences, install lockouts, and access the advanced alarm handling screens with speed and efficiency. The programmed information may then be transferred into the Allegiant system, stored on disk, or printed out directly from a printer connected to the PC.

The LTC 8850/00 GUI software is designed around an intuitive graphic-based interface, the GUI provides high performance programming, control and monitoring of all system functions by using on-screen icons to reflect real time status of the devices controlled by the system.

The LTC 8850/00 GUI software also provides the ability to monitor system status events. System alarms, switching functions, sequence events, keyboard actions, and video loss information can be viewed in real time on the PC screen and, if desired, logged to the PC hard drive.

The LTC 8600 Series contain a logging printer output port which accepts a standard RS-232 serial printer. This provides a permanent record of system status showing time and date of changes such as: incoming alarms, acknowledgment of alarms, loading of sequences, user log-on to keyboard, transfer of system tables and sequences, video loss messages, and a power up reset message. In addition, the printer can be used to obtain a hard copy of the system's configuration tables and sequences. The LTC 8600 system provides powerful macro capabilities. The macros can be activated using Allegiant Series system keyboards, system time event functions, alarm activations, and via special function icons in the LTC 8850/00 GUI software.

Expansion Capabilities

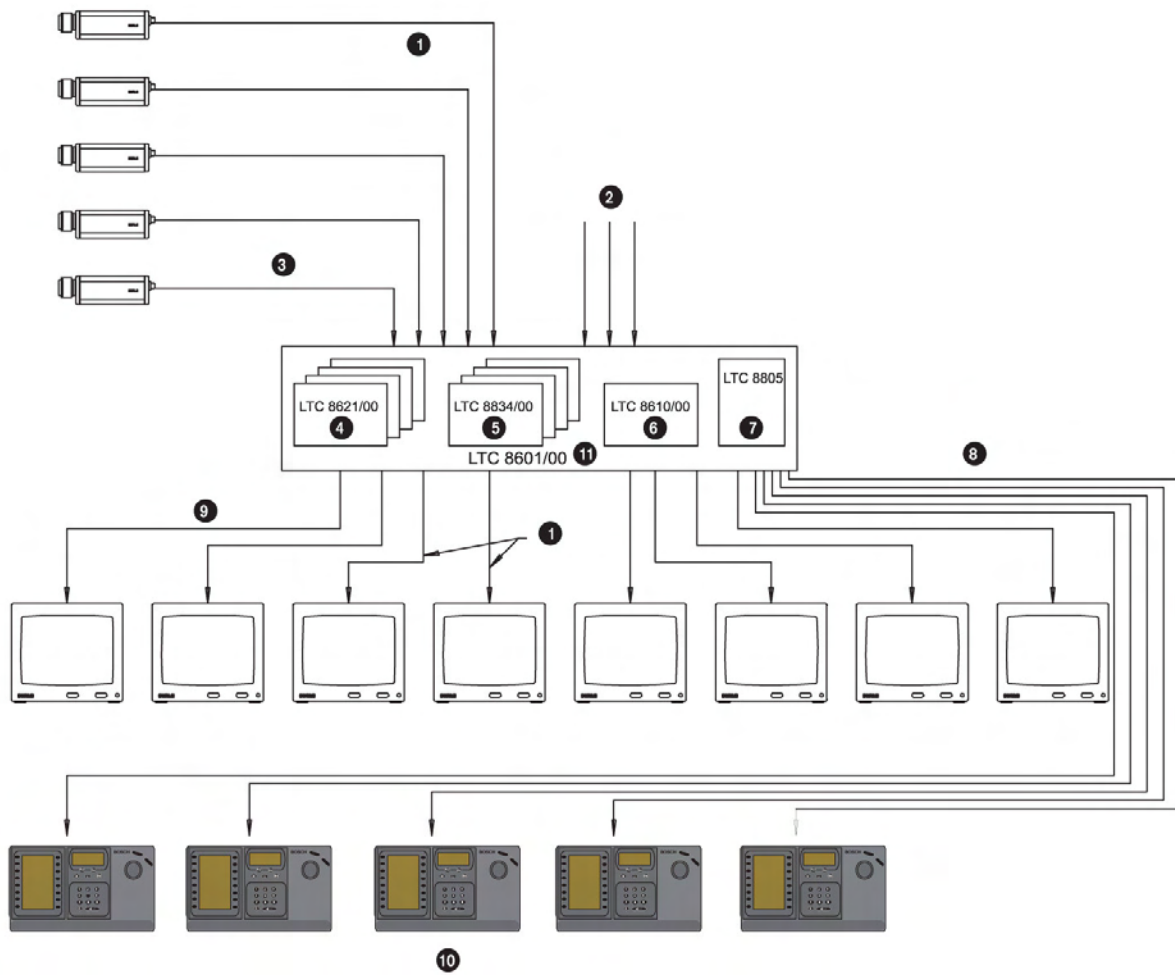
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The LTC 8600 Series can serve as the Master Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8600 Series system to communicate with remotely located "Satellite" systems. Any Allegiant system model can serve as a master or remote Satellite switcher. This powerful feature permits the design of a distributed matrix video switching system with control at one central location and individual control at the local sites. The main control site can view/control local cameras plus cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view/control only cameras associated with their own site. When used in this type of configuration, the main LTC 8600 Series system can access up to 1024 cameras located anywhere in the system. By combining multiple Satellite systems of this type, matrix sizes of 1024 cameras by 16 monitors can be designed in an extremely reliable, "Distributed Processing" configuration.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations. This product also complies with EN 50121-4 railway application standards. Refer to www.boschsecurity.com website for link to applicable documents.
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

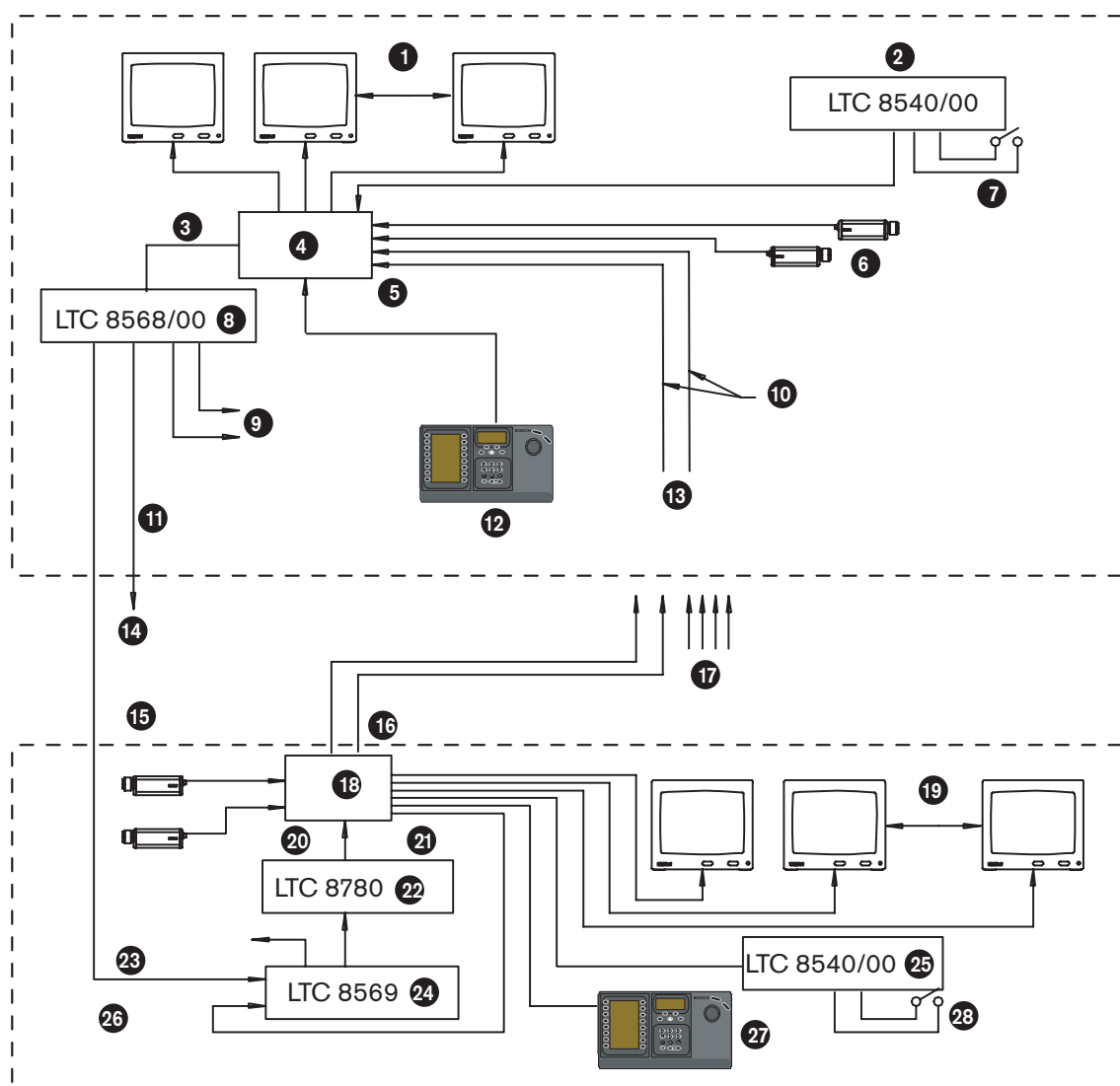
Installation/Configuration Notes



LTC 8600 Series Configuration Diagram

(128 Cameras by 16 Monitors)

1	Video Coax
2	Up to 64 Maximum Video Inputs
3	Additional System Cameras
4	Input Cards
5	Output Cards
6	CPU-Module
7	Power Supply Module
8	3 m (10 ft) Interconnect Cable Supplied with Keyboard
9	8 Monitor Output Capability
10	16 Full Matrix Monitor Outputs Maximum, 16 Full Function Keyboard Maximum
11	Main CPU Bay



Allegiant Satellite Switching System

1	Monitor Outputs	6	Local Camera Video Inputs
2	Alarm Interface Unit	7	Alarm Inputs May Activate Either Local or Satellite Video on Main Control Center's Monitor
3	Pan/Tilt/Zoom and Satellite Control Data	8	Signal Distribution Unit
4	Allegiant Main CPU Bay	9	To Any Local PTZ Camera Sites
5	Inputs Used for Both Local and Trunk Lines	10	Multiple Video Coax

11	Up to 1.5 km (5000 ft) Using 1 mm ² (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)	15	Pan/Tilt/Zoom and Satellite Control Data
12	Allegiant Keyboard controls any local or remote camera on any local monitor (Video and PTZ)	16	Monitor Outputs Used As Video Trunk Lines to Main Control Site
13	Multiple Video Trunk Lines From Each Remote Satellite Location	17	Video Trunk Lines From Other Satellite Locations
14	One Line to Each Remote Satellite System Location	18	Any Model Allegiant Main Bay
19	Local Monitors	24	Code Merger Unit
20	Satellite Data Line	25	Alarm Interface Unit
21	Console Port Input	26	Local PTZ Control Data Line
22	Data Converter Units	27	Allegiant Keyboard controls any local or remote camera on any local monitor (Video and PTZ)
23	To Any Local PTZ Camera Sites	28	Alarm Inputs Activate Only Local Video on Local Monitors

Technical Specifications

LTC 8600 Series System Specifications

Capacities	
Video Inputs	
• Standard	128
• Satellite Configuration	1024
Video Outputs	
• Keyboards	16
• Alarm Inputs	512
Receiver/Drivers	
• Standard	128
• Satellite Configuration	1024

Electrical

Video Bandwidth (-3 dB)	12 MHz typical
Differential Gain	1% maximum
Differential Phase	2° maximum
K Factor	0.5%
Signal-to-Noise Ratio	70 dB minimum
Crosstalk (Input to input isolation)	-50 dB typical
Feedthrough (Input to Output Isolation)	-45 dB typical
Gain	Unity ± 2% (into 75 Ohm termination)
Tilt	1% typical

Environmental

Temperature	
• Operating	4°C to 50°C (40°F to 122°F)
• Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0% to 95% relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 ms, 1/2 sine wave

Product Regulatory Compliance

LTC 8601 Series Equipment Bay

Includes equipment rack, LTC 8610/01 microprocessor module, and LTC 8805 Series power supply.

Power			
Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8601/60	120 VAC, 50/60 Hz	100 to 140	200 W
LTC 8601/50	220-240 VAC, 50/60 Hz	198 to 264	200 W

1. Power at rated voltage fully loaded.

Connectors	
Video Inputs 1 to 96	One (1) sync input, and 16 monitor outputs, BNC
Video Connections 97 to 128	Two (2), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel

LTC 8601 Series Equipment Bay

Looping Video Connections 1-128	Eight (8), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
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External Accessory Interfaces

9-pin D-type connectors	
CONSOLE	RS-232 port for external PC or control interface (Default = 19.2 k baud)
ALARM	RS-232 port for Allegiant alarm accessory unit (Default = 19.2 k baud)
PRINTER	RS-232 port for system logging printer (Default = 19.2 k baud)
SDA	TTL level, hi-speed control data output (Bi-Phase) for interface to Allegiant series signal distribution units (Data clock rate = 31.25 kHz)
COM PORT 1	RS-485 port for external Allegiant accessory use
COM PORT 2	RS-485 port for external Allegiant accessory use
KEYBOARDS	Eight (8), 6-pin RS-485 ports for Allegiant keyboard use

Equipment Rack

Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction/Finish	Top and bottom: steel Front, sides, and back: aluminum
Finish	Charcoal

Microprocessor Module (LTC 8610/01)

Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

Power Supply

(LTC 8805/60-120 VAC, LTC 8805/50-220-240 VAC)	
Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	One power On/Off, ten fuse alert, and one external sync LED

LTC 8621/00 Camera Input Module

Use up to eight (8) per equipment bay	
Camera Inputs	16
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8834/00 Monitor Output Module

Use up to (4) four per equipment bay	
Monitor Outputs	4
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8808/00 Video Interconnect Panel

The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two 16-conductor ribbon cables (LTC 8809/00), designed especially for use with video signals, are then used to interconnect the video between the panel and the LTC 8600 Series system. One LTC 8808/00 assembly is included at time of shipment and is required for system video inputs 97 to 128. In addition to being used for video inputs 97 to 128, the LTC 8808/00 assembly can also be ordered as an option to provide looping capability. One LTC 8808/00 (includes panel and two, ribbon cables) is required for each group of 32 cameras.

Finish	Charcoal
Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)
Weight	
• Panel	0.54 kg (1.2 lb)
• Ribbon Cables (2)	0.3 kg (0.7 lb)

Allegiant Accessories

The LTC 8600 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include key-boards, keyboard extension kits, receiver/driver units, switcher/followers, code merger units, Allegiant Bilinx Data Interface unit, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

Ordering Information

LTC 8601/50 Allegiant Matrix Switcher up to 128 camera inputs, 16 monitor outputs, incl. single bay, CPU & power supply, 230 VAC, 50 Hz	LTC8601/50
LTC 8601/60 Allegiant Matrix Switcher up to 128 camera inputs, 16 monitor outputs, incl. single bay, CPU & power supply, 115 VAC, 60 Hz	LTC8601/60
LTC 8621/00 Camera Input Module for LTC 8601, 16 video inputs per card	LTC8621/00
LTC 8834/00 Video Output Module for LTC 8600 and LTC 8800, 4 video outputs per card	LTC8834/00
Accessories	
LTC 8805/50 Spare Power Supply for LTC 8801/50, LTC 8802/50 bays, 220- 240 VAC, 50 Hz	LTC8805/50
LTC 8805/60 Spare Power Supply for LTC 8801/60, LTC 8802/60 bays, 120 VAC 60 Hz	LTC8805/60

LTC 8800 Series Allegiant Matrix/Control Systems - Modular



Features

- ▶ 256 Camera by 64 monitor switching
- ▶ Expandable to larger matrix sizes
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ PC-based software package available

The LTC 8800 Series Allegiant Video Switcher/Control Systems combine both switching and computer technology to provide powerful performance and unique system features for the security user. Offering full matrix switching capability, these systems can be programmed to display the video from any camera on any monitor, either manually or via independent automatic switching sequences.

Functions

The LTC 8800 Series provide versatile modular construction, accommodating up to 256 camera inputs, 64 monitor outputs, 32 keyboards, 1024 alarm points, a computer interface port, and a logging printer port.

These systems can be programmed with up to 60 sequences which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the optional LTC 8059/00 master control software package or the LTC 8850/00 GUI Graphical User Interface, sequences can be made to activate and deactivate automatically based upon the time of day and the day of the week.

On-site receiver/drivers permit operator control of pan, tilt, zoom, multiple pre-positions, four auxiliaries, autopan, and random scan. An integral local test function is also a standard feature. The LTC 8800 Series also support variable speed operation and full programming functions of AutoDome Series dome cameras.

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion and AutoDome CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

With the addition of the LTC 8540/00 Series alarm interface accessory unit, an external contact closure or logic level can be used to automatically activate any camera to be displayed. Any monitor or group of monitors can be set to display cameras under alarm conditions. The base system contains three built-in alarm response modes: basic, auto-build, and sequence and display. In addition to these three modes, the PC-based software packages now include the ability to combine any or all the three standard modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, a 16-character alarm title can be selected to appear instead of the camera title during alarm conditions.

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 32 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

The LTC 8800 Series include a black outlined 48 character on-screen display for time/date, camera number, camera ID (16 characters), an icon to identify controllable cameras, and monitor (12 characters) or status information. Over 1000 characters are available when programming camera ID and monitor titles.

Utilizing a standard Windows-based PC and the optional LTC 8059/00 Master Control Software package or LTC 8850/00 Graphical User Interface (GUI) software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format provides the ability to enter camera titles, operator names, or 64 timed events; change system parameters; program camera sequences; install lockouts; and access the advanced alarm handling screens with speed and efficiency. The programmed information may then be transferred into the Allegiant system, stored on disk, or printed out directly from a printer connected to the PC.

The LTC 8850/00 Bosch GUI software is designed around an intuitive graphic-based interface. The GUI provides high performance programming, control, and monitoring of all system functions by using on-screen icons to reflect real time status of the devices controlled by the system.

The LTC 8850/00 GUI software also provides the ability to monitor system status events. System alarms, switching functions, sequence events, keyboard actions, and video loss information can be viewed in real time on the PC screen and, if desired, logged to the PC hard drive.

The LTC 8800 Series contain a logging printer output port which accepts a standard RS-232 serial printer. This provides a permanent record of system status showing the time and date of changes such as incoming alarms, acknowledgment of alarms, loading of sequences, user log-on to keyboard, transfer of system tables and sequences, video loss messages, and a power up reset message. In addition, the printer can be used to obtain a hard copy of the system's configuration tables and sequences.

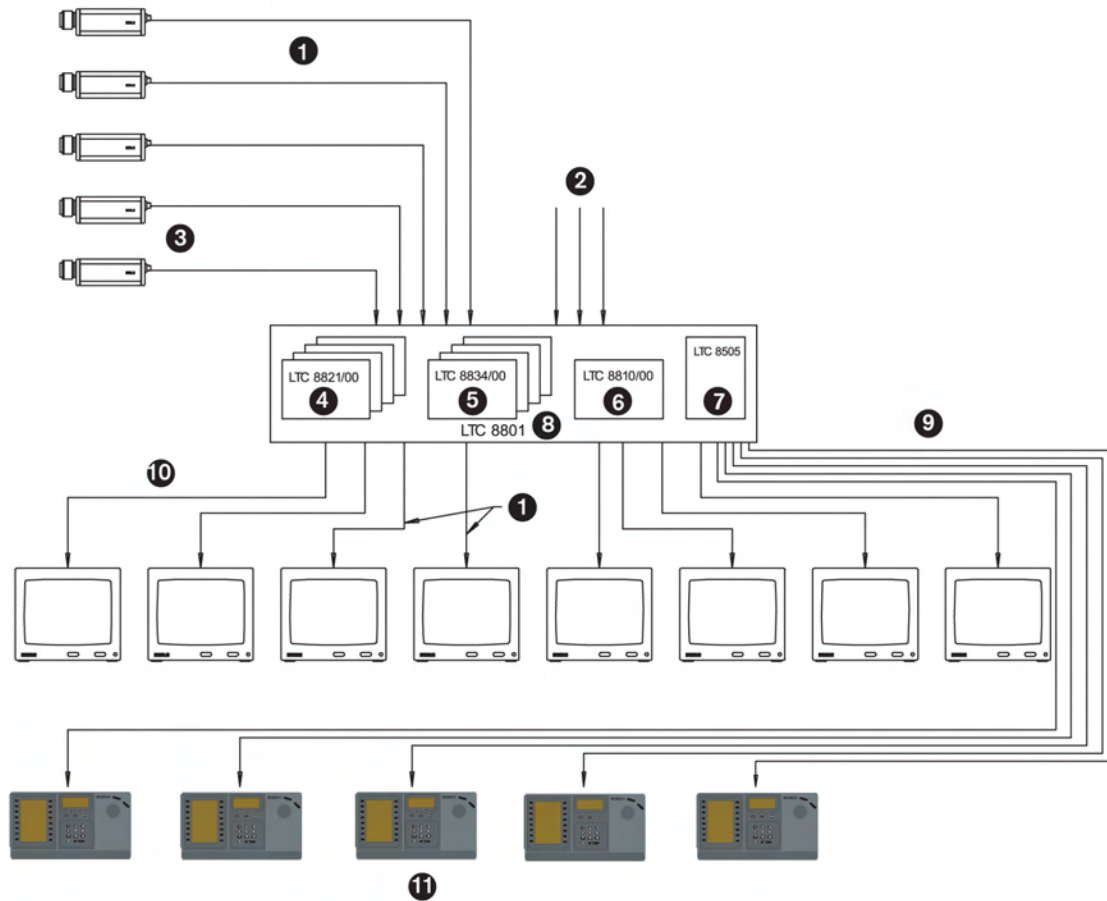
The LTC 8800 system provides powerful macro capabilities. The macros can be activated using Allegiant Series system keyboards, system time event functions, alarm activations via special function icons in the LTC 8850/00 GUI software.

The LTC 8800 Series can serve as the master switcher in a SatelliteSwitch configuration. This innovative SatelliteSwitch feature enables a single LTC 8800 system to communicate with remotely located "Satellite" systems. Any Allegiant system model can serve as a remote Satellite switcher. This powerful feature permits the design of a large distributed type system with control at one central location and individual control at the local sites. The main control site can view/control local cameras plus cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view/control only cameras associated with their own site. When used in this type of configuration, the main LTC 8800 system can access up to 2048 cameras located anywhere in the system. By combining multiple Satellite systems of this type, matrix sizes of 2048 cameras by 256 monitors can be designed in an extremely reliable "Distributed Processing" configuration.

Certifications and Approvals

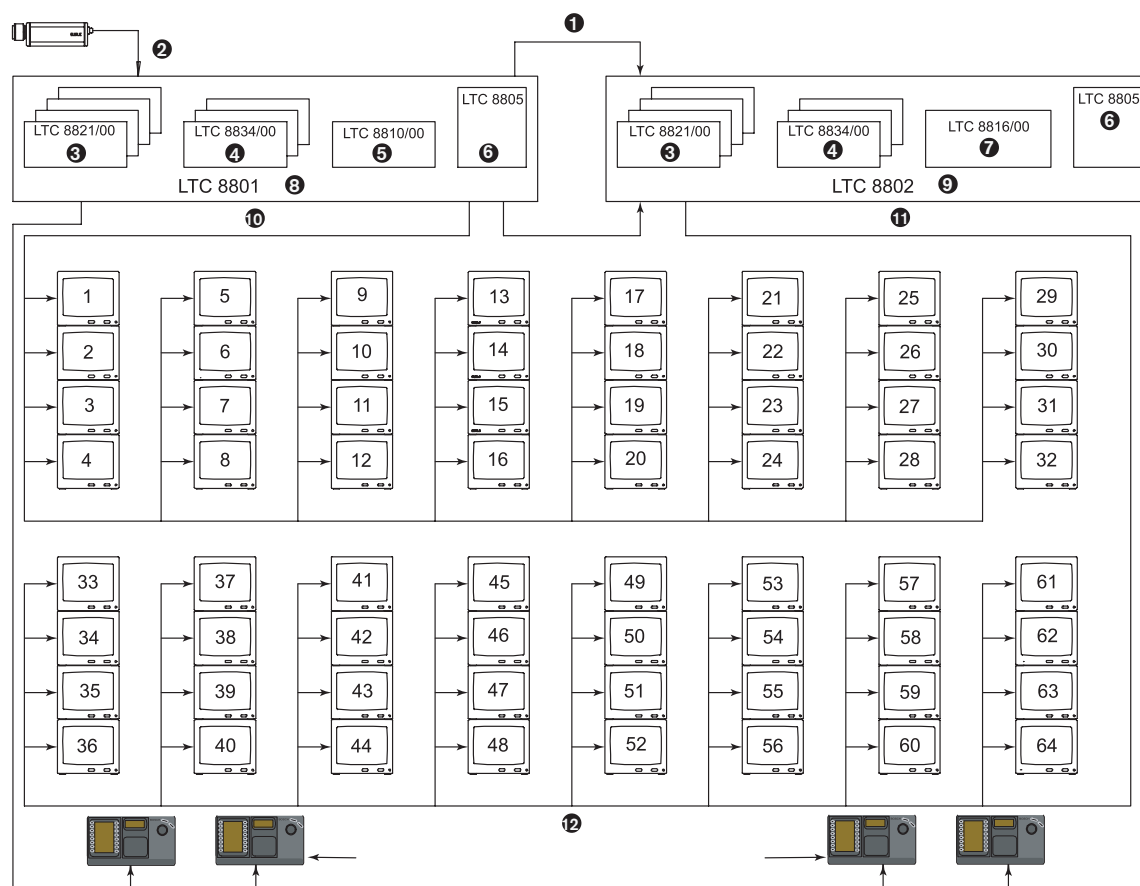
Electromagnetic Com- patibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Installation/Configuration Notes



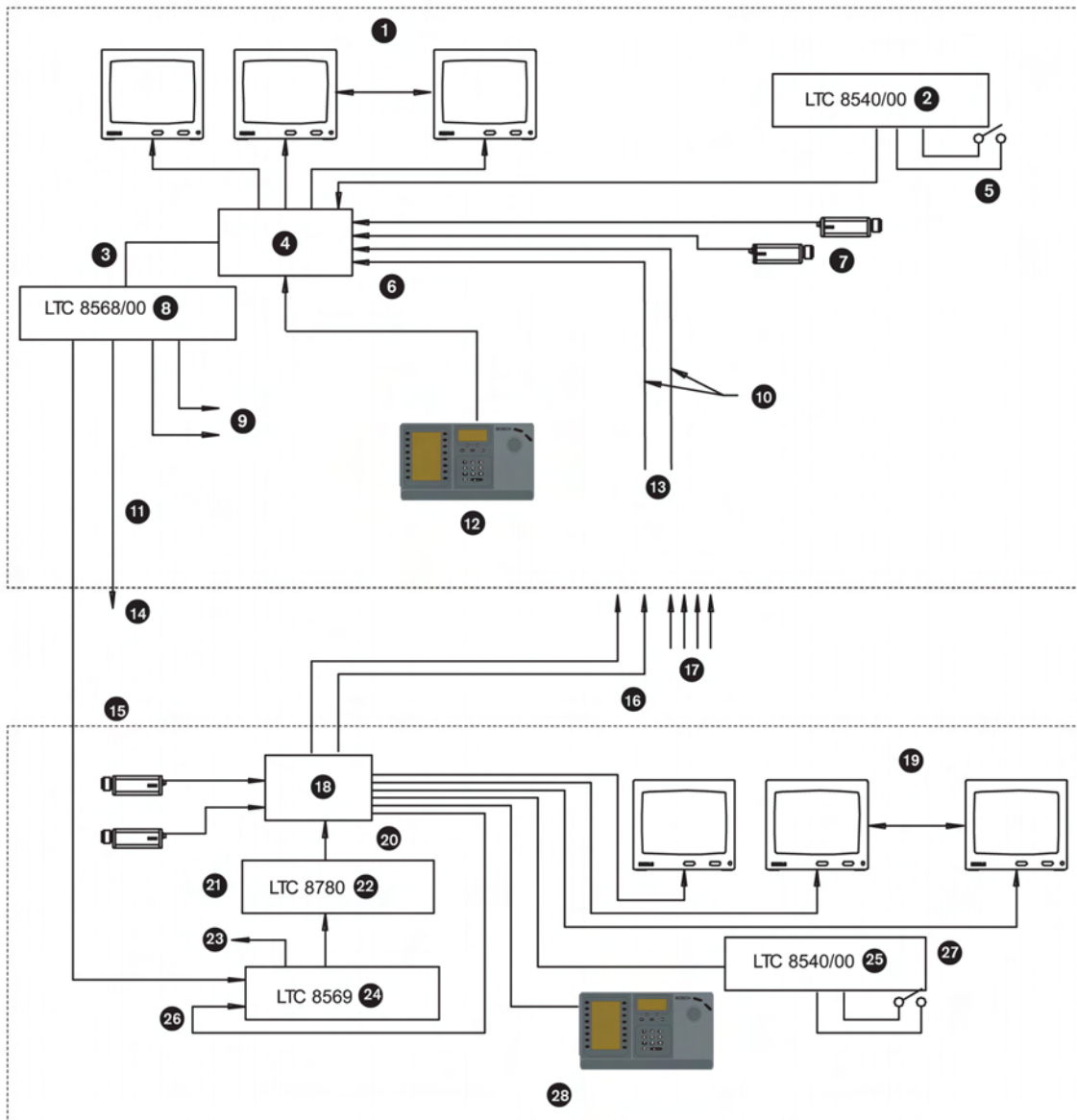
LTC 8800 Series Configuration Diagram
(256 Cameras by 32 Monitors)

1	Video Coax
2	256 Camera Inputs Maximum
3	Additional System Cameras
4	Input Cards
5	Output Cards
6	CPU Module
7	Power Supply Module
8	Series Main CPU Bay
9	3m (10 ft) Interconnect Cable Supplied with Keyboard
10	32 Monitor Output Capacity
11	32 Full Matrix Monitor Outputs Maximum, 32 Full Function Keyboards Maximum



LTC 8800 Series Dual-bay System (256 Cameras by 64 Monitors)

- | | |
|----|--|
| 1 | Coax Ribbon Jumper Cables (Supplied) |
| 2 | Up to 256 Cameras Total |
| 3 | 8 x 32 Channel Input Cards |
| 4 | 8 x 4 Channel Output Card |
| 5 | CPU Module |
| 6 | Power Supply Module |
| 7 | Data Receiver Module |
| 8 | Main CPU Bay |
| 9 | Monitor Expansion Bay |
| 10 | Monitor Outputs 1 to 32 |
| 11 | Monitor Outputs 33 to 64 |
| 12 | Maximum of 32 Full-function Keyboards up to 1.5 km (5000 ft) away Using Optional Remote Hookup Kit |



Allegiant Satellite Switching System

1	Monitor Outputs	6	Inputs Used for both Local and Trunk Lines
2	Alarm Interface Unit	7	Local Camera Video
3	Pan/Tilt/Zoom and Satellite Control Data	8	Signal Distribution Unit
4	Allegiant Main CPU Bay	9	To any Local PTZ Camera Sites
5	Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor	10	Multiple Video Coax

11	Up to 1.5 km (5000 ft) using 1 mm ² (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)	15	Pan/Tilt/Zoom and Satellite Control Data
12	Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and PTZ)	16	Monitor Outputs Used as Video Trunk Lines to Main Control Site
13	Multiple Video Trunk Lines from each Remote Satellite Location	17	Video Trunk Lines from other Satellite Locations
14	One Line to Each Remote Satellite System Location	18	Any Model Allegiant Main Bay

19	Local Monitor	24	Code Merger Unit
20	Console Port Input	25	Alarm Interface Unit
21	Satellite Data Line	26	Local PTZ Control Data Line
22	Data Converter Units	27	Alarm Interface Unit only Local Video on Local Monitors
23	To any Local PTZ Camera Sites	28	Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and PTZ)

Technical Specifications

LTC 8800 Series System Specifications

Capacities

Video Inputs	
Standard	256
Satellite Configuration	2048
Video Outputs	
Standard	64
Keyboards	
Standard	32
Alarm Inputs	
Standard	1024
Receiver Drivers	
Standard	256
Satellite Configuration	2048

Electrical

Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 4% (75 Ohm terminated)		
Pulse/Bar Ratios¹	Min.:	Nom.:	Max.:
	94%	98%	106%
2T Pulse K Factor¹	Min.:	Nom.:	Max.:
	0.2%	0.2%	2.5%
Bar Amplitude (IRE)¹	Min.:	Nom.:	Max.:
	96	98	104
Sync Amplitude (% Bar)¹	Min.:	Nom.:	Max.:
	36%	39%	44%
Field Time Waveform Distortion¹	2% maximum		
Line Time Waveform Distortion¹	1% maximum		
Short Time Waveform Distortion¹	2% maximum		
Long Time Waveform Distortion¹	0.8% maximum		
Video Bandwidth (-3 dB)²	15 MHz		
Frequency Response (± 0.5 dB)²	12 MHz		
Signal-to-Noise-Ratio¹	70 dB at 3.58 MHz unified, unweighted minimum.		
Crosstalk (at 3.58 MHz)	Input to input: -60 dB adjacent channel: -50 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz.		
Differential Gain¹	Min.:	Nom.:	Max.:
	---	0.6%	2%

Electrical

Differential Phase¹	Min.:	Nom.:	Max.:
	---	0.6°	1.3°
Chrominance Luminance Gain¹	Min.:	Nom.:	Max.:
	96%	100%	104%
Chrominance Luminance Delay¹	Min.:	Nom.:	Max.:
	-33 ns	+3 ns	+33 ns
Luminance Nonlinearity¹	Min.:	Nom.:	Max.:
	---	0.3%	4%
Switching	Crosspoint matrix		
DC Output	0.34 V		

1. Meets EIA/TIA - 250C Medium Haul Standard for 256 cameras x 32 monitors.

2. One camera to one monitor.

Environmental

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0% to 95% relative, non-condensing
Vibration	3 g swept sine wave, 15°Hz to 2000°Hz
Shock	50 g, 11 m/s, ½ sine wave

LTC 8801 Series Main CPU Bay

Includes equipment rack, LTC 8810/01 microprocessor module, and LTC 8805 Series power supply.

Power			
Model No.	Rated Voltage	Voltage Range	Nominal Power³
LTC 8801/60	120 VAC, 50/60 Hz	100 to 140	200 W
LTC 8801/50	220-240 VAC, 50/60 Hz	198 to 264	200 W

3. Power at rated voltage fully loaded.

Connectors

Video Inputs:	One (1) sync Input, and 32 monitor outputs BNC 1 to 96,
Video Connections: 97 to 256	Ten (10), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately)
Looping Video Connections: 1 to 256	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately)

External Accessory Interfaces

	9-pin D-type connectors
Console	RS-232 port for external PC or control interface (default = 19,200 baud)
Alarm	RS-232 port for Allegiant alarm accessory unit (default = 19,200 baud)
Printer	RS-232 port for system logging printer (default = 19,200 baud)
SDA	TTL level, high-speed control data output (Bi-Phase) for interface to Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COMM Port 1	RS-485 port for interbay communication use (default = 125,000 baud)

LTC 8801 Series Main CPU Bay

COMM Port 2	RS-485 port for external Allegiant accessory use (default = 125,000 baud)
Keyboards	Eight (8), 6-pin RS-485 ports for Allegiant keyboard use (default = 9600 baud)

Equipment Rack (LTC 8801)

Size (W x D x H)	EIA 48 cm (19 in.) rack 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction/Finish	
Top and Bottom	Steel
Front, Sides, and Back	Aluminum
Finish	Charcoal

Microprocessor Module (LTC 8810/01)

Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

Power Supply (LTC 8805/60–120 VAC, LTC 8805/50 –220-240 VAC)

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	One power On/Off, ten fuse alert, and one external sync LED

LTC 8802 Series Monitor Expansion Bay

Includes equipment rack, LTC 8816/01 data receiver module, and LTC 8805 Series power supply.

Power			
Model No.	Rated Voltage	Voltage Range	Nominal Power⁴
LTC 8802/60	120 VAC, 50/60 Hz	100 to 140	200 W
LTC 8802/50	220–240 VAC, 50/60 Hz	198 to 264	200 W

4. Power at rated voltage fully loaded.

Connectors

Video Inputs:	1 to 96, and 32 monitor outputs BNC
Sync Input	Not used
Video Connections: 97 Ten (10), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately)	
Looping Video Connections: Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel	
1 to 256	

External Accessory Interfaces

	9-pin D-type connectors
Console	Not used
Alarm	Not used
Printer	Not used
SDA	Not used

External Accessory Interfaces

COM Port 1	RS-485 port for interbay communication use (default = 125,000 baud)
COM Port 2	Not used
Keyboards	Eight (8), 6-pin RS-485 ports for Allegiant keyboard use (default = 125,000 baud)

Equipment Rack (LTC 8802 Series)

Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction/Finish	
Top and Bottom	Steel
Front, Sides, and Back	Aluminum
Finish	Charcoal

Data Receiver Module (LTC 8816/01)

Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

Power Supply (LTC 8805/60–120 VAC, LTC 8805/50220–240 VAC)

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	One power On/Off, ten fuse alert, and one external sync LED

LTC 8821/00 Camera Input Module

Use up to eight per bay in main CPU bay. If monitor expansion bay is being used, equip with duplicate number of modules.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8834/00 Monitor Output Module

Use up to eight per bay in main CPU or monitor expansion bay.

Monitor Outputs	4
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8808/00 Video Interconnect Panel

NOTE: Use of the LTC 8808/00 assemblies are required for system video inputs 97 to 256 and must be purchased separately. The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two, 16-conductor ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8800 Series system. In addition to being used for video inputs 97 to 256, the LTC 8808/00 assembly can also be ordered as an option to provide looping output capability. For looping purposes, one LTC 8808/00 (includes one panel and two ribbon cables) is required for each group of 32 cameras.

The following table can be used to determine the number of LTC 8808/00 assemblies that must be purchased:

LTC 8808/00 Video Interconnect Panel

Number of System Cameras	Number of LTC 8808 Assemblies Required for Camera Input Connections Only	Number of LTC 8808 Required for Inputs and Looping Video Outputs
1 to 32	None	1
33 to 64	None	2
65 to 96	None	3
97 to 128	1	5
129 to 160	2	7
161 to 196	3	9
197 to 224	4	11
225 to 256	5	13
Finish	Charcoal	
Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)	
Weight		
Panel	0.54 kg (1.2 lb)	
Ribbon Cables (2)	0.3 kg (0.7 lb)	

Allegiant Accessories

The LTC 8800 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, and key-board expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

Ordering Information

LTC 8816/01 Data Receiver Module for LTC 8802/00, 0.5 kg (1.1 lb)	LTC8816/00
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Ordering Information

LTC 8801/50 Allegiant Matrix Switcher Includes equipment rack, LTC 8810/01 micro-processor module and LTC 8805 Series power supply; 220-240 VAC, 50/60 Hz	LTC8801/50
LTC 8801/60 Allegiant Matrix Switcher Includes equipment rack, LTC 8810/01 micro-processor module and LTC 8805 Series power supply; 120 VAC, 50/60 Hz	LTC8801/60
LTC 8821/00 Video Input Module for LTC 8800, 32 video inputs per card	LTC8821/00
LTC 8834/00 Video Output Module for LTC 8600 and LTC 8800, 4 video outputs per card	LTC8834/00
LTC 8808/00 Video Interconnect Panel 32 channel, for Allegiant systems, includes two LTC 8809/00 ribbon cables	LTC8808/00
LTC 8809/00 16-Conductor Ribbon Cable for LTC 8200, 8300, 8600, 8800, 8900 systems, 2 m (6 ft)	LTC8809/00
Accessories	
LTC 8810/00 Spare CPU Module for LTC 8801/00 bay	LTC8810/00
LTC 8805/50 Spare Power Supply for LTC 8801/50, LTC 8802/50 bays, 220-240 VAC, 50 Hz	LTC8805/50
LTC 8805/60 Spare Power Supply for LTC 8801/60, LTC 8802/60 bays, 120 VAC 60 Hz	LTC8805/60

LTC 8850 Series Allegiant Software Packages



Features

- ▶ Interfaces with all Allegiant Series Systems
- ▶ Integration of all software modules within a single program
- ▶ Alarm event logging and reporting
- ▶ Direct import of map files created using popular drawing packages
- ▶ Controls multiple compatible VCRs
- ▶ Supports live on-screen In-Window PTZ video displays
- ▶ Supports multiple GUI workstations via a PC network

The LTC 8850 Series are software packages utilizing a Graphical User Interface (GUI) to integrate and control security systems. It incorporates Microsoft® OLE (Object Linking and Embedding) technology to harness the full 32-bit power of the Windows Operating Systems. The GUI interfaces directly to the Allegiant Series of video switcher/control systems and provides complete control and programming of all system features. Multiple GUI workstations can also control Allegiant systems via an existing PC network.

The GUI software program integrates many separate software modules to provide a single user interface for configuring, programming, and operating a security system. There is never a need to exit the system to access external security-related software modules. Site maps or other drawings are easily loaded directly into the GUI where they can be seeded with special link icons. These link icons are used to transverse from map to map. Installers can then drag and drop device icons from dockable toolbars, onto the maps. With a mouse click, icon configuration menus are then presented, allowing quick association of the icon with a hardware device. The capability to select the icon's color and configuration options using an extensive icon library is provided in these menus. The installer may also drag and drop configured devices directly from tables provided in the Allegiant software module.

A special function icon is available, which enables custom user-defined actions to be easily activated by the click of a mouse button. The LTC 8850 Series software packages include a VCR interface program. This VCR server can be used to program and operate multiple VCRs directly from a graphical interface using simple mouse clicks. The VCR server supports VCRs equipped with an RS-232 interface, such as the LTC 3991 and LTC 3963 Series. It is also possible to enter custom command strings to control other RS-232-equipped VCR or DVR models. The Allegiant Product Server software module provides a fully integrated, user-friendly spreadsheet-like interface for entering the Allegiant system's camera titles, sequences, alarm responses, and many other configuration features.

Taking full advantage of OLE software technology, the configuration tables within the Allegiant Server module have been internally linked to the map system. The titles of the camera icons on the maps are automatically changed when corresponding entries are made into the camera table of the Allegiant Server. Correspondingly, the table entry for a particular device icon on a map can automatically be called into view with a simple mouse click on the icon.

Anything that can be accomplished via the Allegiant keyboard can easily be executed through the GUI. Appropriate pop-up control panels are displayed with a simple mouse click on the graphical icons representing cameras and monitors. All functions, including those of the AutoDome® system, with programmable configuration capabilities and variable speed pan/tilt/zoom, are fully operational via the graphical control panels.

The GUI communicates with the Allegiant system using an optimized interface protocol, which provides high performance real time control and monitoring of all Allegiant system functions. This permits the on-screen icons to reflect the real time status of the devices controlled by the system.

The GUI contains a powerful centralized event handler module that is capable of processing events from multiple systems. When an alarm condition occurs, the event handler activates the GUI's response using a pop-up window containing a hot button icon for each event. The hot buttons provide the ability to identify and control the system's response to the alarm condition or other event.

The LTC 8850 Series includes many other features. A password-controlled log-in is used to determine the set of features presented to the user. The user sees only those controls that are available at his level. Drawing files from many popular drawing packages including DXF, HPGL, BMP, etc., can be directly loaded into the GUI.

The system also supports live in window control of pan/tilt/zoom functions when combined with the video digitizer card listed below; see Note under PC Platform. This InWinPTZ feature allows P/T equipped cameras to be controlled by dragging the mouse pointer in the direction of the desired movement within the on-screen video window. When controlling the variable speed AutoDome Series of cameras, moving the mouse pointer further away from the center of the window will cause the camera to move faster.

Technical Specifications

Software Models Available

LTC 8850/00	Single user package
LTC 8851/00	Five (5) station, multi-user package
LTC 8852/00	Ten (10) station, multi-user package
Format	Software supplied on CD-ROM, disk software security provided via the parallel port key

Minimum System Requirements - PC Platform

Pentium® 120 MHz CPU and SVGA monitor
 8 MB RAM (with Windows 95, 98SE, or ME)
 16 MB RAM (with Windows NT, 2000, or XP)
 250 MB fixed drive
 CD-ROM drive

Operating Systems	Windows® 95, Windows 98SE, Windows ME, Windows NT 4.0 (Service Pack), Windows 2000 (Service Pack 3 or Later), or Windows XP Professional
Ports Required (Minimum)	One (1) Parallel, one (1) serial (additional serial ports required if multiple systems are being controlled) for interface to the switcher. In addition, one serial port is required for each VCR/DVR to be controlled.
Pointing Device	Mouse, trackball, or touch screen

Note: For a live video display on the PC monitor, a Windows-compatible Video Digitizer Card must be used. The FlashBus MV Lite supplied by Integral Technologies, Inc. may be used. For availability, and your nearest distributor, contact Integral Technologies, Inc. at ++1-317-845-9242 or www.integraltech.com.

Compatible Systems

The LTC 8850 Series Graphical User Interface (GUI) is compatible with all current versions of the Allegiant Series Video Switcher/Control systems. Product Server device drivers for the Allegiant Series switchers, and for compatible VCRs, are included with the basic GUI package.

Earlier versions of these systems may be upgraded to be compatible by the installation of current hardware or software upgrades. Contact your Bosch Security Systems, Inc. Sales Representative or Technical Support for details.

System Features

Complete Multilevel Map Displays

The system will directly import graphics files from most drawing packages. Supported file formats include DXF (up to DXF revision 12), HPGL, BMP, and many other popular graphical file formats. This feature permits the installer to directly use pre-existing site maps and building drawings, without the need to recreate new drawings and building plans. Site maps may easily be linked, to allow the user to move seamlessly from top level site drawings to individual low level locations, and back again.

Video Switching and Control

The software may be configured to operate with any current Allegiant Series Video Switching and Control system. This includes stand-alone systems as well as Linked or Remote systems interconnected in the SatelliteSwitch® mode. All video switching and control functions are performed via simple on-screen mouse operations.

Operates Using Existing PC Network

System Features

Multiple PCs linked together via a computer network can be used to control an Allegiant system. In a typical application, a single PC or computer server is connected to the Allegiant system using a standard RS-232 serial connection. Through this PC, other computer workstations can communicate via the network to control various Allegiant functions, including switching, PTZ operation, and programming. Each workstation requires Windows NT, Windows 2000, or Windows XP, and a registered copy of the LTC 8850 software package.

Alarm Handling

Powerful alarm handling software permits on-screen callup of site maps, as well as the display of live inset Alarm Video. Customized guard instructions may be programmed to display on-screen instructions, which may be keyed to individual alarms.

Data Logging and Reporting

A record of all major system events may be stored on disk for subsequent recall and review.

Icon Library

A complete Icon Library is available to the installer to seed graphical representations of system functions directly on the map displays.

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Ordering Information

LTC 8850/00 GUI Allegiant Single User Software Package LTC8850/00

complete with Allegiant and VCR server

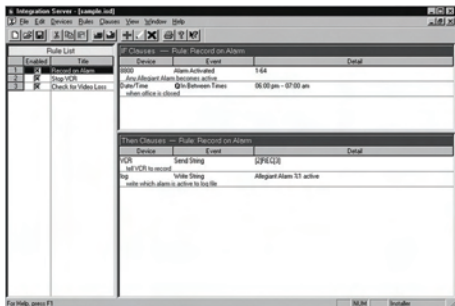
LTC 8851/00 GUI Allegiant Multi User Software Package LTC8851/00

5 stations, complete with Allegiant and VCR server

LTC 8852/00 GUI Allegiant Multi User Software Package LTC8852/00

10 stations, complete with Allegiant and VCR server,

SFT-INTSRV: Integration Server Software



Features

- ▶ Allows communication between normally incompatible systems
- ▶ Various communication methods, including RS-232, digital I/O, and directly to Allegiant Server software
- ▶ Interfaces with all Allegiant Series Systems
- ▶ Can log any or all events onto a PC hard drive
- ▶ Integrated COM Port data viewer

The Integration Server is a software package used to integrate multiple systems that are not ordinarily compatible. These systems can include Video Switchers, Point of Sale systems, Fire/Burglar alarms, Access Control, or HVAC systems.

Devices to be controlled can communicate 3 ways:

1. RS-232. Up to 16 COM ports are supported. The command codes for each device must be supplied by the manufacturer or known to the installer, and are programmed into the Integration Server. The Integration Server listens to the COM port for the specific strings of data programmed by the installer. The server can also transmit preprogrammed strings of data onto the COM port to control devices.
2. Digital I/O. A digital I/O card (National Instruments™ # PC-DIO-24) must be installed in the PC. This card can either control relays wired to external devices, or can monitor relays controlled by external devices.
3. Directly to an Allegiant Switcher via the Master Control Software (LTC 8059) or the Allegiant GUI package (LTC 8850). If the PC is running either of these in conjunction with the Integration Server, communication to the Allegiant switcher can take place without additional external wiring.

The server is programmed to recognize events as they occur on each system, based on one of the methods above, and then react to those events by sending commands to another system. Programming takes place in the form of Rules. Rules are easy to understand clauses, written by the installer, and stored in the program. Rules can be as simple as a single reaction to a single event. They can also be more complex, to include multiple reactions to multiple events under multiple conditions, such as time of day or a range of dates.

The Integration Server is designed with advanced features to simplify operation and configuration. An integrated COM port data viewer can be used to monitor the communication traffic coming in and going out of the PC's COM ports. This tool not only simplifies the design stage of an initial configuration, it also functions as a powerful diagnostic aid. In addition, the software supports the ability to automatically run a pre-selected configuration file upon boot-up of the PC. This feature eliminates the need for manual restarts in the event of a PC power interruption.

Parts Included

Number	Component
1	CD-ROM with the Integration Server, the Virtual Allegiant Satellite Application, and the Allegiant Software Development Kit Software
1	Quick Start Guide
1	RS-232 Cable
1	USB Security Dongle

Technical Specifications

System

System	
Format	Software supplied on CD-ROM. Software security provided via USB port security key.
Part Number	SFT-INTSRV
	Includes CD, user manual, USB Security Dongle, and Software License Agreement

Note: Although the SFT-INTSRV software package includes several components, only the above items are applicable to the Integration Server Software.

Minimum System Requirements

PC Platform

• Pentium® 120 MHz CPU and SVGA monitor
• 8 MB RAM (with Windows® 98SE or Windows® ME)
• 16 MB RAM (with Windows® 2000 or Windows® XP)
• 250 MB fixed drive space
• CD-ROM drive
• USB port

Operating System

• Windows 98 SE
• Windows ME
• Windows 2000 (Service Pack 3 or later)
• Windows XP Professional

System

PC Ports Required (Minimum)

- One (1) USB
- One (1) Serial

(Additional serial ports required if multiple systems are being controlled—up to 16 supported)

Slot type for Data I/O card

- ISA

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Pentium® is a registered trademark of Intel Corporation.

National Instruments™ is a trademark of National Instruments Corporation.

For more information, contact:

National Instruments Corporation:

11500 N. Mopac Expwy

Austin, TX 78759-3504

(512) 338-9119

www.ni.com

Ordering Information

SFT-INTSRV: Integration Server Software

SFT-INTSRV

LTC 8560 Series Single Channel On-site Receiver/Drivers



Features

- ▶ Pan/Tilt/Zoom (PTZ) control
- ▶ Bi-Phase or RS-232 data input
- ▶ Compatible with Allegiant Systems
- ▶ Variety of input/output voltages
- ▶ Integral local test feature
- ▶ Indoor/outdoor applications

The LTC 8560 Series, the LTC 8562 Series, and the LTC 8563/20 on-site receiver/drivers are control data decoder units and motor drivers for pan/tilt units and zoom lenses. These receiver/drivers are used in conjunction with Allegiant Series or microprocessor-based switcher/controller systems.

Functions

The receiver/driver decodes Allegiant Bi-Phase control data from the switcher/controller system through the LTC 8568 Series Signal Distribution Unit into specific control codes. In addition, the receiver/driver accepts RS-232 control code data generated by the LTC 8780 Data Converter Unit.

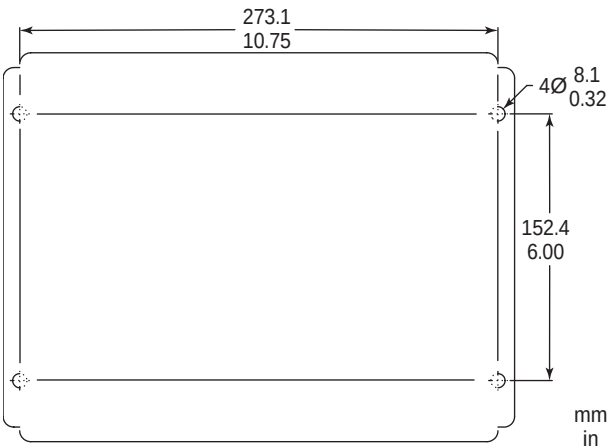
These receiver/drivers are available in a variety of input and output voltage configurations. All units are 50/60 Hz line frequency compatible. All units have low voltage DC lens drivers (6 V or 12 V, selectable) for focus, zoom, and iris with adjustable speed. Auxiliary supply terminals provide power which is fuse-protected at the voltage of the pan/tilt output.

Additional features include a full operating temperature range, an integral local test function, a unique dither feature, polarity reversible lens drive, convenient thumbwheel selectable camera addressing, and a NEMA-4X, IP66 rated environmental enclosure with lockable latches.

Certifications and Approvals

EMC Requirements	CE Immunity, CE Emission Class B, FCC Class B, ICES-003
Safety	CE, UL, cUL

Installation/Configuration Notes



Mounting Hole Pattern

Technical Specifications

Electrical	
Pan/Tilt Output	Four (4) function pan/tilt solid state drive with zero crossing turn-on; 1.0 A drive capability
Lens Output	
For Zoom, Focus , and Motorized Iris	6 VDC or 12 VDC, 100 mA maximum
Variable Speed 6 VDC Setting	4 VDC to 8 VDC
Variable Speed 12 VDC Setting	8 VDC to 16 VDC

Mechanical

Size (W x D x H)	295 x 241 x 165 mm (11.6 x 9.5 x 6.5 in.)
Weight	6.8 kg (15 lb)

Environmental

Temperature	
• Operating	–40°C to 60°C (–40°F to 140°F)
• Storage	–40°C to 70°C (–40°F to 158°F)
Humidity	0% to 95% relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 ms, ½ sine
Enclosure Protection	NEMA-4X, IP66

Ordering Information

LTC 8560/50 Single Channel On-site Receiver/Driver LTC8560/50

230 VAC pan/tilt voltage, 230 VAC power supply, no auxiliary, 50°Hz

LTC 8561/50 Single Channel On-site Receiver/Driver LTC8561/50

230 VAC pan/tilt voltage, 230 VAC power supply, with auxiliary, 50°Hz

LTC 8560/60 Single Channel On-site Receiver/Driver LTC8560/60

120 VAC pan/tilt voltage, 120°VAC power supply, no auxiliary,
50/60 Hz

LTC 8562/50 Single Channel On-site Receiver/Driver LTC8562/50

24 VAC pan/tilt voltage, 230 VAC power supply, no auxiliary, 50 Hz

LTC 8562/60 Single Channel On-site Receiver/Driver LTC8562/60

24 VAC pan/tilt voltage, 120 VAC power supply, no auxiliary,
50/60 Hz

LTC 8563/20 Single Channel On-site Receiver/Driver LTC8563/20

24 VAC pan/tilt voltage, 24 VAC power supply, no auxiliary, 50/60°Hz

LTC 8561/60 Single Channel On-site Receiver/Driver LTC8561/60

120 VAC pan/tilt voltage, 120 VAC power supply, with auxiliary, 50/60 Hz

LTC 8564/20 Single Channel On-site Receiver/Driver LTC8564/20

24 VAC pan/tilt voltage, 24 VAC power supply, with auxiliary,
50/60 Hz

LTC 8566/50 Single Channel On-site Receiver/Driver LTC8566/50

24 VAC pan/tilt voltage, 230 VAC power supply, with auxiliary, 50 Hz

LTC 8780 Series Data Converter Units



The LTC 8780 Series are accessory units that convert the Allegiant system's Bi-Phase control code into RS-232, or convert RS-232 back to Bi-Phase code. They provide the capability of transmitting the control code over conventional RS-232 transmission mediums such as phone modems, fiber optics, microwaves, etc.

The unit accepts the Bi-Phase control code generated by an Allegiant main CPU bay, an LTC 8568/00 Signal Distribution unit, an LTC 5135 Series Controller/Followers, or an output from a LTC 8569 Series or an LTC 8570, LTC 8571, LTC 8572 Series Code Merger units.

The LTC 8780 Series are also designed to perform the Satellite selector functions in an Allegiant satellite system configuration. In addition, using its integral signal distribution capability, the LTC 8780 Series can function as remote distribution units for driving up to 120 receiver/driver devices connected to its 15 outputs. As a distribution unit, wiring can be in either a star or daisy chain configuration, and each output is capable of driving eight (8) daisy chained receiver/driver loads, at up to 1.5 km (5000 ft) away using 1 mm² (18 AWG) shielded twisted pair (Belden 8760 or equivalent).

Features

- ▶ Designed for various applications utilizing Allegiant Series Switchers
- ▶ Converts Allegiant Bi-Phase control code to RS-232 and RS-232 to Bi-Phase
- ▶ Provides satellite address decoding
- ▶ Signal distribution mode provides 15 separate outputs
- ▶ Compatible with LTC 5135 Series Controller/Followers

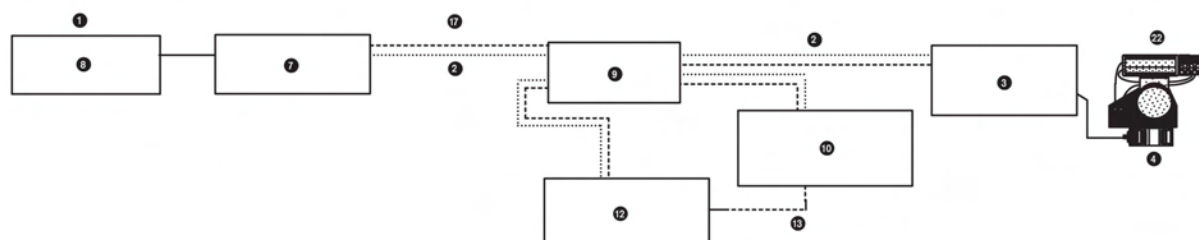
Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Installation/Configuration Notes



Code Conversion Application (Figure 1)



Satellite Address Decoder Application (Figure 2)



1	Main Switcher Control Site	9	Code Merger Unit
2	Bi-Phase Code	10	Data Converter Unit Configured as Satellite Selector
3	Receiver/Driver	11	Data Converter Unit Configured for RS-232 to Bi-Phase
4	Pan/Tilt Camera	12	Satellite Allegiant Matrix Switcher
5	Remote Pan/Tilt/Zoom Camera Site	13	RS-232 (Satellite Commands Only)
6	Typical AutoDome Series Camera	14	Shielded Twisted Pair Cable
7	Signal Distribution Out	15	Conventional Asynchronous Simplex RS-232 Transmission Link
8	Main Allegiant Matrix Switcher		
16	Bi-Phase Code Out		
17	Up to 1.5 km (5000 ft) Using 1 mm ² (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)		
18	Allegiant Matrix System or the Output of a Controller/Follower		
19	Allegiant Matrix System or the Output of a Controller/Follower Generating Control Code		
20	Up to 1.5 km (5000 ft) Using 1 mm ² (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)		
21	Data Converter Unit Configured for Signal Distribution		

Electrical

Model No.	Rated Voltage	Voltage Range
LTC 8780/50	230 VAC, 50/60 Hz	198 to 264
LTC 8780/60	120 VAC, 50/60 Hz	108 to 132
Power at Rated Voltage	4 W	
Indicators	Power: Green LED Code In: Green LED RS-232 In: Green LED Code Out: Red LED RS-232 Out: Red LED	

Connectors

Inputs	Bi-Phase control code: One (1), 15-pin connector (mating connector supplied) RS-232: One (1), 9-pin male connector (pin compatible with industry standard modem cable (mating cable not supplied))
Outputs	Bi-Phase control code: Three (3), 15-pin connectors providing a total of 15 separate Bi-Phase outputs (mating connectors supplied) Console: One (1), 9-pin male connector (mating cable compatible with Allegiant Console port supplied)
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11 x 1.59 in.)
Weight	1.6 kg (3.5 lb)

Environmental

Temperature	Operating: -18°C to 50°C (0°F to 122°F)
	Storage: -40°C to 60°C (-40°F to 140°F)
Humidity	10% to 90% relative, non-condensing.
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	30 g, 11 ms, ½ sine

Options

LTC 9101/00 Rack Kit	For mounting one or two units in an EIA 48 cm (19 in.) rack
Height	One (1) standard rack unit
Width	One (1) standard rack unit

Ordering Information

LTC 8780/50 Data Converter Unit	LTC8780/50
Allegiant biphas control code to RS-232, 230 VAC, 50 Hz	
LTC 8780/60 Data Converter Unit	LTC8780/60
Allegiant biphas control code to RS-232, 115 V, 60 Hz	

Accessories

LTC 9101/00 Rack Kit	LTC9101/00
Rack kit for up to two half rack products, with blank, 1.75-inch high.	

Accessories and Software Packages for the Allegiant

6



The Allegiant accessory products provide many optional features to the base Allegiant Video Switcher/Control System. Various accessory products are available, including operator keyboards, code distribution units, data converters, receiver/drivers, and various port expanders. Where applicable, all accessory products are designed to be compatible throughout the Allegiant systems.

In addition to Allegiant accessories, this data sheet also includes brief information on other products typically used with the Allegiant Series of matrix switchers.

In some cases, complete information for a product is found in a separate datasheet.

Accessory Items

Model No.	Description
IntuiKey Series	Keyboard
LTC 8555 Series	Keyboard
LTC 8558/00	Keyboard Extension Cable
LTC 8557 Series	Keyboard Extension Kits
LTC 8568/00	Signal Distribution Unit
LTC 8768/00	Signal Distribution Unit
LTC 8540/00	Alarm Interface Unit
AutoDome Series	PTZ Cameras
LTC 8560 Series	Receiver/Drivers
LTC 8561 Series	Receiver/Drivers
LTC 8562 Series	Receiver/Drivers
LTC 8563 Series	Receiver/Drivers
LTC 8564 Series	Receiver/Drivers
LTC 8566 Series	Receiver/Drivers
LTC 8569 Series	Code Merger Units
LTC 8570 Series	Code Merger Units
LTC 8571 Series	Code Merger Units
LTC 8572 Series	Code Merger Units
LTC 8770 Series	Relay Units
LTC 8712 Series	Console Port Expander Units
LTC 8713 Series	Alarm Port Expanders
LTC 8714 Series	Keyboard Port Expanders
LTC 8715 Series	Keyboard Port Expanders
LTC 8780 Series	Data Converter Units
LTC 8781 Series	Time/Date Converter Units
LTC 8782 Series	Code Translator Units
LTC 8785 Series	Code Converter Units
LTC 8786 Series	Code Converter Units
LTC 8016/90	Bilinx Data Interface Unit
LTC 8808/00	Video Interconnect Panel/Cables
LTC 8807/00	Video Interconnect Panel
LTC 8809 Series	Ribbon Cables
LTC 8506/00	Cable, PC-to-Console Port
LTC 8508/01	Ribbon to BNC Interface Cable

Windows®-based Software Packages

Model No.	Application
LTC 8059/00	Master Control Software
LTC 8850/00	Graphical User Interface
ADIM	DVR Integration Software
SFT-INTSRV	Allegiant Integration Software

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Technical Specifications

General Specifications

Environmental

Note: Specifications for electronic hardware products are noted below unless otherwise specified in applicable accessory section.

Temperature

Operating	4°C to 50°C (40°F to 122°F)
Humidity	0% to 95% relative, non-condensing
Shock	50 g, 11 ms, ½ sine
Altitude	3000 m (10,000 ft)

IntuiKey Keyboard

The IntuiKey KBD-Universal is a full function keyboard used for control and programming of the Allegiant Series matrix switchers. Backlit LCD screens provide multi-language display of softkey menus and status information. Integral variable speed joystick and zoom lens controls are standard for operating fixed or variable speed pan/tilt/zoom equipped cameras. In addition to the Allegiant Series, the KBD-Universal model IntuiKey can be used to simultaneously control Divar Series DVRs, System4 Series multiplexers, and access ADIM based DVR control screens.

The optional PC based KBD-SFTCFG software package can be used to customize the text of IntuiKey softkeys and to define softkeys that are used to activate Allegiant system Command Scripts.

The optional KBD-RACK rack-mounting kit is designed to provide vertical, horizontal, or 45 degree inclined mounting into standard EIA 48 cm (19 in.) rack.

Refer to the IntuiKey Series data sheet for complete specifications.

LTC 8555 Series Keyboards

The LTC 8555 Series are compact, full function keyboards for use with Allegiant Series matrix switchers. LED readouts display real time system status information. Includes variable speed joystick and zoom lens controls for operating fixed or variable speed pan/tilt/zoom equipped cameras. The keyboards are available in the following configurations:

Model Number	Top Bezel Graphics	Communication Protocol
LTC 8555/00	English	RS-485
LTC 8555/01	Icons	RS-485
LTC 8555/02	English	RS-232
LTC 8555/03	Icons	RS-232

Electrical

Operating Voltage	12 VAC (supplied by main Allegiant CPU bay or optional Keyboard Extension Kit)
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Electrical

Signal	2 wire RS-485, 9600 baud (LTC 8555/00 and LTC 8555/01 models) 3 wire RS-232, 9600 baud (LTC 8555/02 and LTC 8555/03 models)
Connectors	One (1), 6-contact connector for data/power

Mechanical

Construction/finish	High impact plastic case with charcoal color
Dimensions (W x D x H)	220 x 51 x 155 mm (8.67 x 2.00 x 6.11 in.)
Weight	0.55 kg (1.22 lb)

LTC 8558/00 Keyboard Extension Cable

Six-conductor extension cable carries data/power for remote IntuiKey Series or LTC 8555 Series keyboards up to 30 m (100 ft) away from main Allegiant CPU bay.

LTC 8557 Series Keyboard Extension Kits

Interface kit used to remote IntuiKey Series or LTC 8555 Series keyboards up to 1.5 km (5000 ft) away from main CPU bay. Customer supplied 0.5 mm² (24 AWG) shielded-twisted pair (Belden 9841 or equivalent) required between main CPU bay site and keyboard site. Kit provides two junction boxes, interface cable, and appropriate keyboard power supply.

Electrical

Model No.	Rated Voltage ¹	Voltage Range	Power
LTC 8557/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8557/50	230 VAC, 50/60 Hz	198 to 264	15 W

1. Input voltage of included power supply.

Indicators	Junction box mounted power LED
Connectors	One (1), 4-position screw terminal block. One (1), 6-contact keyboard cable connector.

Mechanical

Construction/Finish	Surface mountable, flat black painted metal enclosure
Dimensions (W x D x H)	121 x 70 x 35 mm (4.75 x 2.75 x 1.375 in.)
Weight	170 g (6 oz.)

LTC 8568/00 Signal Distribution Unit

Main site Bi-Phase control code distribution and line driver unit for communicating to AutoDome Series cameras, receiver/drivers, switcher/ followers, and Allegiant satellite systems. The unit provides 32 separate outputs for driving up to 256 remote devices. Either “star” or “daisy chain” wiring configurations may be used. Two meter (6 ft) interface cable for data/power between unit and main Allegiant CPU bay supplied. Not applicable to the LTC 8100, LTC 8200, and the LTC 8300 Series systems.

Electrical

Operating Voltage	12 VAC (supplied by main CPU bay)
Power	3 W
Indicators	

Electrical

• Power	LED
• Code	LED

Connectors

Input	One (1), 9-pin Sub D connector for data/power
Outputs	Sixteen, 6-contact removable screw terminal blocks for code output. Maximum transmission distance is 1.5 km (5000 ft) using 1 mm ² (18 AWG) shielded-twisted pair (Belden 8760 or equivalent).

Mechanical

Construction/Finish	Charcoal colored metal enclosure
Dimensions (W x D x H)	445 x 318 x 89 mm (17.5 x 12.5 x 3.5 in.) Integral mounting flanges for EIA 48 cm (19 in.) rack.
Weight	1.8 kg (4 lb)

LTC 8768/00 Signal Distribution Unit

Same features and specifications as the LTC 8568/00 except that it contains twice the number of output connectors which provide 64 separate outputs for driving up to 512 remote devices. Not applicable to the LTC 8100, LTC 8200, and the LTC 8300 Series systems.

LTC 8540/00 Alarm Interface Unit

Unit accepts up to 64 contact closures or logic level inputs from remote sensing devices such as door contacts, PIRs, etc. and then reports the “alarm” information to the main Allegiant CPU bay. Alarm inputs may be configured in groups of 32 to accept either normally open or normally closed contacts. Unit also contains eight relay outputs that activate automatically upon alarm conditions. A two meter (6 ft) interface cable for data/power between unit and main CPU bay is supplied. Not applicable to the LTC 8100, LTC 8200, and the LTC 8300 Series systems.

Electrical

Operating Voltage	12 VAC or 12 VDC (12 VAC is supplied by main CPU bay)
Power	8 W
Indicators	
Power	LED
Alarm	LED; audible tone
Connectors	
Alarm Inputs	Sixty-four (64); Twenty 6-contact removable screw terminal blocks
Alarm Outputs	Eight (8) relay outputs (100 VDC, 0.5 A, 10 W); Four (4), 6-contact removable screw terminal block.
Data/Power	One 9-pin Sub D connector

Mechanical

Construction/Finish	Charcoal colored metal enclosure
Dimensions (W x D x H)	445 x 318 x 89 mm (17.5 x 12.5 x 3.5 in.) Integral mounting flanges for EIA 48 cm (19 in.) rack
Weight	1.8 kg (4 lb)

AutoDome Series

The AutoDome Series of cameras integrates high-speed panning and tilting, 360-degree continuous rotation, pre-positions, etc. in a small, easy-to-install lightweight package. AutoDome models are available with various mounting and configuration options for use in both internal and external environments.

Refer to the AutoDome® Series datasheet for complete specifications.

LTC 8560, LTC 8561, LTC 8562, LTC 8563, LTC 8564, and LTC 8566 Series Receiver/Drivers

These series of on-site receiver/drivers are designed to receive Bi-Phase control code and convert this data into signals for controlling conventional pan/tilt, zoom lenses, and auxiliary functions. Supplied in an environmentally rated enclosure, these series of receiver/drivers are available in both basic and full-featured models. Refer to the chart below for specific model selection based on desired operating voltages and features:

Model	Features	Input Voltage	P/T Output Voltage
LTC 8560/60	Basic	120 VAC	120 VAC
LTC 8560/50	Basic	230 VAC	230 VAC
LTC 8561/60	Full	120 VAC	120 VAC
LTC 8561/50	Full	230 VAC	230 VAC
LTC 8562/60	Basic	120 VAC	24 VAC
LTC 8562/50	Basic	230 VAC	24 VAC
LTC 8563/20	Basic	24 VAC	24 VAC
LTC 8564/20	Full	24 VAC	24 VAC
LTC 8566/60	Full	120 VAC	24 VAC
LTC 8566/50	Full	230 VAC	24 VAC

Refer to the LTC 8560 Series and/or LTC 8561 Series datasheets for complete specifications.

LTC 8569, LTC 8570, LTC 8571, LTC 8572 Series Code Merger Units

Control code merger and line driver units used to combine Allegiant Bi-Phase control code from two (up to four with LTC 8570 and LTC 8572 versions) systems for communicating to AutoDome Series cameras, receiver/drivers, switcher/followers, and Allegiant Satellite systems. The LTC 8569, LTC 8570 Series provides 32 separate outputs capable of driving up to 256 remote devices. The LTC 8571, LTC 8572 Series provides 64 separate outputs capable of driving up to 512 remote devices. Either “star” or “daisy chain” wiring configurations may be used. Two data cables for interface to Allegiant main CPU bays are supplied (four with LTC 8570 and LTC 8572).

Unit will accept signal input either from Allegiant main CPU bay, LTC 8568/00 output, LTC 8780 Bi-Phase output, or an output from another LTC 8569, LTC 8570 Series or LTC 8571, LTC 8572 Series unit. Multiple units may be cascaded to obtain additional outputs.

Electrical

Model No	Rated Voltage	Voltage Range	Power
LTC 8569/60, LTC 8570/60, LTC 8571/60, LTC 8572/60	120 VAC, 50/60 Hz	108 to 132	12 W

Electrical

LTC 8569/50, LTC 8570/50, LTC 8571/50, LTC 8572/50	230 VAC, 50/60 Hz	198 to 264	12 W
Indicators			
Power	LED		
Code	LED		
Connectors			
Inputs	Two (2), 9-pin Sub D connectors (four (4) with LTC 8570 Series and LTC 8572 Series).		
Outputs	Sixteen (32 on LTC 8571 and LTC 8572 Series) 6-contact removable screw terminal blocks for code output. Maximum transmission distance is 1.5 km (5000 ft.) using 1 mm ² (18 AWG) shielded-twisted pair (Belden 8760 or equivalent).		
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long		

Mechanical

Construction/Finish	Charcoal colored metal enclosure
Dimensions (W x D x H)	445 x 318 x 89 mm (17.5 x 12.5 x 3.5 in.). Integral mounting flanges for EIA 48 cm (19 in.) rack.
Weight	5.3 kg (11.7 lb)

LTC 8770 Series Relay Units

The LTC 8770 Series are relay units that are designed to operate with devices that generate Allegiant Bi-Phase control code. These devices include the Allegiant series of video matrix switcher/controllers, System4 series of multiplexers, LTC 5136 controller series, etc. The LTC 8770 receives Bi-Phase control signals and opens or closes relays, depending upon the desired operating mode. Each LTC 8770 unit provides 24 individually isolated relays for connecting to external devices. In addition, six functional operating modes are available, including one user activated test mode.

Electrical

Model No.	Rated Voltage	Voltage Range	Power
LTC 8770/50	230 VAC, 50/60 Hz	198 to 264	8 W
LTC 8770/60	230 VAC, 50/60 Hz	105 to 132	8 W
Indicators	Power and data transmission activity displayed using LEDs. Device number or logical relay number indicated by a 4-position thumbwheel switch located on the rear panel.		
Connectors			
Inputs	One (1), 3-pin removable screw terminal connector, located on the rear panel; communication port where Bi-Phase commands are received		
Outputs	Four (4), 12-pin removable screw terminal connectors located on the rear panel; relay contact (0.5 A at 20 VAC/DC and a maximum resistive load of 10 VA) 36 peak volts from either pin of the relay to ground		
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long		

Mechanical

Construction/Finish	Steel chassis with sheet metal cover and plastic bezel. Charcoal colored case.
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11 x 1.59 in.)

Mechanical

Weight	1.9 kg (4.3 lb)
Optional Rack Mount Kit	LTC 9101/00 (Holds 1 or 2 units)

LTC 8712 Series CONSOLE Port Expanders

The LTC 8712 Series “expands” an Allegiant system's CONSOLE port to permit up to 4 external computing devices to communicate with the system via RS-232 protocol. Any computing device that can normally communicate directly with an Allegiant via its RS-232 CONSOLE port can be used with these port expanders. The external devices can consist of PCs running the Allegiant system's Master Control Software package, the Allegiant Graphical User Interface (GUI), access control systems, LTC 8555/02 RS-232 keyboards, or other devices utilizing the Allegiant system's Command Console Language (CCL). The LTC 8712 Series can be used with the LTC 8100, LTC 8200, LTC 8300, LTC 8500, LTC 8600, LTC 8800, or LTC 8900 Series systems containing CPU software version 6.5 or higher.

Electrical

Model No.	Rated Voltage	Voltage Range	Power
LTC 8712/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8712/50	230 VAC, 50/60 Hz	198 to 264	10 W
Indicators	Power and data transmission activity displayed using LEDs		
Connectors			
Inputs	One (1), 9-pin Sub D connector; provides RS-232 interface to Allegiant bay. Two-meter (6-ft) interconnect cable to main bay supplied		
Outputs	Four (4), 9-pin Sub D connectors for RS-232 interface to up to four external devices		
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long		

Mechanical

Construction/Finish	Steel chassis with sheet metal cover and plastic bezel. Charcoal colored case.
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11 x 1.59 in.)
Weight	1.9 kg (4.3 lb)
Optional Rack Mount Kit	LTC 9101/00 (Holds 1 or 2 units)

LTC 8713 Series Alarm Port Expander

The LTC 8713 Series interfaces to a LTC 8500, LTC 8600, LTC 8800, or LTC 8900 Series alarm port to permit additional LTC 8540/00 Alarm Interface units to be connected to the system. A single LTC 8713 series alarm port expander supports up to four LTC 8540/00 alarm interface units. This provides the capability for up to 256 alarm input points. Multiple LTC 8713 units may be combined to provide up to 1024 alarm input points using up to sixteen LTC 8540/00 units. The actual number of units that can be used in a system depends upon the model of the Allegiant system being used. System interconnect cable is included. A separate 12 VAC or DC, 8 W power supply is required for each LTC 8540/00.

Alarm Capacities

Allegiant Model No.	Maximum No. of Alarms	Maximum No. of LTC 8713	Maximum No. of LTC 8540/00
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Alarm Capacities

LTC 8500	128	1	2
LTC 8600	512	3	8
LTC 8800	1024	5	16
LTC 8900	1024	5	16

Electrical

Model No.	Rated Voltage	Voltage Range	Power
LTC 8713/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8713/50	230 VAC, 50/60 Hz	198 to 264	10 W
Indicators	Power and data transmission activity displayed using LEDs.		

Connectors

Inputs	One (1), 9-pin Sub D connector; provides RS-232 interface to main Allegiant bay. Two-meter (6-ft) interconnect cable to main bay supplied.
Outputs	Four (4), non-powered, 9-pin Sub D connectors for RS-232 interface to up to four expanded LTC 8540/00 units. Data cables supplied with LTC 8540/00 are used to connect alarm interfaces to port expander. A separate 12 VAC or DC, 8 W power supply is required for each LTC 8540/00.
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long

Mechanical

Construction/Finish	Steel chassis with sheet metal cover and plastic bezel. Charcoal colored case.
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11 x 1.59 in.)
Weight	1.9 kg (4.3 lb)
Optional Rack Mount Kit	LTC 9101/00 (Holds 1 or 2 units)

LTC 8714 Series and LTC 8715 Series Keyboard Port Expanders

The LTC 8714 Series and the LTC 8715 Series are port expander accessory units used to provide additional keyboard capacity for LTC 8600, LTC 8800, or LTC 8900 Series Allegiant systems. A single LTC 8714 Series unit can be used to interface up to eight keyboards with an Allegiant system. A single LTC 8715 Series is used to interface up to four LTC 8714 Series expanders in a system. Multiple LTC 8715 Series expanders can be used along with multiple LTC 8714 Series expanders to provide up to 64 keyboards in a system. The actual number of units that can be used in a system depends upon the model of the Allegiant system.

Allegiant System Capacities

Allegiant Model No.	Maximum No. of Keyboards	Maximum No. of LTC 8714	Maximum No. of LTC 8715
LTC 8600	16	1	0
LTC 8800	32	3	1
LTC 8900	64	7	3

The above table assumes eight system keyboards are connected directly into the Allegiant CPU bay keyboard ports. An LTC 8557 Series keyboard hookup kit is required for each expanded keyboard. LTC 8714 and LTC 8715 port expanders can only be used on LTC 8600, LTC 8800, and LTC 8900 systems containing CPU software version 6.2 or later.

Electrical

Model No.	Rated Voltage	Voltage Range	Power
LTC 8714/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8715/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8714/50	230 VAC, 50/60 Hz	198 to 264	10 W
LTC 8715/50	230 VAC, 50/60 Hz	198 to 264	10 W
Indicators	Power and data transmission activity displayed using LEDs		

LTC 8714 Series Connectors

Interface Data Port: One (1), 9-pin Sub D connector provides data interface to COM 2 port of main Allegiant CPU bay or to expansion port of LTC 8715 Series. Two-meter (6-ft) interconnect cable supplied. Keyboard Data Ports: Eight (8), 6-contact non-powered Allegiant series keyboard cable connectors. An LTC 8557 Series keyboard hookup kits are required for each Allegiant LTC 8555 series keyboard to be interfaced to LTC 8714 Series. For the IntuiKey Series keyboards, a separate power pack can be used.

LTC 8715 Series Connectors

Interface Data Ports: Five (5), 9-pin, Sub D connectors provide data interface to COM 2 port of main Allegiant CPU bay and data interface for up to four LTC 8714 Series units. Two-meter (6-ft) interconnect cable for main bay interface supplied.

AC Input: 3-wire power cord with grounded plug; 1.8 m (6 ft) long.

Mechanical

Construction/Finish	Steel chassis with sheet metal cover and plastic bezel. Charcoal colored case.
Dimensions (W x D x H)	223 x 280 x 40 mm (8.77 x 11 x 1.59 in.)
Weight	1.9 kg (4.3 lb)
Optional Rack Mount Kit	LTC 9101/00 (Holds 1 or 2 units)

LTC 8780 Series Data Converter Units

The LTC 8780 Series are accessory units that convert the Allegiant system's Bi-Phase control code into RS-232, or converts RS-232 back to Bi-Phase code. This provides the capability of transmitting the control code over conventional RS-232 transmission mediums such as phone modems, fiber optics, microwaves, etc. The unit will accept the Bi-Phase control code generated by an Allegiant main CPU bay, a LTC 8568/00 Signal Distribution unit, or an output from a LTC 8569, LTC 8570 Series or LTC 8571, LTC 8572 Series Code Merger unit.

The LTC 8780 Series are also designed to perform the Satellite selector functions in an Allegiant Satellite system configuration. In addition, using its integral signal distribution capability, the LTC 8780 Series can function as a remote distribution unit providing 15 separate outputs. As a distribution unit, wiring can be in either a “star” or “daisy chain” configuration and each output is capable of driving 8 receiver/driver loads at up to 1.5 km (5000 ft) away using 1 mm² (18 AWG) shielded-twisted pair (Belden 8760 or equivalent).

Refer to separate datasheet for complete specifications.

LTC 8781 Series Time/Date Converters

The LTC 8781 Series are accessory units that decode the Allegiant system's encoded time/date information generated on the Bi-Phase control code line and convert it into an RS-422 format using the GPS format. This time/date information can be used to interface into external time/date inserter products (such as the Kalatel KTS-53-16), which are designed to be synchronized via a GPS signal. The electrical and mechanical specifications are the same as the LTC 8780 Series units.

LTC 8782 Series Code Translator Units

The LTC 8782 Series Code Translators are accessory units that convert Bi-Phase code to other manufactures' control codes, or convert other manufactures' codes to Bi-Phase. Many of the most popular protocol codes are supported, including Pelco, Vicon, American Dynamics, Sensormatic, Kalatel, Diamond Electronics, and Javelin. Fixed and variable speed codes are supported where applicable.

The LTC 8782 Series Code Translators have four independent outputs. Removable screw terminal blocks are used for input and output connections. The Front panel LEDs indicate the status of power, data receive, and data transmit. The translator comes supplied in an EIA 48 cm (19 in.) rack-mount adapter that can hold up to three units.

Refer to the LTC 8782 series data sheet for complete specifications.

LTC 8785 Series Code Converters

LTC 8785 Series units are designed for use in very old Allegiant systems that have been upgraded to support 'variable speed' control code protocol. The LTC 8785 units are used to provide a source of 'fixed speed' control code when the system is generating the new 'variable speed' control code preferred by the AutoDome series of PTZ cameras. The LTC 8785 receives variable speed control code from the Allegiant via its LTC 8568/00 Signal Distribution unit and converts it into appropriate fixed speed control code. The 'fixed speed' control code outputs from the LTC 8785 Series connect to the older TC8561 Series receiver/drivers using the existing field cabling.

Electrical

Model No.	Rated Voltage	Voltage Range	Power
LTC 8785/60	120 VAC, 50/60 Hz	108 to 132	12 W
LTC 8785/50	230 VAC, 50/60 Hz	198 to 265	12 W
Indicators			
• Power	LED		
• Code	LED		
Connectors			
Inputs	One (1), 9-pin Sub D connector		

Electrical

Outputs	Sixteen (16), 6-contact removable screw terminal blocks for code output. Maximum transmission distance is 1.5 km (5000 ft) using 1 mm ² (18 AWG) shielded twisted pair (Belden 8760 or equivalent).
AC Input	3-wire power cord with grounded plug; 1.8 m (6 ft) long

Mechanical

Construction/Finish	Charcoal colored metal enclosure
Dimensions (W x D x H)	445 x 318 x 89 mm (17.5 x 12.5 x 3.5 in.) Integral mounting flanges for EIA 22.86 cm (9 in.) rack
Weight	5.3 kg. (11.7 lb)

LTC 8786 Data Converter Series

The LTC 8786 Series of data converters are designed to convert Bosch “Receiver/Driver and AutoDome RS-232 Control Code Protocol” into Allegiant Bi-Phase control code. These units are the preferred method for transforming the single data output from a DiBos DVR (or a similar device) into multiple control code outputs for operating AutoDome cameras. Either “star” or “daisy chain” wiring configurations can be used from each of its 16 outputs. Using daisy chain, each output is capable of driving 8 receiver/driver loads at up to 1.5 km (5000 ft.) away using 1 mm² (18 AWG) shielded-twisted pair (Belden 8760 or equivalent).

Refer to the LTC 8786 series datasheet for complete specifications.

LTC 8016/90 Bilinx™ Data Interface Unit

The LTC 8016/90 Allegiant Bilinx Data Interface unit is an accessory used for communicating over-the-coax, with up to 16 Bilinx-capable AutoDome® and/or Dinion™ Series cameras. Compatible with all seven Allegiant Series matrix switcher/controllers, the LTC 8016 provides complete control of pan/tilt/zoom, auxiliaries, and pre-position functions of Bilinx enabled AutoDome Series cameras. In addition, complete programming of Dinion Series cameras and AutoDomes via their on-screen menus is supported.

Bilinx technology also supports camera-generated event reporting to the Allegiant. This allows remote alarm inputs and motion event data to be sent by the camera to the Allegiant without the need for additional wiring between the camera site and the main control location.

In addition, the LTC 8016 is designed so that other Bi-Phase code generating products, like Bosch Digital Videos Recorders, can be used with the unit for control of PTZ functions and camera menu access over the video cable.

The LTC 8016 is supplied in an enclosure compatible with mounting in an EIA 48 cm (19 in.) rack, requiring only a 1-U rack height. To support large systems, up to 31 units can be cascaded, comprising up to 496 Bilinx-compatible cameras.

The LTC 8016 can also be used to transmit Bilinx communications over a number of video transmission systems. Example devices include fiber optic links and external balun devices that use CAT5 twisted pair cables for video communication.

Refer to the LTC 8016/90 datasheet for complete specifications.

LTC 8808/00 Video Interconnect Panel

The LTC 8808/00 Video Interconnect panel provides the LTC 8200, LTC 8300 Series, LTC 8600 Series, and LTC 8800 Series systems the ability of looping up to 32 video inputs per panel. This 'patch' panel contains 32 BNC connectors on its front panel for external video connections and two 16-contact ribbon connectors on its rear panel. Two, 2-meter (6-ft) 16-conductor video grade ribbon cables are included for interfacing the patch panel to the video looping connectors on the rear panel of the LTC 8200, LTC 8300 Series, LTC 8600 Series, and LTC 8800 Series equipment bays.

Mechanical

Construction/Finish	Charcoal painted metal
Size	One standard EIA 48 cm (19 in.) rack unit high and one unit wide. Integral mounting flange design.
Weight	0.8 kg (1.8 lb)

LTC 8807/00 Video Interconnect Panel

The LTC 8807/00 Video Interconnect Panel is identical to the LTC 8808/00 described above, except that it does not include the two video ribbon cables. This video interconnect panel is intended for use with products that are supplied with video ribbon cables, such as the LTC 8016/90 Bilinx Data Interface unit.

For example, the ribbon cables from up to two LTC 8016 units can be converted into 32 standard female BNC connectors using this interface panel. This configuration is necessary when the LTC 8016 unit will be separated from the control unit beyond a 2 m (6 ft) distance.

LTC 8809 Series Video Ribbon Cables

The LTC 8809 series are 16-channel video ribbon cables that are used to provide connections between certain devices. Specifically designed for the transport of 75 Ohm video signals, these cables are available in three different lengths:

Model Number	Length
LTC 8809/00	2 m (6 ft)
LTC 8809/01	1 m (3 ft)
LTC 8809/02	3.2 m (10.5 ft)

Each cable contains a 34-pin connector at each end that is designed to 'lock' into the corresponding connector found on the rear panels of the Allegiant LTC 8800 and LTC 8900 series matrix switchers. In addition, these cables are supplied with certain other products, including the LTC 8808/00 Video Interconnect Panel and the LTC 8016/90 Bilinx Data Interface unit.

LTC 8506/00 Allegiant Console Cable

The LTC 8506/00 is an RS-232 grade cable with 9-pin, Sub D-connectors on each end that is used to connect an Allegiant's system's Console port to a standard PC Com port. This cable is included in the Allegiant LTC 8059 Master Control Software and the LTC 8850 Allegiant GUI packages.

Length: 3 m (10 ft), approximately.

LTC 8508/01 Ribbon-to-BNC Interface Cable

The LTC 8508/01 is a video interface cable with a 34-pin ribbon cable on one end and 16 male BNC connectors on the other end. This cable can be used to loop up to 16-channels of video signals from products having the ribbon cable connector interface to other devices that utilize BNC connectors. Typical products with 34-pin ribbon cable connector interfaces include the LTC 8016/90 Bilinx Data Interface unit and the DESA^{XL} series digital video recorder.

Length: 1 m (3 ft), approximately

LTC 8059/00 Allegiant Master Control Software

The LTC 8059/00 brings the familiarity of the personal computer to those who supervise closed circuit television systems. Running on a Microsoft® Windows based compatible computer, this software is the human interface that makes it quick and easy to configure an entire Allegiant system.

With the Master Control Software (MCS), users can set and change an Allegiant's system parameters; program camera sequences; lock cameras, monitors, remotes, and keyboards from certain users; and perform many other system control features. Users can also view system activity with real time monitoring of the system status, and if desired, log this information to a file stored on the hard drive.

The MCS is compatible with all current versions of the Allegiant Series Video Switcher/Control systems. Typically, the MCS communicates with the Allegiant system through a direct RS-232 interface, but it is also possible to install the MCS on a remote PC connected across a Windows based network.

Earlier versions of Allegiant systems may be upgraded to be compatible with the MCS by the installation of current hardware or software upgrades. Contact your Bosch Security Systems, Inc. Sales Representative or Technical Support Representative for details.

- Minimum System Requirements, PC Platform:
 - Microsoft Windows® compatible PC, Intel® Pentium® 120 MHz or greater
 - 16 MB RAM (with Windows® 95, 98 SE, or ME)
 - 32 MB RAM (with Windows NT, 2000, or XP)
 - 250 MB fixed drive space
 - CD-ROM drive
- One of the following Operating Systems:
 - Windows 98 SE
 - Windows ME
 - Windows NT (Service Pack 4)
 - Windows 2000 (Service Pack 3 or later)
 - Windows XP Professional
- Ports Required (Minimum)
 - One (1) parallel port (for software Security Dongle device) configured for bi-directional operation (examine BIOS settings if necessary; Note: USB-to-parallel port adapters are not compatible)
 - One (1) serial port for external interface communications
 - Additional serial ports required if multiple systems are being interfaced
 - SVGA display or compatible display

- Software Includes:
 - LTC 8059/00 User Manual
 - CD-ROM
 - Software security key (attaches to PC Parallel port)
 - PC-to-system interface cable (S1385)

LTC 8850 Windows Based Allegiant Software

The LTC 8850 Graphical User Interface (GUI) software is a PC based program designed for complete control and programming of the Allegiant series of matrix switchers.

With a mouse click on an icon, operators can easily take control of system hardware devices, including cameras, monitors, and alarms. Jumping from one map to another is easily accomplished using special link icons.

System Administrators can easily call up the included Allegiant LTC 8059/00 Master Control Software module for entering the Allegiant system's camera titles, sequences, alarm responses, and many other configuration features.

Communication between the GUI workstations and an Allegiant system can be made using an RS-232 link, or via a Windows based PC network.

- Minimum System Requirements PC Platform:
 - Microsoft Windows® compatible PC, Intel® Pentium® 120 MHz or greater
 - 16 MB RAM (with Windows® 95, 98 SE, or ME)
 - 32 MB RAM (with Windows NT, 2000, or XP)
 - 250 MB fixed drive space
 - CD-ROM drive
- Operating Systems
 - Windows 98 SE
 - Windows ME
 - Windows NT (Service Pack 4)
 - Windows 2000 (Service Pack 3 or later)
 - Windows XP Professional
- Ports Required (Minimum)
 - One (1) parallel port (for software Security Dongle device) configured for bi-directional operation (examine BIOS settings if necessary; Note: USB-to-parallel port adapters are not compatible)
 - One (1) Serial port for external interface communications
 - Additional serial ports required if multiple systems are being interfaced
 - SVGA display or compatible display
 - Mouse, trackball, or touch screen pointing device

Note: Note: For a live video display on the PC monitor, a Windows-compatible Video Digitizer Card must be used. The FlashBus MV Lite, supplied by Integral Technologies, Inc., may be used. For availability, and your nearest distributor, contact Integral Technologies, Inc. at 317-845-9242 or www.integraltech.com.

- Software Includes:
 - LTC 8850/00 User Manual
 - CD-ROM
 - Software security key (attaches to PC Parallel port)
 - LTC 8506/00 PC-to-system interface cable

Refer to the LTC 8850 series datasheet for complete specifications.

ADIM DVR Interface Software

ADIM is a powerful security and surveillance solution that combines the robust features of the Bosch Allegiant matrix switcher with the speed and quality of digital video recording. This tightly integrated solution uses the IntuiKey keyboard to control all cameras, monitors and digital video recorders (see back for compatibility). Reviewing an event has never been easier. The push of a single button transforms the IntuiKey into a DVR controller, allowing instant playback of video from the current camera, for display on the CCTV monitor. Using the joystick, one can easily fast forward or fast reverse to review the recording. Furthermore, Bosch DVRs can playback and record simultaneously, thus ensuring uninterrupted recording. ADIM is a rugged, reliable, and scalable solution, providing a true migration path for digital recording. Expanding your system is as easy as replacing a VCR. The ADIM solution uses stand-alone digital video recorders and incorporates Bosch disk arrays. ADIM is not restricted by network bandwidth, or subject to single point catastrophic failures. ADIM continuously monitors all DVRs for proper recording and archiving, and status can be viewed or printed. In the event of a DVR or Disk Array failure, ADIM will display a message on the CCTV monitors. For added security, ADIM provides automatic switchover to backup digital video recorders and DVAS RAID 5 protected disk arrays with hot swappable drives. In addition, ADIM logs events and synchronizes the Allegiant and all Digital video recorder clocks.

Refer to the ADIM datasheet for complete specifications.

SFT-INTSRV Allegiant Integration Software

The SFT-INTSRV software CD contains three distinct software packages that can be used integrate external devices with an Allegiant system matrix switcher. Please refer to the following sections for details:

Integration Server

The Integration Server is a versatile software package used to integrate multiple systems that are not ordinarily compatible with each other. These systems can include Video Switchers, Point of Sale systems, Fire/Burglar alarms, Access Control, or HVAC systems.

Devices can be interfaced using any of 3 different methods, including a serial RS-232 connection, a digital I/O card, or directly to an Allegiant Switcher via the LTC 8059 Master Control Software program.

The Integration Server software is programmed to recognize events as they occur in real time from one or more systems, based upon one of the three integration methods mentioned above. It then reacts to those events by sending commands to another system or systems.

- Minimum System Requirements PC Platform:
 - Microsoft Windows® compatible PC, Intel® Pentium® 120 MHz or greater
 - 8 MB RAM (with Windows® 98 SE, or ME)
 - 16 MB RAM (with Windows 2000, or XP)
 - 250 MB fixed drive space
 - CD-ROM drive

- Operating Systems
 - Windows 98 SE
 - Windows ME
 - Windows 2000 (Service Pack 3 or later)
 - Windows XP Professional
- Ports Required (Minimum)
 - One (1) USB port (or USB hub port) for USB Security Dongle
 - One (1) Serial port for external interface communications
 - Additional serial ports required if multiple systems are being interfaced—up to 16 supported
 - SVGA display or compatible display
 - ISA slot if software will be used with National Instruments™ # PC-DIO-24 Data I/O card
- Software Includes:
 - LTC 8050/00 User Manual
 - CD-ROM
 - Software security key (attaches to PC USB port)
 - LTC 8506/00 PC-to-system interface cable

Virtual Allegiant Satellite Application Software

VASA (Virtual Allegiant Satellite Application) is Bosch's strategic product that allows existing Allegiant customers to transition gradually to pure IP technologies rather than a total and instantaneous replacement.

VASA acts as the integration bridge between an existing Allegiant and the new digital based CCTV system (the 'satellite') that uses digital video encoders and decoders. With VASA, the new IP technology is totally transparent to the existing Allegiant users who continue to use their IntuiKey CCTV keyboards for video switching and PTZ control on classic analog monitors.

VASA supports the Allegiant LTC 8100 through the LTC 8900 Series matrix switchers. In addition to PTZ control, VASA provides auxiliary and preposition control of the IP based cameras.

VASA improves the ROI on existing capital assets, removes the need for training and reduces the risk for adopting new technology by incrementally adding to the system. The integration is seamless and the transition is designed to be imperceptible.

- Recommended PC Platform:
 - Microsoft Windows® compatible PC, Intel® Pentium® 2.8 GHz or greater
 - 512 MB RAM (with Windows 2000, or XP)
 - 50 MB Fixed Drive space
 - CD-ROM Drive
- Operating Systems
 - Windows 2000 (Service Pack 3 or later)
 - Windows XP Professional
- Ports Required (Minimum)
 - 10/100BaseT Ethernet interface
 - One (1) USB port (or USB hub port) for USB Security Dongle
 - One (1) Serial port for external interface communications
 - Additional serial ports required if multiple interfaces are used
 - SVGA display or compatible display

To ensure optimal performance, a dedicated PC is recommended to run this application.

Refer to the VASA datasheet for complete specifications.

Allegiant Satellite SDK

The Allegiant Satellite Software Development Kit (SDK) is a fully supported set of libraries, documentation, and samples targeted at PC-based application software that is used to control third-party CCTV matrix systems or manage IP-based digital video networks.

Since the SDK can be used to create customized solutions for unique, specific problems, customers looking to integrate an Allegiant matrix system with products offered by other manufacturers is readily accomplished.

For the thousands of existing Allegiant customers, it also provides a bridge to integrate or expand their systems with IP-based products gradually rather than a total and instantaneous replacement.

When operating in an Allegiant satellite system configuration, an Allegiant master generates switching and PTZ data that is typically used to control a remote Allegiant satellite matrix. Using the SDK, the video switching commands and PTZ data from the master system are converted into an ActiveX interface allowing developers to easily translate this information into formats used to control other original equipment manufacturer's (OEM) systems. The SDK also supports an ability to translate repetitive type Allegiant PTZ commands to their indefinite equivalents, resulting in reduced interface traffic and lower bandwidth demands when controlling IP-based networks.

The level of integration available with the SDK results in a robust interface that provides transparent operation to the existing Allegiant operators. Operators continue to use their existing CCTV keyboards for selecting video and control of PTZ devices on the Allegiant monitors. This type of solution improves the return of investment on existing capital assets, removes the need for training, and reduces the risk for adopting new technology by incrementally adding to the system.

The SDK is compatible with all models of the Allegiant Series switchers. In addition to video switching commands and PTZ control, auxiliaries and prepositions are also supported.

The SDK is supplied with five (5) sample applications. Three (3) samples use C++ to demonstrate incorporating the SDK in a Console, ATL, and MFC application. In addition, samples using Visual Basic®, and Microsoft's® .NET Framework are included.

- Recommended PC Platform:
 - Microsoft Windows® compatible PC, Intel® Pentium® 2.8 GHz or greater
 - 512 MB RAM
 - 50 MB fixed drive space
 - CD-ROM drive
- Operating Systems
 - Windows 2000 (Service Pack 3 or later)
 - Windows XP Professional
- Ports Required (Minimum)
 - One (1) Serial port for external interface communications
 - Additional serial ports required if multiple systems are being interfaced
 - SVGA display or compatible display

Refer to the Allegiant Satellite SDK datasheet for complete specifications.

Ordering Information

LTC 8555/00 Compact Full-function Keyboard variable speed joystick	LTC8555/00
LTC 8555/01 Compact Full-function Keyboard variable speed joystick, icon graphics	LTC8555/01
LTC 8555/02 Compact Full-function Keyboard variable speed joystick, RS-232 protocol	LTC 8555/02
LTC 8555/03 Compact Full-function Keyboard variable speed joystick, RS-232 protocol, icon graphics	LTC8555/03
LTC 8540/00 Alarm Interface Unit Alarm interface, 64 alarm inputs, 8 relay closures	LTC8540/00
LTC 9050/00 Keyboard Rack Mount Kit Keyboard Rack Mount Kit	LTC905000
LTC 8558/00 Keyboard Cable optional, 30.5 m (100 feet)	LTC8558/00
LTC 8568/00 Signal Distribution Unit 32 separate biphase outputs	LTC8568/00
LTC 8768/00 Signal Distribution Unit 64 separate biphase outputs	LTC8768/00
LTC 8569/50 Code Merger Unit allows 2 Biphase devices to control 32 outputs, 230 VAC, 50 Hz	LTC8569/50
LTC 8569/60 Code Merger Unit allows 2 Biphase devices to control 32 outputs, 120 VAC, 50/60 Hz	LTC8569/60
LTC 8570/50 Code Merger Unit allows 4 Biphase devices to control 32 outputs, 230 VAC, 50 Hz	LTC8570/50
LTC 8570/60 Code Merger Unit allows 4 Biphase devices to control 32 outputs, 120 VAC, 50/60 Hz	LTC8570/60
LTC 8571/50 Code Merger Unit allows 2 Biphase devices to control 64 outputs, 230 VAC, 50 Hz	LTC8571/50
LTC 8572/50 Code Merger Unit allows 4 Biphase devices to control 64 outputs, 230 VAC, 50 Hz	LTC8572/50
LTC 8572/60 Code Merger Unit allows 4 Biphase devices to control 64 outputs, 120 VAC, 60 Hz	LTC8572/60
LTC 8590 Series Allegiant Coaxial Trans. Systems Allegiant Coaxial Transmission Systems	LTC8590
LTC 8712/50 Allegiant Console Port Expander for LTC 8600/LTC 8800 console port expander, RS-232, 230°VAC, 50 Hz	LTC8712/50
LTC 8712/60 Allegiant Console Port Expander for LTC 8600/LTC 8800 console port expander, RS-232, 115°VAC, 60 Hz	LTC8712/60
LTC 8713/50 Alarm Port Expander for up to 4 LTC 8540/00 units, half rack, 230 VAC, 50 Hz	LTC8713/50
LTC 8713/60 Alarm Port Expander for up to 4 LTC 8540/00 units, half rack, 115 VAC, 60 Hz	LTC8713/60

Ordering Information

LTC 8714/50 Keyboard Port Expander for up to 8 Allegiant keyboards, half rack, 230 VAC, 50 Hz	LTC8714/50
LTC 8714/60 Keyboard Port Expander for up to 8 Allegiant keyboards, half rack, 115°VAC, 60°Hz	LTC8714/60
LTC 8715/50 Port Expander for multiple LTC 8714/50 units, 230 VAC, 50 Hz	LTC8715/50
LTC 8715/60 Port Expander for multiple LTC 8714/60 units, half rack, 115 VAC, 60 Hz	LTC8715/60
LTC 8785/50 Data Converter Unit converts var. speed to fixed speed code, 230 VAC, 50 Hz	LTC8785/50
LTC 8785/60 Data Converter Unit converts var. speed code to fixed speed code, 120 VAC, 60 Hz	LTC8785/60
LTC 8808/00 Video Interconnect Panel Video connect panel	LTC8808/00
LTC 8770/50 Switcher/Follower Unit for Allegiant system, 24 Relay contact, half rack, 230 VAC, 50 Hz	LTC8770/50
LTC 8770/60 Switcher/Follower Unit for Allegiant system, 24 Relay contact, half rack, 120 VAC, 60 Hz	LTC8770/60
LTC 8059/00 Allegiant Software for Windows Allegiant systems programming software for Windows 95 and NT	LTC8059/00
LTC 8506/00 Cable PC-to-Console port, for Allegiant Systems	LTC8506/00
LTC 8507/00 Cable Cable, printer port	LTC8507/00
LTC 8809/00 Ribbon Cable 16 conductor for LTC 8200, 8300, 8600, 8800, 8900 Systems, 1.8 m (6 ft)	LTC8809/00
LTC 8809/01 Ribbon Cable 16 conductor, for LTC 8200, 8300, 8600, 8800, 8900 Systems, 0.9 m (3°ft)	LTC8809/01
LTC 8809/02 Ribbon Cable 16 conductor, for LTC 8200, 8300, 8600, 8800, 8900 Systems, 3°m (9.9°ft)	LTC8809/02
LTC 8781/50 Time/Date Converter Unit provides output in GPS format, half rack, 230 VAC, 50 Hz	LTC8781/50
LTC 8781/60 Time/Date Converter Unit provides output in GPS format	LTC8781Series
LTC 8560/50 Single Channel On-site Receiver/Driver 230 VAC pan/tilt voltage, 230 VAC power supply, no auxiliary, 50°Hz	LTC8560/50
LTC 8560/60 Single Channel On-site Receiver/Driver 120 VAC pan/tilt voltage, 120°VAC power supply, no auxiliary, 50/60 Hz	LTC8560/60
LTC 8780/50 Data Converter Unit Allegiant biphase control code to RS-232, 230 VAC, 50 Hz	LTC8780/50

Ordering Information

LTC 8780/60 Data Converter Unit	LTC8780/60
Allegiant biphas control code to RS-232, 115 V, 60 Hz	
LTC 8850/00 GUI Allegiant Single User Software Package	LTC8850/00
complete with Allegiant and VCR server	

LTC 8016/90 Allegiant Bilinx Data Interface



Features

- ▶ Bilinx technology interface for Allegiant Series matrix switcher/controllers
- ▶ Up-the-coax Pan/Tilt/Zoom (PTZ), auxiliary, and pre-position control
- ▶ Down-the-coax event reporting
- ▶ Auto-sensing setup for simplified installation
- ▶ Data input allows other devices to control Bilinx PTZ cameras
- ▶ Cascade units to control up to 496 Bilinx cameras

The LTC 8016/90 Allegiant Bilinx Data Interface unit is an accessory used for communicating over-the-coax, with up to 16 Bilinx-capable AutoDome® and/or Dinion™ Series cameras. Compatible with all seven Allegiant Series matrix switcher/controllers, the LTC 8016 provides complete control of pan/tilt/zoom, auxiliaries, and pre-position functions of Bilinx enabled AutoDome Series cameras. In addition, complete programming of Dinion Series cameras and AutoDomes via their on-screen menus is supported.

Functions

Bilinx technology also supports camera-generated event reporting to the Allegiant. This technology allows remote alarm inputs and motion event data to be sent to the Allegiant without the need for additional wiring between the camera site and the main control location.

The LTC 8016 is designed so that other Bi-Phase code generating products, like Bosch Digital Videos Recorders, can be used with the unit for control of PTZ functions and camera menu access over the video cable. This high level of flexibility provides a low cost per channel solution whenever control and configuration of remote cameras is needed.

With Bilinx technology, installation costs are reduced because no additional data communication cabling to the camera site is required. Installation time is also reduced; once the cameras and data cable to the LTC 8016 are connected, and its group ID number is set, all other internal settings are configured automatically.

Use of the LTC 8016 also reduces camera installation time because there is no need to set AutoDome site addresses. At initial connection of an AutoDome camera to the LTC 8016, its identification is automatically established.

The LTC 8016 is supplied in an enclosure compatible with mounting in an EIA 48 cm (19 in.) rack, requiring only a 1-unit rack height. To support large systems, up to 31 units can be cascaded, comprising up to 496 Bilinx-compatible cameras.

The LTC 8016 can also be used to transmit Bilinx communications over a number of video transmission systems. Example devices include fiber optic links and external balun devices that use CAT5 twisted pair cables for video communication.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards

Technical Specifications

Electrical

Voltage Range	108 to 264 VAC, 50/60 Hz
Power at Rated Voltage	15 W

Maximum Video Signal Distances

Coax	Up to 300 m (1000 ft) using standard CCTV-grade RG-59U with copper center conductor and copper braided shield; up to 600 m (2000 ft.) using CCTV-grade RG-11 or RG-6.
Fiber	Up to 600 m (2000 ft) using LTC 4630 and LTC 4631 Series fiber optic modules. Note: This distance includes the length of coax cables used between the devices and the fiber optic link.
Other	Up to 230 m (750 ft) using CAT5E cable that meets ANSI/TIA/EIA-568-A requirements with NV-211 or NV-214 A-M BNC-to-twisted Balun devices (or similar passive device pair). Note: When using twisted pair links of this type, some degradation in video quality may be experienced at distances beyond 150°m (500°ft).

Front Panel Indicators

Status / Power	LED
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Rear Panel Indicators

System Data Link Indicator	Green LED
Data Activity Indicator	Yellow LED
Bi-Phase Code Indicator	Green LED
Bilinx Video Signal Presence	One (1) green LED for each of 16 channels
Ethernet Port	Green LED indicates link; Yellow LED indicates activity

Rear Panel Controls

Group ID	Three (3) rotary switches
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Rear Panel Connectors

Bilinx Video Inputs	16 BNC connectors; accepts standard NTSC/PAL baseband composite video signals or video signals from Bilinx-capable cameras; 0.5–1.4 Vp-p; 75 Ohm terminated; TVS protected inputs provide improved protection against transients
Video Outputs	Male 34-pin video ribbon connector; provides 16 video outputs (unity gain using active circuitry); mating 2 m (6°ft) 16-channel LTC 8809/00 cable included

Electrical

Bi-Phase Data Interface	6-position removable terminal block with "+", "-", and "shield" input connections and "+", "-", and "shield" looping output connections, with attached end-of-line termination resistor
PC Interface	Male 9-pin sub D-connector
RS-232 Data Interface ¹	Female 9-pin sub D-connector for Allegiant RS-232 interface
RS-485 Data Interface ¹	Female 9-pin sub D-connector for Allegiant RS-485 interface port connection
RS-485 'Looping' Data Interface ¹	Female 9-pin sub D-connector, for data interface to cascaded LTC 8016 unit
1. One (1), 2 m (6 ft) data interface cable is supplied for use with the Allegiant RS-232 inter-	
Ethernet Interface	RJ-45 connector, supporting 10/100 BaseT (reserved for future use)
Power Cord	Two (2) detachable 3-wire IEC cords with grounded plug, 1.83 m (6 ft.); one with European continental plug type and one with US plug type

Environmental

Temperature

Operating	0°C to 50°C (32°F to 122°F)
Storage	-10°C to 70°C (14°F to 158°F)
Humidity	0% to 90% relative, non-condensing

Mechanical

Construction	Steel chassis with sheet metal cover and plastic bezel
Finish	Charcoal case
Dimensions (W x D x H)	440 x 305 x 40 mm (17.3 x 12 x 1.7 in.)
Weight	3.8 kg (8.5 lb)
Rack-mount Kit (included)	For mounting unit in an EIA 48 cm (19 in.) rack

Optional Accessories

LTC 8508/01 Ribbon-to-BNC Interface Cable

Interface cable with a 34-pin ribbon cable on one end and 16 male BNC connectors on the other end. This cable is required when the LTC 8016 unit will be connected to control system devices that do not contain a 34-pin ribbon cable connector.

LTC 8807/00 BNC Panel Interface panel used to convert video ribbon cables from up to two LTC 8016 units into 32 standard female BNC connectors. Useful when the LTC 8016 unit will be separated from the control unit beyond the 2 m (6 ft) distance allowed by the video ribbon cable supplied with the unit.

LTC 4630, LTC 4631 Fiber Optic Series modules compatible with Bilinx communication. Available in surface-mount and rack-mount models. Refer to the LTC 4600 Series data sheet for complete information on these products.

NV-211 or NV-214 A-M BNC-to-twisted pair adaptors passive (non-amplified) devices compatible with Bilinx technology, allowing transmission of real-time monochrome or color video over unshielded twisted pair (UTP) telephone wire. Refer to the NV-214 A-M Series data sheet for complete information on these products.

Compatibility

Allegiant Matrix Switchers	Requires an Allegiant CPU firmware 8.6 or later (released May 2004)
AutoDome Cameras	All models manufactured October 2003 (version 5.11), or later
Dinion Cameras	Dinion Series manufactured March 2004, or later
Bi-Phase Devices	Any product generating standard Allegiant Bi-Phase Control Code protocol

Ordering Information

LTC 8016/90 Allegiant Bilinx Data Interface	LTC 8016/90
LTC 8508/01 Ribbon-to-BNC interface cable for LTC 8016, with a 34-pin ribbon cable on one end and 16 male BNC connectors on the other end, 1 m (3 ft)	LTC8508/01
LTC 8807/00 BNC Panel 32 channel video interconnect panel, for use with up to 2 LTC 8809 video ribbon cables	LTC8807/00
LTC 463x Fiber optics series Fiber optic modules compatible with Bilinx communication. Available in surface-mount and rack-mount models. Refer to the LTC 4600 Series Data Sheet for complete information on these products.	LTC463x

LTC 8786 Series RS-232 to Biphase Converter



Features

- For use with PC, DÉSA Digital Video Recorder, or other devices running user-supplied video controller software
- Provides up to 16 Bi-Phase control code outputs
- Each output operates up to 8 devices in a daisy chain
- Compact design

The LTC 8786 Series of data converters are designed to convert Bosch "Receiver/Driver and AutoDome RS-232 Control Code Protocol" into Allegiant biphas control code.

These units are specifically designed to transform the single data output from a DÉSA DVR (or a similar device) into multiple control code outputs for operating AutoDome cameras.

The Bosch "Receiver/Driver and AutoDome RS-232 Control Code Protocol" is a simplex RS-232 data format designed to communicate with the Bosch line of receiver/drivers, AutoDome cameras, LTC 8786 converters, and other compatible accessory devices. Complete information on the protocol can be obtained by downloading the manual from the AutoDome section of www.boschsecuritysystems.com.

The input RS-232 baud rate of the LTC®8786 Series is fixed at 9600 baud, 1 stop bit, 8 data bits, no parity, and no handshake. The LTC 8786 Series units can be connected directly to the RS-232 serial port of a PC using an industry standard null modem cable. If another connection type is required, an interface cable can easily be constructed using the supplied 9-Pin D connector.

Certifications and Approvals

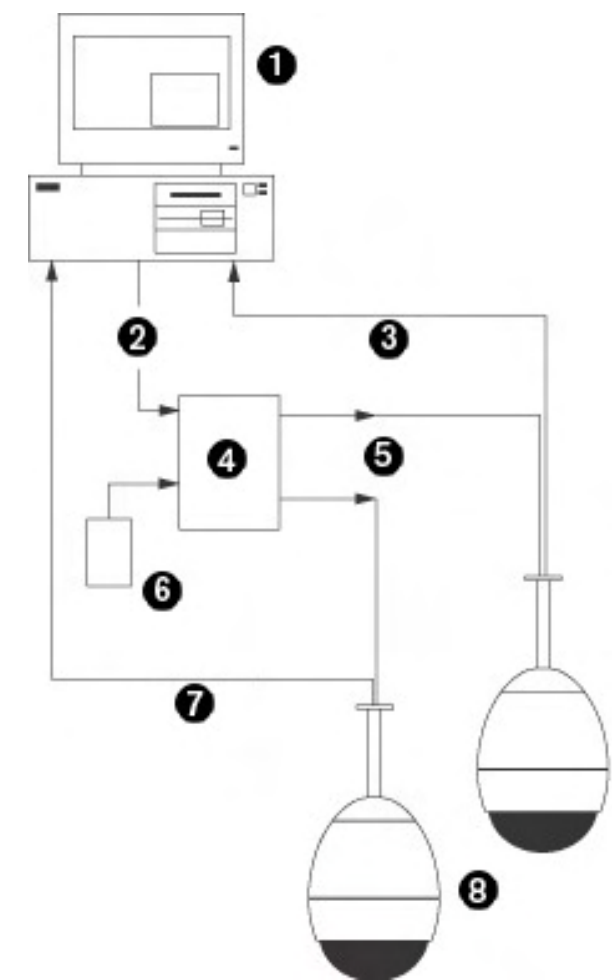
Agency Certifications

EMC Immunity	EN50130-4
EMC Emission	EN55022-1, FCC Part 15, Class A

Safety

Converter	CE, LVD 73/23/EEC
Power Supply Adapter	CE, UL, CSA, TUV

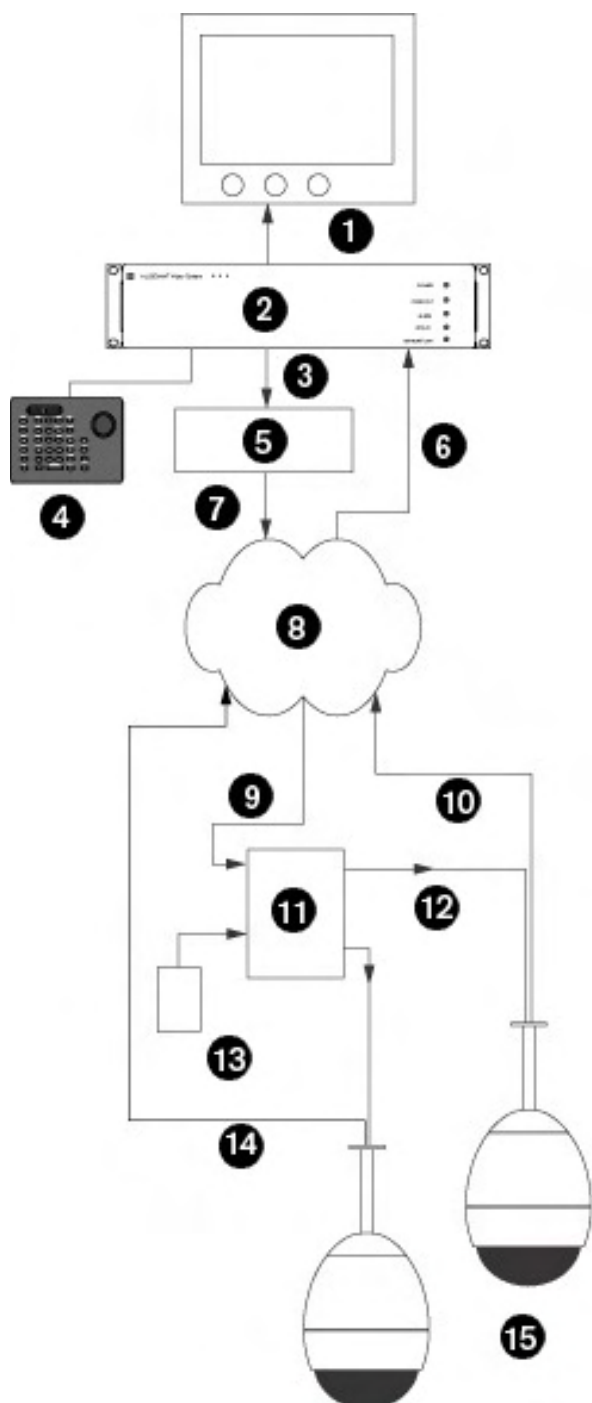
Installation/Configuration Notes



Typical Configurations

Using PC or DÉSA Digital Video Recorder as Source of RS-232 Data

1	Typical DESA Digital Video Recorder or Other Device Running User-supplied Video/Control Software
2	RS-232 Data
3	Video Signal
4	LTC 8786 Converter
5	Up to 16 Bi-Phase Control Code Outputs
6	LTC 8786 Power Supply Adapter
7	Video Signal
8	Typical AutoDome Cameras or Allegiant Receiver/Driver Units



When Used as Remote RS-232 to Bi-Phase Converter

1	Video Monitor
2	Allegiant System
3	Bi-Phase Data
4	Allegiant Keyboard
5	LTC 8780 Data Converter
6	Video Signal
7	RS-232 Data
8	Video and RS-232 Communication Link
9	RS-232 Data
10	Video Signal
11	LTC 8786 Converter
12	Up to 16 Bi-Phase control code outputs
13	LTC 8786 Power Supply Adapter
14	Video Signal
15	Typical AutoDome Cameras or Allegiant Receiver/Driver Units

Technical Specifications

Electrical

Model No. ¹	Rated Voltage	Voltage Range
LTC 8786/60	120 VAC, 50/60 Hz	105-132 VAC
LTC 8786/50	220-240 VAC, 50/60 Hz	195.5-253 VAC

1. Includes applicable power supply adapter.

Nominal Power	3 W (at rated voltage)
Indicator	3 W (at rated voltage)

Connectors

Data In	9-pin D Connector (a 9-pin adapter is supplied), RJ-11
Bi-Phase Output	Removable terminal blocks with three connections: (+), (-), and (S [Shield]) for each of the sixteen Bi-Phase code outputs
Power Connector	1.8 m (5.75 ft) power supply cable with bayonet type plug
Transmission Distance	1.5 km (5000 ft) using 1 mm ² (18 ^{AWG}) shielded twisted pair cable (Belden 8760 or equivalent)

Mechanical

Case	Black plastic with metal mounting flanges
Dimensions (Overall) (W x D x H)	154 x 132 x 38 mm (6.08 x 5.25 x 1.5 in.)
Weight	0.132 kg (0.7 lb)

Environmental

Operating Temperature Range	0°C to 40°C (32°F to 144°F)
Operating Humidity	10% to 90% non-condensing

Ordering Information

LTC 8786/50 RS-232 to Biphas Converter with 16 Biphas outputs, 220-240 VAC, 50/60 Hz, 195.5-253 VAC	LTC8786/50
LTC 8786/60 RS-232 to Biphas Converter with 16 Biphas outputs, 120 VAC, 50/60 Hz, 105-132 VAC	LTC8786/60

Recording Solutions

7

Divar - Digital Video Recorder



Features

- ▶ 6, 9 & 16-channel versions
- ▶ Bilinx communication optional
- ▶ Simultaneous recording, playback & archiving
- ▶ AutoDome control
- ▶ Smart motion search
- ▶ Authenticated images for evidence
- ▶ Multiple Divar 'control center' for remote operation
- ▶ Internal or external DVD writer

The Bosch Divar digital versatile recorder series are extremely compact, low profile units that combine advanced digital recording and multiplexing, not only saving space, but ensuring integrated functionality. The Divar has been designed with both operator and installer in mind, by making the unit easy to use and install, and maintenance free. The Divar allows simultaneous recording and playback of video images. "Overwrite protection" of marked video clips prevents the loss of vital material.

The images per second (IPS) record rate and image quality are selectable for each connected camera. This makes it possible to prioritize recording between high-risk areas and low risk areas. By having a higher refresh rate only for critical or high-risk security areas, considerable hard disk space can be saved. Recording rates of 50 IPS (PAL) or 60 IPS (NTSC) are guaranteed, without the need for synchronization.

As well as control of external alarm inputs, the Divar's motion detector triggers an alarm when movement in a user-definable area of the image is detected.

Smart motion search can be used for easy retrieval of motion that has taken place within a user-specified part of the image during a specified time-span.

The Divar is expandable with an optional keyboard, allowing AutoDome control as well as enhanced playback control.

Where video is required for evidence of an incident, it is simple to archive the video with a dedicated PC player for playback of the secure video files to a DVD or CD with the internal or external DVD writer. The Divar uses video authentication that can automatically detect any alteration of the recorded video.

For easy installation, a "Quick install" feature is included. Additionally, on-screen menus are provided in several languages and context sensitive help is always available by just pushing the yellow button. A configuration tool is supplied to simplify setting up a system using a PC. Because Divar is available with Bilinx, functions usually requiring hands-on access to a camera now use the video cable to communicate with Bilinx cameras.

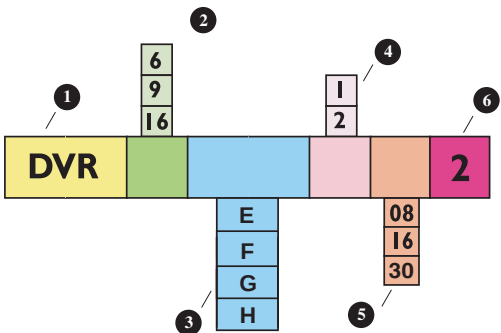
Owing to its high degree of integrated functionality, the Divar can be the central element in a self-contained security system with up to 256 cameras. Because the Divar is fully compatible with any standard 10/100 Base-T network, it is ideal for distributed security surveillance systems.

An optional ATM/POS bridge enables financial transaction details to be recorded together with video. This makes the Divar suitable for use at cash dispensers, check out desks and other similar applications where it is sometimes necessary to verify or identify what happened during a particular transaction.

Full control is also possible when using the user-friendly Control Center software that allows remote viewing of live and recorded video from multiple Divars at the same time. This makes it ideal for multiple location systems such as chains of shops or fast food outlets. Using Internet Explorer, the Divar can also be accessed to view live action or playback archived event without special software software or tools.

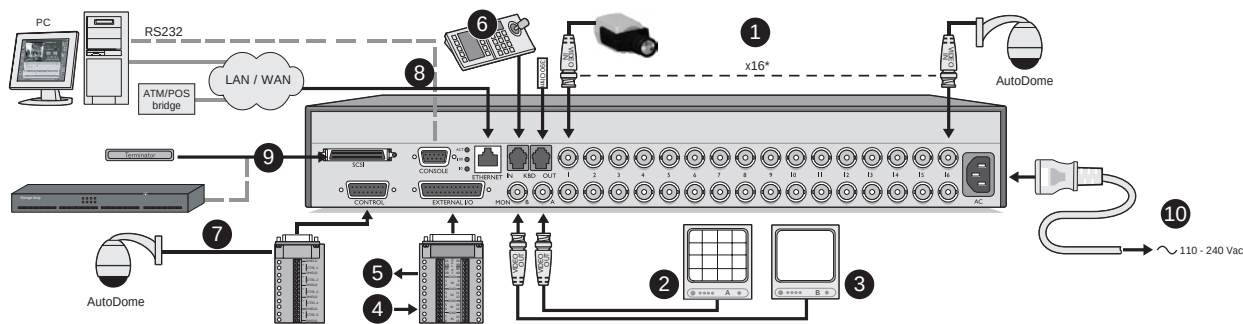
Where additional storage is required, optional storage arrays can be connected to expand the storage capacity. It is even possible to calculate the required capacity by visiting www.boschsecuritysystems.com and use the Divar storage calculator.

Installation/Configuration Notes



1	Type
2	Video inputs
3	E: Divar F: Divar with internal DVD writer G: Divar with Bilinx H: Divar with Bilinx and internal DVD writer
4 & 5	Disk capacity is the multiple of these two figures times 10 in GB
6	Revision

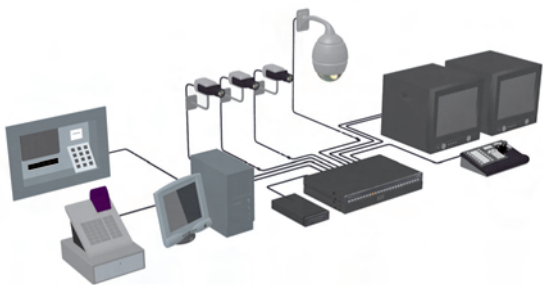
Note: the "G" option (Divar with Bilinx) is only available in the EMEA and the APR regions (this option is not offered in the US).



01	Cameras	06	Keyboard
02	Monitor	07	Control
03	Spot monitor	08	Ethernet
04	Inputs	09	SCSI
05	Outputs	10	Power

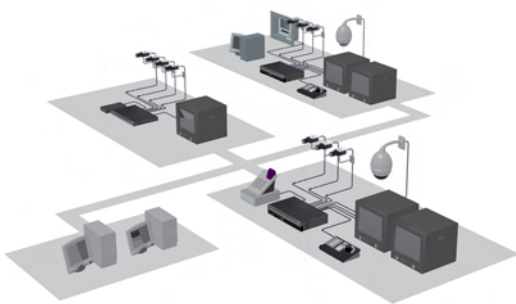
MEDIUM LOCALIZED SYSTEM

Using the Bosch Video Manager to build up CCTV recording system. Up to 16 Divar units with storage arrays for longer archive are managed by Video Manager. There can be two monitor locations, each with its own keyboard and alarm monitor. The alarm I/O is linked to external alarms. An ATM/POS bridge can be used to connect to an ATM or point-of-sale machine.



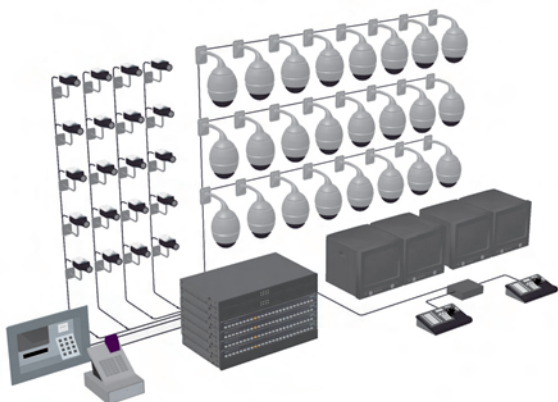
COMPLETE STAND-ALONE SYSTEM

Extending the functionality of a single Divar for active observation. This Divar system uses a universal keyboard for controlling fixed and AutoDome or PTZ cameras. It has a main monitor plus spot monitor, alarm I/O (for external alarms and sensors), a storage array and a PC with Control Center software. A DVD writer is used for making archives. An ATM/POS bridge can be used to connect to an ATM or point-of-sale machine.



MULTI-LOCATION WITH CENTRALIZED CONTROL

Using a wide-area network to link Divar systems in various locations. Each location has a local Divar system (from basic to complete). All locations are linked via a local- or wide-area network (LAN or WAN) to a PC with Control Center software for remote observation and system management. An ATM/POS bridge can be used to connect to an ATM or point-of-sale machine.



Technical Specifications

Electrical

Rated Voltage and Power

E and G versions	100-240 VAC; 0.7 - 0.3 A; 50 / 60Hz
F and H versions	100-240 VAC; 0.8 - 0.3 A; 50 / 60Hz

Video

Video standard	PAL / NTSC auto-detect
Resolution	720 x 576 PAL - 720 x 484 NTSC
AGC	Automatic adjustment or manual adjustment for each video input
Digital Zoom	2 or 4 times
Compression	Wavelet
Inputs	Composite video 0.5-2Vpp, 75 ohm auto terminating

Electrical

Outputs:	1Vpp, 75 Ohm
BiPhase	Impedance 128 ohm, max. overvoltage protection ±40V, max. cable length 1.5km

Alarm Handling

Inputs	16 Inputs configurable NO/NC, max. input 40VDC
Outputs	4 Relay outputs, configurable NO/NC, max. rated 30VAC-40VDC-0,5A continuous -10VA

Control

RS232	Output signals according EIA/TIA-232-F, max. input voltage ±25V
Keyboard input	Conform RS485, max. signal voltage ±12V, power supply to keyboard 11V-12.6V at max. 400mA
Keyboard output	Conform RS485, max. signal voltage ±12V

Connectors

Video inputs	6, 9 or 16 looping BNC, auto-terminating
Ethernet	RJ45S modular jack 8 pins shielded: 10/100 Base-T according IEEE802.3
Monitors	BNC (2), MON-A multi-screen, MON-B spot/alarm
Alarm Accessories	Screw terminal input
BiPhase	Screw terminal output
RS232	DB9 male
Keyboard input	RJ11 modular jack 6 pins
Keyboard output	RJ11 modular jack 6 pins
SCSI	HD 50 pins max. 7 (E and G versions) / 6 (F and H versions) connected ultra SCSI devices, 20 Mbytes/sec, terminated internally

Storage

Internal	80 - 160 - 320 - 600 GB
	Expandable via SCSI-2 with external storage arrays type DVAD or DVAS to a maximum of 17TB

File sizes

High quality	40 KB
Medium quality	24 KB
Standard quality	16 KB

Record Rate (IPS):

NTSC	60 total, configurable per camera: 30, 15, 10, 7.5, 6, 5, 4, 3, 2, 1, 1/2, 1/5, 1/10, 0
PAL	50 total, configurable per camera: 25, 12.5, 8, 6, 5, 4, 3, 2, 1, 1/2, 1/5, 1/10, 0
Recording resolution:	720 x 288 PAL - 720 x 242 NTSC

Display Modes

Mon A	Full, full sequence, quad, quad sequence, multi-screen, alarm call-up (live and playback)
Mon B	Full, full sequence and alarm call-up

Recording Modes

Linear, Continuous, Continuous with conditional overwrite

Mechanical**Dimensions**

E and G versions	442 x 315 x 45 mm (17.4 x 12.4 x 1.8 inch)
F and H versions	442 x 315 x 66 mm (17.4 x 12.4 x 2.6 inch)

Weight

E and G versions	Approx. 5.8 kg (12.8 lbs)
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Mechanical

F and H versions	Approx. 7.5 kg (16.5 lbs)
Rack Mount Kit	For mounting one unit in an EIA 19-inch rack.

Environmental**Temperature**

- Operating Temperature	
E and G versions	+0°C to +40°C (+32°F to +104°F)
F and H versions	+5°C to +40°C (+41°F to +104°F)
- Storage Temperature	-25°C to +70°C (-13°F to +158°F)

Relative humidity

- Operating	<93% Non-condensing
- Storage	<95% Non-condensing

Electromagnetic compatibility**EMC requirements**

- USA	FCC Part 15, Class B
- EU	EMC directive 89/336/EEC
Immunity	EN50130-4
Emission	EN55022 Class B
Mains Harmonics	EN61000-3-2
Voltage fluctuations	EN61000-3-3

Safety

- USA	UL6500 2nd edition
- EU	EN60950: 2000
- Can.	CAN/CSA-E60065-00

Minimum PC System Requirements

Control Center (CC) and Configuration Tool (CT)

Operating system	Windows 98, Millenium, NT 4.0, 2000 or XP
Processor	450 MHz Pentium II for CC, 200 MHz Pentium with MMX for CT
RAM memory	128 MB for CC, 32 MB for CT
Free disk space	50 MB for CC, 15 MB for CT
Video system	8 MB video memory, 800 x 600 with 16-bit color
Connection	10/100-BaseT network interface or free RS-232 port (CT only)

Ordering Information

DVR6E1082 Divar Digital Video Recorder 6 channel, with network I/F, 80 GB	DVR6E1082
DVR6E1162 Divar Digital Video Recorder 6 channel, with network I/F, 160 GB	DVR6E1162
DVR6E2162 Divar Digital Video Recorder 6 channel, with network I/F, 320 GB	DVR6E2162
DVR6E2302 Divar Digital Video Recorder 6 channel, with network I/F, 600 GB	DVR6E2302
DVR9E1082 Divar Digital Video Recorder 9 channel with network I/F, 80 GB	DVR9E1082
DVR9E1162 Divar Digital Video Recorder 9 channel with network I/F, 160 GB	DVR9E1162
DVR9E2162 Divar Digital Video Recorder 9 channel with network I/F, 320 GB	DVR9E2162
DVR9E2302 Divar Digital Video Recorder 9 channel with network I/F, 600 GB	DVR9E2302

Ordering Information

DVR16E1082 Divar Digital Video Recorder 16 channel, with network I/F, 80 GB	DVR16E1082
DVR16E1162 Divar Digital Video Recorder 16 channel, with network I/F, 160 GB	DVR16E1162
DVR16E2162 Divar Digital Video Recorder 16 channel, with network I/F, 320 GB	DVR16E2162
DVR16E2302 Divar Digital Video Recorder 16 channel, with network I/F, 600 GB	DVR16E2302
DVR6F1082 Divar Digital Video Recorder 6 channel, with network I/F, 80GB with internal DVD	DVR6F1082
DVR6F1162 Divar Digital Video Recorder 6 channel, with network I/F, 160GB with internal DVD	DVR6F1162
DVR6F2162 Divar Digital Video Recorder 6 channel, with network I/F, 320GB with internal DVD	DVR6F2162
DVR6F2302 Divar Digital Video Recorder 6 channel, with network I/F, 600GB with internal DVD	DVR6F2302
DVR9F1082 Divar Digital Video Recorder 9 channel with network I/F, 80GB with internal DVD	DVR9F1082
DVR9F1162 Divar Digital Video Recorder 9 channel, with network I/F, 160GB with internal DVD	DVR9F1162
DVR9F2162 Divar Digital Video Recorder 9 channel, with network I/F, 320GB with internal DVD	DVR9F2162
DVR9F2302 Divar Digital Video Recorder 9 channel with network I/F, 600GB with internal DVD	DVR9F2302
DVR16F1082 Divar Digital Video Recorders 16 channel, with network I/F, 80GB with internal DVD	DVR16F1082
DVR16F1162 Divar Digital Video Recorders 16 channel with network I/F, 160GB with internal DVD	DVR16F1162
DVR16F2162 Divar Digital Video Recorder 16 channel, with network I/F, 320GB with internal DVD	DVR16F2162
DVR16F2302 Divar Digital Video Recorder 16 channel, with network I/F, 600GB with internal DVD	DVR16F2302
DVR6G1082 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 80GB	DVR6G1082
DVR6G1162 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 160GB	DVR6G1162
DVR6G2162 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 320GB	DVR6G2162
DVR6G2302 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 600GB	DVR6G2302
DVR9G1082 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 80GB	DVR9G1082

Ordering Information

DVR9G1162 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 160GB	DVR9G1162
DVR9G2162 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 320GB	DVR9G2162
DVR9G2302 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 600GB	DVR9G2302
DVR16G1082 Divar with Bilinx Digital Video Recorder 16 channel, with network I/F, 80GB	DVR16G1082
DVR16G1162 Divar with Bilinx Digital Video Recorder 16 channel, with network I/F, 160GB	DVR16G1162
DVR16G2162 Divar with Bilinx Digital Video Recorder 16 channel, with network I/F, 320GB	DVR16G2162
DVR16G2302 Divar with Bilinx Digital Video Recorder 16 channel, with network I/F, 600GB	DVR16G2302
DVR6H1082 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 80 GB, with internal DVD	DVR6H1082
DVR6H1162 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 160GB, with internal DVD	DVR6H1162
DVR6H2162 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 320 GB, with internal DVD	DVR6H2162
DVR6H2302 Divar with Bilinx Digital Video Recorder 6 channel, with network I/F, 600GB, with internal DVD	DVR6H2302
DVR9H1082 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 80GB, with internal DVD	DVR9H1082
DVR9H1162 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 160GB, with internal DVD	DVR9H1162
DVR9H2162 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 320GB, with internal DVD	DVR9H2162
DVR9H2302 Divar with Bilinx Digital Video Recorder 9 channel, with network I/F, 600GB, with internal DVD	DVR9H2302
DVR16H1082 Divar with Bilinx Digital Video Recorder 16 channel, with network I/F, 80 GB, with internal DVD	DVR16H1082

Ordering Information**DVR16H1162 Divar with Bilinx Digital Video Recorder**

DVR16H1162

16 channel, with network I/F, 160 GB, with internal DVD

DVR16H2162 Divar with Bilinx Digital Video Recorder

DVR16H2162

16 channel, with network I/F, 320 GB, with internal DVD

DVR16H2302 Divar with Bilinx Digital Video Recorder

DVR16H2302

16 channel, with network I/F, 600 GB, with internal DVD

Accessories**KBD-Digital Keyboard**

KBD-Digital

IntuiKey Digital Keyboard for use with Divar Digital Video Recorders and System4 Multiplexers

KBD-Universal Keyboard

KBD-universal

IntuiKey Universal Keyboard for use with LCD Displays for Allegiant, Divar and System4 Multiplexers

DVRXEAP01 ATM/POS Bridge (Accessories)

DVRXEAP01

ATM/POS bridge Divar

DVRXEDVD1 Divar External CD/DVD Writer

DVRXEDVD1

100 - 240 VAC, 0.3 - 0.15 A, 50 / 60 Hz

LTC 2605/91 System4 Video Manager

LTC2605/91

for use with Divar and System 4 Multiplexers, 105-253 VAC, 50/60 Hz

LTC 8557/50 Keyboard Extension Kit

LTC8557/50

Hook-up kit for remote keyboard, up to 1.5 km (5000 ft), includes power supply for 230 VAC, 50 Hz

LTC 8557/60 Keyboard Extension Kit

LTC8557/60

Hook-up-kit for remote keyboard, up to 1.5 km (5000 ft), includes power supply for 120 VAC, 60 Hz

LTC 2604/50 Keyboard Port Expander Unit

LTC2604/50

System4, 230 V, 50 Hz

DVA-08K-04050RA SCSI Diskarray 8-bay

DVA-08K-04050RA

4 HDD, 2 TB

DVA-08K-08050RA SCSI Diskarray 8-bay

DVA-08K-08050RA

8 HDD, 4 TB

DVA-16K-16050RA SCSI Diskarray 16-bay

DVA-16K-16050RA

16 HDD, 8 TB

Software Options**DVRSEUG12 Divar-1 Upgrade License**

DVRSEUG12

DVRSEAP01 ATM/POS License DIVAR

DVRSEAP01

Divar - external CD/DVD writer (Accessories)

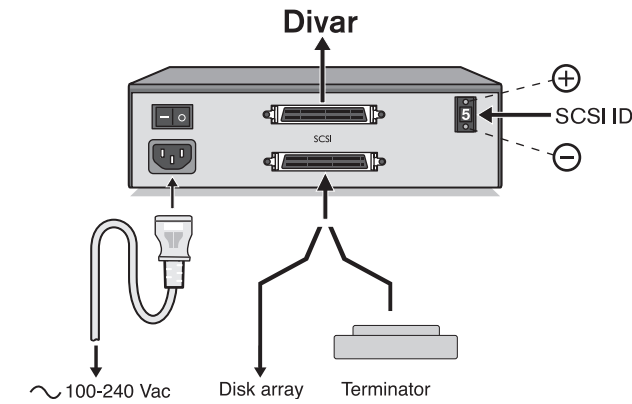


Features

- Fast and easy local archiving
- Archive to DVD or CD
- Multiple archives per disk
- Just plug & burn

Where video is required for evidence of an incident, the Divar external DVD writer is the fastest and easiest way to archive recordings on high-capacity optical media. The Divar external DVD writer makes creating an archive simple and very user friendly. After selecting recordings, archiving is fully automatic and carried out without the need for a PC. Multiple archives can be written to a single disk. The writer is compatible with industry standard CD-R, CD-RW, DVD+R or DVD+RW format discs, and allows multiple archives to be recorded on a single disc. Thanks to fast writing speeds, the Divar external DVD writer is one of the fastest dedicated writers for digital video recorders. Together with the archived video, a dedicated PC player is written to the inserted medium for playback of the secure video files on any PC. The dedicated PC player also has the ability to authenticate the archived images. Installation of the external DVD writer is very easy. Simply connect the writer to the SCSI port of the Divar, power it on and start archiving.

Installation/Configuration Notes



Divar-2 rearview

Parts Included

Quantity	Component
1	Divar - External CD/DVD Writer

Technical Specifications

Electrical	
Rated voltage & power	100 - 240 VAC; 0.3 - 0.15 A; 50 / 60 Hz
Interface	SCSI-2 HD 50 pins
Write speed	Approx. 1 MB/s
Connection	If no disk array is used, be sure to connect the supplied terminator to the second SCSI connector. Otherwise connect the external CD/DVD writer to the Divar first, and then connect the optional disk array to the external CD/DVD writer.
Internal cable length	2 x 15 cm (5.9 inch)
Max. total SCSI cable length	1 to 4 SCSI devices: 3 m (118 inch) 5 to 7 SCSI devices: 1.5 m (59 inch)
SCSI ID	Selectable between 0 and 6 (default 5). If you are using a disk array, the selected ID for the external CD/DVD writer should be different from the ID set on the disk array.
Write speed external DVD writer	
	- DVD+R / DVD+RW: 4 x (or higher) - CD-R: 40 x (or higher) - CD-RW: 24 x (or higher)
Supported media	DVD+R, DVD+RW, CD-R, CD-RW
Not all CD and DVD media may work, for a detailed list of CD & DVD media that has been approved visit www.boschsecuritysystems.com	

Mechanical

Dimensions	175 x 305 x 60 mm (6.89x12.01x2.36 inch)
Weight	Approx. 2.5 kg, (5,53 lbs)

Environmental

Temperature	
Operating	+5°C to +45°C (+41°F to +113°F)
Storage	-20°C to +60°C (-4°F to +140°F)

Relative humidity	
Operating	<80% Non-condensing
Storage	<90% Non-condensing

Electromagnetic compatibility	
EMC requirements	
USA	FCC Part 15 Class B
EU	EMC directive 89/336/EEC Immunity: EN50130-4 Emission: EN55022 Class B Harmonics: EN 61000-3-2 Voltage fluctuations: EN 61000-3-3

Safety	
USA	UL 60950
EU	EN 60065
Can.	CAN/CSA 60065-00 cUL

Ordering Information

Divar - external CD/DVD writer (Accessories)	Divar CD/DVD writer DVRXEDVD1
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Divar Easy - Digital Video Recorder

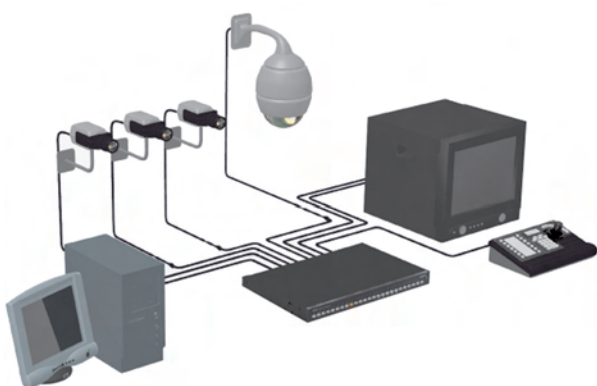


Features

- ▶ 6, 9 and 16-channel versions
- ▶ Models with or without internal DVD writer
- ▶ Automatic division of recording rates
- ▶ Simultaneous recording, playback and archiving
- ▶ Authenticated images for evidence
- ▶ Central Control Center software for controlling multiple Divar units
- ▶ Integrated AutoDome control

The Bosch Divar Easy versatile digital recorder series are extremely compact, low profile units that combine advanced digital recording and multiplexing, saving space and providing integrated functionality. The Divar Easy is simple to install and use, and is maintenance-free. It can simultaneously record and play back video images.

System Overview



Example of a typical Divar Easy system setup

In the preceding example, an Intuikey keyboard is attached to the unit for easy control of the system, which includes an AutoDome and three fixed cameras. The PC with Control Center software provides easy viewing of live and recorded video from anywhere in the network. The DVD writer in the PC is used for making archives.

Functions

Easy Installation

A "Quick install" wizard ensures Easy installation for standard applications. On-screen menus in multiple languages and context-sensitive help, which is always available by pressing the yellow key, ensures installation is easy and user friendly. For special applications, a configuration tool is supplied to simplify advanced configuration of a system via a PC. Languages supported are English, Czech, Danish, Dutch, Finnish, French, German, Hungarian, Italian, Norwegian, Polish, Portuguese, Spanish and Swedish.

Automatic division of recording rates

The record rate IPS (Images Per Second) is automatically adjusted and evenly divided between all connected cameras. Recording rates of 50 IPS (PAL) or 60 IPS (NTSC) are guaranteed, without the need for synchronization. By simply setting the maximum record rate, the IPS is dynamically recalculated when connecting or disconnecting cameras.

Motion detector

When movement in a user-defined area of the image is detected, the Divar Easy motion detector is triggered. Alarms can be triggered by equipment connected to the control inputs.

Authenticated images for evidence

Where secure video is required for evidence purposes, Divar Easy can produce a ready-to-use CD or DVD with embedded viewing software that starts automatically when the disc is inserted into a standard PC. No special software needs to be installed on the viewing computer. The viewing software uses video authentication that automatically detects any alteration of the recorded video.

Remote operation with central Control Center

The user-friendly Control Center software provides full control. It allows remote viewing of live and recorded video from multiple Divars at the same time. This makes it ideal for multiple location systems such as franchised shops or fast food outlets. Live, as well as archived video, can also be viewed via a web browser without special tools or software.

Expansion

The Divar Easy can be expanded with an optional Intuikey keyboard for easier and better control of the unit, including enhanced playback control and AutoDome control.

Controls and Indicators

- 4 playback control keys
- 5 function keys
- 6, 9 or 16 camera keys
- 12 alternate keys
- 5 indicators (Record, Network, Alarm, Video loss, Power)

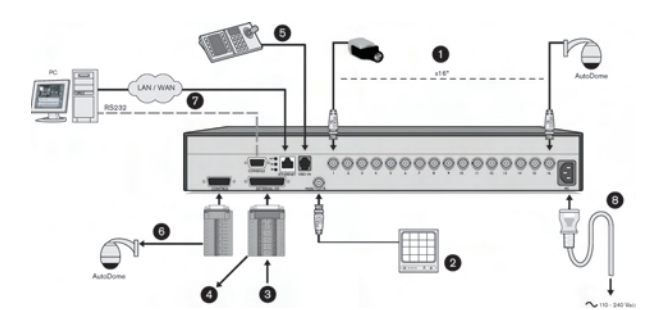
Interconnections

See 'Installation and Configuration Notes' and 'Technical Specifications'.

Certifications and Approvals

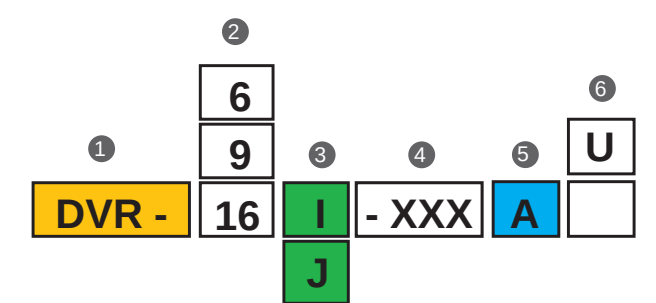
Safety	UL 6500 2nd ed.; CSA-E60065; EN 60950 (CE)
Immunity	EN 50130-4 (CE)
Emission	EN 50022 class B (CE); FCC, class B part 15; EN 61000-3-2 (CE); EN 61000-3-3 (CE)
European directive	EMC directive 89/336/EEC

Installation/Configuration Notes



Interconnections (rear view)

1	Cameras	5	Keyboard
2	Monitor	6	Control
3	Inputs	7	Ethernet
4	Outputs	8	Power



Commercial type number (on type plate)

1	Type
2	Video inputs
3	I: Divar Easy without internal DVD writer J: Divar Easy with internal DVD writer
4	XXX is disk capacity in GB x 10
5	Revision
6	Country code (e.g. U for UK)

Parts Included

Quantity	Component
1	Divar Easy 6, 9 or 16 Digital Video Recorder
1	25-pin D-type connector board with screw terminals (used for switching and alarm connections)
1	15-pin D-type connector board with screw terminals (used for PTZ connections)
1	Power supply cord
1	Network cross-over cable
1	Serial RS232 cross-over (null-modem) cable
1	Rack mounting kit
1	CD-ROM with the software and the manuals

Technical Specifications

Electrical

Power supply

Voltage range	100 to 240 VAC, 50/60Hz
Power consumption (H x V)	
I versions	0.3 to 0.7 A
J versions	0.3 to 0.8 A

Video

Video standards	PAL / NTSC auto-detect
Live resolution (H x V)	
PAL	720 x 576
NTSC	720 x 484
Record resolution (H x V)	
PAL	720 x 288
NTSC	720 x 242
Record rate (IPS)	Configurable for all cameras
PAL	25 / 12.5 / 8 / 6 / 5 / 4 / 3 / 2 / 1 / 0.5 / 0.2 / 0.1 / 0 (50 total)
NTSC	30 / 15 / 10 / 7.5 / 6 / 5 / 4 / 3 / 2 / 1 / 0.5 / 0.2 / 0.1 / 0 (60 total)
Recording mode	Continuous
Display modes	Full, full sequence, quad, quad sequence, multi-screen, alarm call-up (live and play-back)
Digital zoom	2 x or 4 x
Compression	Wavelet
Video input type	Composite, 0.5 to 2 Vpp
Video input impedance	75 ohm, auto terminating
Video output type	Composite, 1 Vpp
Video output impedance	75 ohm

Storage

Number of disks	1 to 2
Supported disk sizes	80 / 160 / 320 / 640 GB
File sizes per image	
high quality	40 kb
medium quality	24 kb
standard quality	16 kb

Input/output

Video inputs	BNC connector (6 x, 9 x or 16 x)
Video output	BNC connector (1 x Mon A)
Ethernet	RJ45S modular jack 8-pin shielded 10/100 Base-T acc. to IEEE802.3
Control inputs	Screw terminal (6 x, 9 x or 16 x)
Control outputs	Screw terminal (4 x)
Control output (BiPhase)	Screw terminal
Serial in/out	RS-232, DB-9 male, output signals according to EIA/TIA-232-F, max input voltage $\pm 25V$
Keyboard input	RJ11 modular jack 6-pin

Mechanical

Dimensions (H x W x D)	
I version	45 x 442 x 315 mm (1.8 x 17.4 x 12.4 in)
J version	66 x 442 x 315 mm (2.6 x 17.4 x 12.4 in)
Weight	
I version	Approx. 5.8 kg (12.8 lbs)
J version	Approx. 7.5 kg (16.5 lbs)
Mounting	Tabletop, 19" rack
Color	Charcoal (Panton color 426C)

Environmental

Operating temperature	
I version	0 °C to +40 °C (+32 °F to +104 °F)
J version	+5 °C to +40 °C (+41 °F to +104 °F)
Storage temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Operating humidity	<93% relative humidity
Storage humidity	<95% relative humidity

Minimum PC System Requirements

Control Center (CC) and Configuration Tool (CT)	
Operating system	Windows 98, Millennium, NT 4.0, 2000 or XP
Processor	450 MHz Pentium II for CC, 200 MHz Pentium with MMX for CT
RAM memory	128 MB for CC, 32 MB for CT
Free disk space	50 MB for CC, 15 MB for CT
Video system	8 MB video memory, 800 x 600 with 16-bit color
Connection	10/100-BaseT network interface or free RS- 232 port (CT only)

Ordering Information

DVR-6I-008A 6CH, 80GB without DVD writer, 6-channel, 80 GB	DVR-6I-008A
DVR-6I-032A 6-CH, 320GB without DVD writer, 6-channel, 320 GB	DVR-6I-032A
DVR-9I-008A 9-CH, 80GB without DVD writer, 9-channel, 80 GB	DVR-9I-008A
DVR-9I-032A 9-CH, 320GB without DVD writer, 9-channel, 320 GB	DVR-9I-032A
DVR-16I-016A 16-CH, 160GB without DVD writer, 16-channel, 160 GB	DVR-16I-016A
DVR-16I-032A 16-CH, 320GB without DVD writer, 16-channel, 320 GB	DVR-16I-032A

Ordering Information

DVR-16I-064A 16-CH, 640GB without DVD writer, 16-channel, 640 GB	DVR-16I-064A
DVR-6J-032A 6-CH, 320GB with DVD writer, 6-channel, 320 GB	DVR-6J-032A
DVR-9J-016A 9-CH, 160GB with DVD writer, 9-channel, 160 GB	DVR-9J-016A
DVR-9J-032A 9-CH, 320GB with DVD writer, 9-channel, 320 GB	DVR-9J-032A
DVR-16J-032A 16-CH, 320GB with DVD writer, 16-channel, 320 GB	DVR-16J-032A
DVR-16J-064A 16-CH, 640GB with DVD writer, 16-channel, 640 GB	DVR-16J-064A

DiBos 19 inch Digital Video Recorders - Version 8



Features

- ▶ Models for 6, 12, 18, 24 and 30 analog cameras and up to 32 additional network cameras/video encoders
- ▶ MPEG4 compression
- ▶ Control cameras and AutoDomes with Biphase or Bilinx
- ▶ 2 spot monitor outputs
- ▶ Web-browser remote access and viewing
- ▶ DVD writer for exporting video clips
- ▶ Connectable to Bosch alarm panels
- ▶ Easy to use and powerful user interface

DiBos uses Bosch's proven state of the art digital recording and communications technology and takes video surveillance to a new level. It is an integral part of overall security solutions for a wide range of applications – including banks, large retailers, railway stations, airports, city centers, industrial facilities, and office buildings.

Customers can retrieve vital images and share information faster than ever before. They can better assess critical situations and take action immediately. Whether they're on site or at a remote network location, authorized personnel have quick, convenient access to information so they can operate more effectively and efficiently.

DiBos can store up to 450/375 ips (NTSC/PAL) on 30 composite video inputs. As many as 10 audio data streams can be recorded on a 30-video channel unit. Users can connect up to 32 additional network cameras or network video encoders and store up to 30/25 ips per attached network unit. Every network video encoder can add one additional audio channel. In addition to Bosch MPEG4 network units, DiBos can receive JPEG images from network cameras from numerous manufacturers.

The system offers advanced features for viewing and very high flexibility in recording and image access. The real power of DiBos is fast, convenient accessibility to images and information. If required, accessibility to images and information is possible round the clock and everywhere all over the world. Communication and access to DiBos is possible via private or public networks. For these purposes the system can be connected to a variety of peripheral devices and systems.

The unique, scalable GUI allows live and recorded images from multiple remote systems to be viewed from a single PC or another DiBos. With this powerful tool, security managers can monitor and supervise various locations simultaneously.

Cameras and viewing modes can be programmed or selected manually. Each camera offers in-window pan/tilt/zoom functionality from local or remote facilities. Images are displayed with date/time, location, camera name and status of connected devices such as detectors and sensors.

DiBos can be programmed to respond to specific situations and events automatically. Minimal human intervention is necessary.

In response to alarms, the system can be programmed to transmit images or messages to security personnel or security control center.

Playback is easy thanks to familiar search and navigation functions in a tree structure. Images can be accessed locally or remotely via a company network or the Internet. The customer can select multiple different views from up to 30 cameras.

Fast, powerful image search functions eliminate time-consuming manual searches. Functions include search for image changes, search for criteria such as camera number, recording date/time, and optional ATM transaction data, e. g. credit card number, bank code, account number, and/or amount withdrawn.

To ensure high security, all access is controlled by user authorization. Profiles are assigned by the system administrator. Events, such as login, logoff, status changes, image transmission, and system shutdown are stored in a database. Video authentication is built in to ensure that DiBos images are not altered in any way.

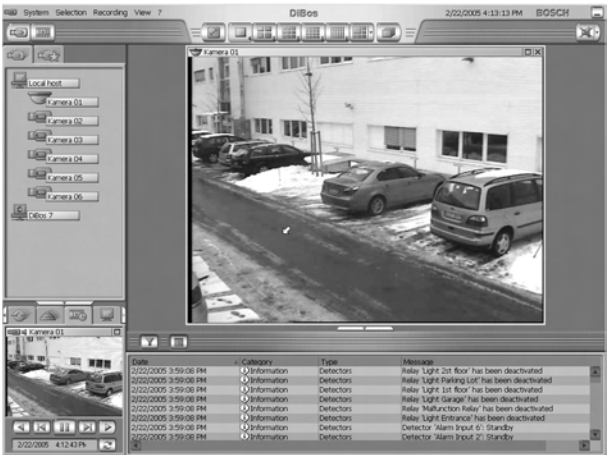
Various storage devices – such as external disk arrays, RAID and NAS devices, and external disk drives – may be used for export and backup of images.

DiBos supports Bilinx for pan/tilt/zoom and camera configuration via the video coax cable.

The configuration wizard makes installation quick and easy.

DiBos serial ports can be connected to Bosch alarm panels, ATM, Allegiant matrices and foyer card readers.

Live mode

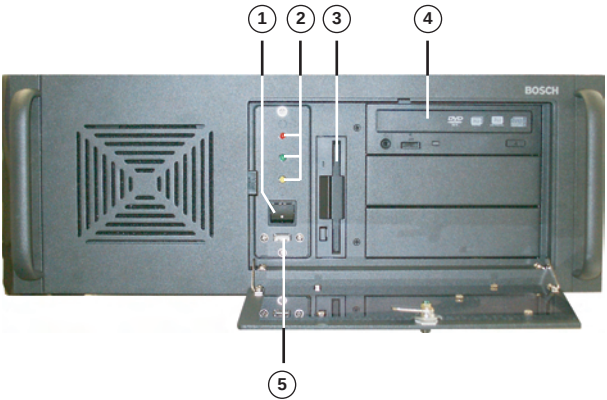


Playback mode



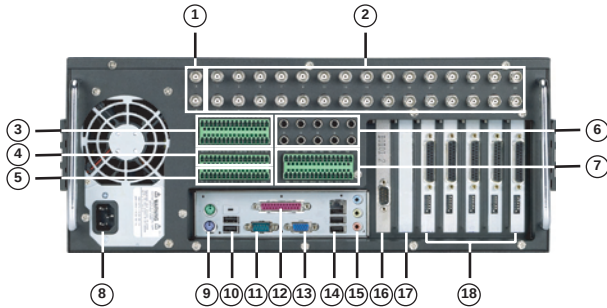
Installation/Configuration Notes

Front view:



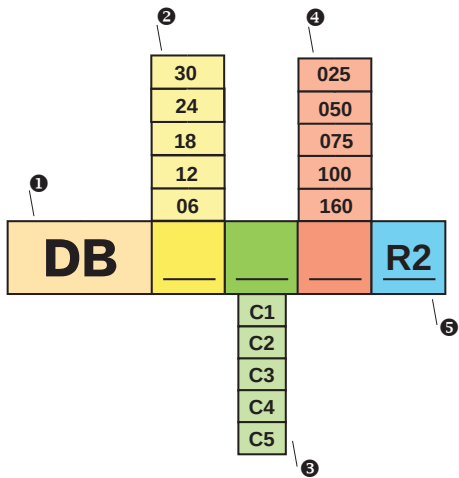
1	On/Off switch	4	DVD writer
2	Control lamps: Yellow = unused Red = Hard disk access Green = system is switched on	5	USB 2.0
3	Floppy disk drive		

Rear view:



1	Video monitor A Videomonitor B	10	2x USB 2.0
2	Video inputs 1 - 30	11	Serial port COM1
3	Alarm inputs 1 - 21	12	Parallel interface (Dongle must be plugged in)
4	Alarm inputs 22 - 32	13	VGA monitor
5	Biphase 1 - 4, malfunction outputs 1	14	Ethernet (RJ45) 2x USB 2.0
6	Audio inputs 1 - 10	15	Line In (blue) Speaker Out (green) Microphone In (red), Mono
7	Relay outputs 1 - 16	16	Second serial port
8	Mains connection 100 / 240 VAC, 50 / 60 Hz (automatic switchover)	17	Free for optional PCI plug-in cards
9	Mouse (green) Keyboard (purple)	18	Grabbers 1 - 5

Ordering information:



1	Type DiBos
2	Number of analog camera inputs
3	C1 version with max. 6 camera inputs and 750 GB C2 version with max. 12 camera inputs and 750 GB C3 version with max. 18 camera inputs and 250, 500, 1000, 1600 GB C4 version with max. 24 camera inputs and 250, 500, 1000, 1600 GB C5 version with max. 30 camera inputs and 250, 500, 1000, 1600 GB
4	Disk size (x10 GB)
5	Version

E. g. : **DB 30 C5 160 R2**

30 channel DiBos with 1600 GB storage

Technical Specifications

Electrical

Camera Inputs	6 BNC connectors (DB 06 C1) 12 BNC connectors (DB 12 C2) 18 BNC connectors (DB 18 C3) 24 BNC connectors (DB 24 C4) 30 BNC connectors (DB 30 C5)
Composite video signal	1 Vpp, 75 Ohm
Video outputs (loop through)	Via breakout cable
Recording resolution	PAL: 352 x 288 (CIF), 704 x 288 (2CIF) NTSC: 352 x 240 (CIF), 704 x 240 (2CIF)

Network Devices

DB 06 C1 xxx R2	16 video/audio MPEG4 data streams from Bosch/VCS network or JPEG devices			
DB 12 C1 xxx R2				
DB 18 C3 xxx R2				
DB 24 C4 xxx R2	32 video/audio MPEG4 data streams from Bosch/VCS network or JPEG devices			
DB 30 C5 xxx R2				
Compression Method	MPEG4			
DiBos device	IPS CIF (PAL)	IPS CIF (NTSC)	IPS 2CIF (PAL)	IPS 2CIF (NTSC)
DB 06 C1 xxx R2	75	90	50	60
DB 12 C2 xxx R2	150	180	100	120
DB 18 C3 xxx R2	225	270	150	180
DB 24 C4 xxx R2	300	360	200	240
DB 30 C5 xxx R2	375	450	250	300
Image size	Configurable from approx. 1.5 kB to 20 kB			
IPS PAL per channel	0,5; 1; 2; 3; 4; 5; 6; 8; 12,5; 25			
IPS NTSC per channel	0,5; 1; 2; 3; 5; 6; 7,5; 10; 15; 30			
Audio Inputs	2, 4, 6, 8, 10, cinch connector, line in signal, 16 KHz sampling rate			
Audio Outputs	1, line out signal, 1/8" mini-plug (3,5 mm)			
Alarm Inputs (NO / NC)	32 Switching voltage (high): > 2 VDC Switching voltage (low): < 0,5 VDC Input voltage: max. 40 VDC Impedance: 22 kOhm pull up (+5 V)			
Malfunction relay output	1 Voltage range: 30 VAC - 40 VDC Switching current: max. 500 mA AC or DC Switching power: max. 10 VA			
Relay Outputs (NO / NC)	16 Voltage range: 30 VAC - 40 VDC Switching current: max. 500 mA AC or DC Switching power: max. 10 VA			
Spot monitor output	2 CVBS outputs for full screen or sequences from connected analog cameras			
Bilinx control	For AutoDome control and Dinion camera configuration via coax			
PTZ control	Bilinx: Via coax cable, up to 30 AutoDome units. Biphase: Up to 16 AutoDome units. RS 232: Protocols from Bosch, Panasonic, Pelco (D-Protocol), JVC, SAE are supported. RS 232: Via Console Port of any Allegiant matrix.			
Storage capacity (internal hard disk)	250 GB, 500 GB, 750 GB, 1000 GB, 1600 GB (8 GB are needed for the operating system and video system software)			
Video output	1x VGA			

Electrical

Ethernet	10/100/1000Base-T, bandwidth-limited
CPU	Intel P4 (min. 3 GHz)
RAM	1024 MB
RS 232	2
USB 2.0	5
DVD-RW	Included
Power supply	100 / 240 VAC, 50 / 60 Hz (auto switch)
Typical power consumption	approx. 150 W
Power consumption	max. 210 W
Operating system	Microsoft Windows® XP Embedded
Web Browser	Microsoft Internet Explorer 6 or higher, on Windows 2000 or Windows® XP
Export of video/audio datas	DiBos-format or ASF-format on DVD-RW, USB-device or network drive
Image Printer	via USB (with Windows XP drivers)

Mechanical facilities

Dimensions (H x W x D)	17,5 x 48,0 x 54,5 cm (7 x 19 x 21.5 inch)
Weight	16 - 20.4 kg (25 - 55 lb), dependent on model

Environmental conditions

Operating temperature	+5 °C to +40 °C (41 ° to 104 °F)
Storage temperature	-10 °C to +60 °C (-14 °F to 140 °F)
Relative humidity in operation	15% to 80%, no condensation
Relative humidity when stored	8% to 80%, no condensation

Electromagnetic Compatibility (EMC)

• USA	FCC Part 15, Class A
• EU	EMC Directive 89/336/EEC Interference immunity: Conformance with EN 50130-4 requires an external UPS. The product is tested according to EN 50130-4, with the exception of voltage interruption to EN 50130-4:1995 Chapter 3/8/04. To comply with EN 50130-4, an external UPS is required. The UPS (Pulsar ellipse 500) is not contained in the product and must be ordered separately. The UPS should be dimensioned for at least 480 VA. Interference emission: EN 55022, Class B Mains power fluctuations: EN 61000-3-2 Voltage fluctuations: EN 61000-3-3

Safety

• USA	UL60950 Third edition (2000) CAN/CSA 22.2 No.60950-00, Third edition (2000)
• EU	EN 60950: 2000
Warranty	3 years
Approved anti virus software	Norton Anti Virus McAfee Virus Scan Trend Micro

Hardware and Software options

DiBos software receiver/IP recorder

(for alarm image streams via network and/or ISDN and / or PSTN)

DB SR 002	DiBos software receiver, no network camera/network video encoder can be connected
DB SR 162	DiBos software receiver/IP recorder, up to 16 network cameras/network video encoders can be connected
DB SR 322	DiBos software receiver/IP recorder, up to 32 network cameras/network video encoders can be connected

Requirements for computer with DiBos receiver software/IP recorder:

Operating system	Windows XP Professional
CPU	2 GHz or more, Pentium® 4
RAM	512 MB
VGA card	1024 x 768, 32-Bit color depth
USB-connector	for dongle

Country kits

(All versions include manuals, keyboard and mouse)

DB EK 012 CS	Czech version
DB EK 012 DA	Danish version
DB EK 012 DE	German version
DB EK 012 EL	Greek version
DB EK 012 EN	English version
DB EK 012 ES	Spanish version
DB EK 012 FI	Finnish version
DB EK 012 FR	French version
DB EK 012 HU	Hungarian version
DB EK 012 IT	Italian version
DB EK 012 NL	Dutch version
DB EK 012 NO	Norwegian version
DB EK 012 PL	Polish version
DB EK 012 PT	Portuguese version
DB EK 012 RU	Russian version
DB EK 012 SV	Swedish version
DB EK 012 TR	Turkish version

External hard disk expansion

(For further information please contact Bosch Security Systems)

DB EK 021	SCSI-adaptor for external hard disk drive array. Supports various Bosch disk arrays up to 16 TB (only for DB 06, due to required PCI slot)
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Interface Extension for Automated Teller Machines (ATM)

(For further information please contact Bosch Security Systems)

DB SE 013	Up to 4 ATM
DB SE 014	Up to 2 ATM

Communication Extension

(For further information please contact Bosch Security Systems)

DB EK 031	PCI modem card (not DB 30 C5 100 and DB 30 C5 160)
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Interface Extension for Bosch Alarm Panels

DB SE 031	Connection via RS 232 to 9000 Series (Radionics), UGM 2020, UEZ 2000/1000, BZ 500, NZ/BZ 1060, NZ/BZ 1012, NZ 1008
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Ordering Information

DB 06 C1 075 R2 DiBos Digital Video Recorder 6 channel DiBos with 750 GB HDD, DVD-RW, 16 IP devices.	DB06C1075R2
DB 12 C2 075 R2 DiBos Digital Video Recorder 12 channel DiBos with 750 GB HDD, DVD-RW, 16 IP devices.	DB12C2075R2
DB 18 C3 025 R2 DiBos Digital Video Recorder 18 channel DiBos with 250 GB HDD, DVD-RW, 16 IP devices.	DB18C3025R2
DB 18 C3 050 R2 DiBos Digital Video Recorder 18 channel DiBos with 500 GB HDD, DVD-RW, 16 IP devices.	DB18C3050R2
DB 18 C3 100 R2 DiBos Digital Video Recorder 18 channel DiBos with 1000 GB HDD, DVD-RW, 16 IP devices.	DB18C3100R2
DB 18 C3 160 R2 DiBos Digital Video Recorder 18 channel DiBos with 1600 GB HDD, DVD-RW, 16 IP devices.	DB18C3160R2
DB 24 C4 025 R2 DiBos Digital Video Recorder 24 channel DiBos with 250 GB HDD, DVD-RW, 32 IP devices.	DB24C4025R2
DB 24 C4 050 R2 DiBos Digital Video Recorder 24 channel DiBos with 500 GB HDD, DVD-RW, 32 IP devices.	DB24C4050R2
DB 24 C4 100 R2 DiBos Digital Video Recorder 24 channel DiBos with 1000 GB HDD, DVD-RW, 32 IP devices.	DB24C4100R2
DB 24 C4 160 R2 DiBos Digital Video Recorder 24 channel DiBos with 1600 GB HDD, DVD-RW, 32 IP devices.	DB24C4160R2
DB 30 C5 025 R2 DiBos Digital Video Recorder 30 channel DiBos with 250 GB HDD, DVD-RW, 32 IP devices.	DB30C5025R2
DB 30 C5 050 R2 DiBos Digital Video Recorder 30 channel DiBos with 500 GB HDD, DVD-RW, 32 IP devices.	DB30C5050R2
DB 30 C5 100 R2 DiBos Digital Video Recorder 30 channel DiBos with 1000 GB HDD, DVD-RW, 32 IP devices.	DB30C5100R2
DB 30 C5 160 R2 DiBos Digital Video Recorder 30 channel DiBos with 1600 GB HDD, DVD-RW, 32 IP devices.	DB30C5160R2

Accessories

DB EK 012 DE German Keyboard and Manuals	DBEK012DE
DB EK 012 EN English Keyboard and Manuals	DBEK012EN
DB EK 012 ES English Keyboard and Spanish Manuals	DBEK012ES
DB EK 012 FR English Keyboard and French Manuals	DBEK012FR
DB EK 012 IT English Keyboard and Italian Manuals	DBEK012IT
DB EK 012 NL English Keyboard and Dutch Manuals	DBEK012NL
DB EK 012 PT English Keyboard and Portuguese Manuals	DBEK012PT

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Intel Pentium® and Celeron® are registered trademarks of Intel Corporation.

Ordering Information

DB EK 021 SCSI Card Adapter and SCSI Cable	DBEK021
Built in the factory. Included SCSI cable. DiBos Micro: Only for DB 06, due to required PCI slot. DiBos 19 inch: Not for DB 30 C5 100 R2 and DB 30 C5 160 R2, due to required PCI slot.	
DB SE 013 ATM Kit up to 4 ATM	DBSE013
Up to 4 ATM. Included ATM interface box DTP3, connection cable DiBos - DTP3, software unlock of 4 ATM and 4 foyer card readers and bank code lock. Consult your local Bosch Security Systems Sales office for further information concerning ATM protocols.	
DB SE 014 ATM Kit up to 2 ATM	DBSE014
Up to 2 ATM. Included ATM interface box DTP3, connection cable DiBos - DTP3, software unlock of 2 ATM and 4 foyer card readers and bank code lock. Consult your local Bosch Security Systems Sales office for further information concerning ATM protocols.	
DB EK 031 Internal Modem Card	DBEK031
PCI modem card (not DB 30 C5 100 and DB 30 C5 160).	

Software Options

DB SE 031 Software Interface to Bosch Alarm Panels	DBSE031
Connection via RS 232 to 9000 Series (Radionics), UGM 2020, UEZ 2000/1000, BZ 500, NZ/BZ 1060, NZ/BZ 1012, NZ 1008.	
DB SR 002 Receiver Software	DBSR002
DiBos receiver software for Win XP PC. Includes USB dongle. No recording of IP cameras.	
DB SR 162 Receiver Software/IP Recorder	DBSR162
DiBos receiver software for Win XP PC. Includes USB dongle. Recording up to 16 cameras.	
DB SR 322 Receiver Software/IP Recorder	DBSR322
DiBos receiver software for Win XP PC. Includes USB dongle. Recording up to 32 cameras.	

DiBos Micro Digital Video Recorders - Version 8



7

Features

- ▶ Models for 6 and 12 analog cameras and up to 8 additional network cameras/video encoders
- ▶ MPEG4 compression
- ▶ Control cameras and AutoDomes with Biphase or Bilinx
- ▶ 2 spot monitor outputs
- ▶ Web-browser remote access and viewing
- ▶ CD/DVD writer for exporting video clips
- ▶ Connectable to Bosch alarm panels
- ▶ Easy to use and powerful user interface

DiBos Micro uses Bosch's proven state of the art digital recording and communications technology and takes video surveillance to a new level. It is an integral part of overall security solutions for a wide range of applications – including banks, large retailers, railway stations, airports, city centers, industrial facilities, and office buildings.

Customers can retrieve vital images and share information faster than ever before. They can better assess critical situations and take action immediately. Whether they're on site or at a remote network location, authorized personnel have quick, convenient access to information so they can operate more effectively and efficiently.

DiBos Micro can store up to 180/150 ips (NTSC/PAL) on 12 composite video inputs. As many as 4 audio data streams can be recorded on a 12-video channel unit. Users can connect up to 8 additional network cameras or network video encoders and store up to 30/25 ips per attached network unit. Every network video encoder can add one additional audio channel. In addition to Bosch MPEG4 network units, DiBos Micro can receive JPEG images from network cameras from numerous manufacturers.

The system offers advanced features for viewing and very high flexibility in recording and image access. The real power of DiBos Micro is fast, convenient accessibility to images and information. If required, accessibility to images and information is possible round the clock and everywhere all over the world. Communication and access to DiBos Micro is possible via private or public networks. For these purposes the system can be connected to a variety of peripheral devices and systems.

The unique, scalable GUI allows live and recorded images from multiple remote systems to be viewed from a single PC or another DiBos Micro. With this powerful tool, security managers can monitor and supervise various locations simultaneously.

Cameras and viewing modes can be programmed or selected manually. Each camera offers in-window pan/tilt/zoom functionality from local or remote facilities. Images are displayed with date/time, location, camera name and status of connected devices such as detectors and sensors.

DiBos Micro can be programmed to respond to specific situations and events automatically. Minimal human intervention is necessary.

In response to alarms, the system can be programmed to transmit images or messages to security personnel or security control center.

Playback is easy thanks to familiar search and navigation functions in a tree structure. Images can be accessed locally or remotely via a company network or the Internet. The customer can select multiple different views from up to 30 cameras.

Fast, powerful image search functions eliminate time-consuming manual searches. Functions include search for image changes, search for criteria such as camera number, recording date/time, and optional ATM transaction data, e. g. credit card number, bank code, account number, and/or amount withdrawn.

To ensure high security, all access is controlled by user authorization. Profiles are assigned by the system administrator. Events, such as login, logoff, status changes, image transmission, and system shutdown are stored in a database. Video authentication is built in to ensure that DiBos images are not altered in any way.

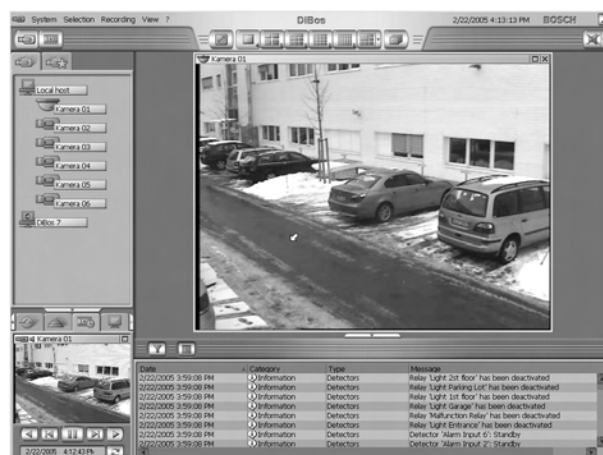
Various storage devices – such as external disk arrays, RAID and NAS devices, and external disk drives – may be used for export and backup of images.

DiBos Micro supports Bilinx for pan/tilt/zoom and camera configuration via the video coax cable.

The configuration wizard makes installation quick and easy.

DiBos Micro serial ports can be connected to Bosch alarm panels, ATM, Allegiant matrices and foyer card readers.

Live mode



Playback mode

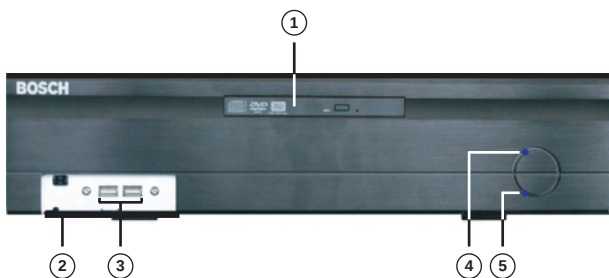


1	On/Off switch	7	VGA-Monitor
2	Mains connection 100 / 240 VAC, 50 / 60 Hz (automatic switchover)	8	Ethernet (RJ45) 2x USB 2.0
3	Mouse (green) Keyboard (purple)	9	Line In (blue) Speaker Out (green) Microphone In (red), Mono
4	2x USB 2.0	10	Grabber 1 (camera 1 - 6)
5	Serial port COM1	11	Grabber 2 (camera 7 - 12)
6	Parallel interface (Dongle must be plugged in)	12	I/O card with plug for connecting the alarm inputs, relay outputs and Biphas and plug for video monitor A and video monitor B

Ordering information:

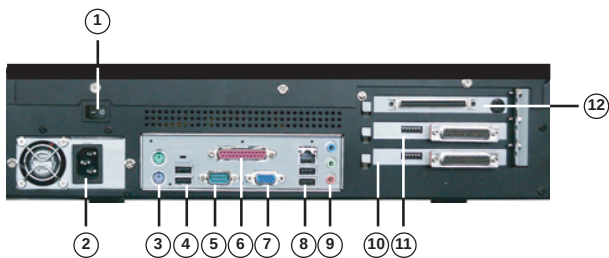
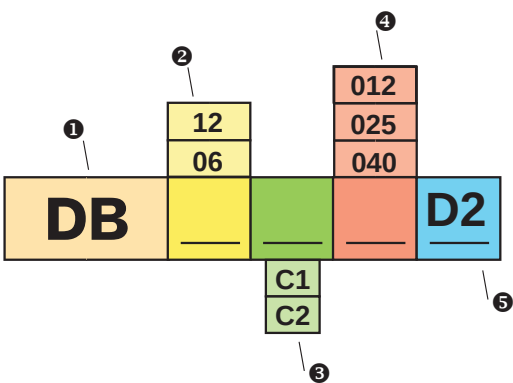
Installation/Configuration Notes

Front view:



1	CD/DVD writer	4	Control lamp: System is switched on
2	Front covering (opened with one push on the cover)	5	Control lamp: Hard disk access
3	2x USB 2.0		

Rear view:



1	Type DiBos Micro
2	Number of analog camera inputs
3	C1 version with max. 6 camera inputs and 120, 250, 400 GB C2 version with max. 12 camera inputs and 250, 400 GB
4	Disk size (x10 GB)
5	Version

E. g. : **DB 12 C2 040 D2**

12 channel DiBos Micro with 400 GB storage

Technical Specifications

Electrical

Camera Inputs	Connection cable with 6 (DB 06) or 12 (DB 12) BNC connectors			
Composite video signal	1 Vpp, 75 Ohm			
Recording resolution	PAL: 352 x 288 (CIF), 704 x 288 (2CIF) NTSC: 352 x 240 (CIF), 704 x 240 (2CIF)			
Network cameras / network video encoder	8 video/audio MPEG4 data streams from Bosch/VCS network or JPEG devices			
Compression Method	MPEG4			
DiBos Micro device	IPS CIF (PAL)	IPS CIF (NTSC)	IPS 2CIF (PAL)	IPS 2CIF (NTSC)
DB 06 C1 xxx D2	75	90	50	60
DB 12 C2 xxx D2	150	180	100	120
Image size	Configurable from approx. 1.5 kB to 20 kB			

Electrical

IPS PAL per channel	0,5; 1; 2; 3; 4; 5; 6; 8; 12,5; 25
IPS NTSC per channel	0,5; 1; 2; 3; 5; 6; 7,5; 10; 15; 30
Audio Inputs	2 (DB 06) or 4 (DB 12), cinch connector, line in signal, 16 KHz sampling rate
Audio Outputs	1, line out signal, 1/8" mini-plug (3,5 mm)
Alarm Inputs (NO / NC)	12 Switching voltage (high): >2 VDC Switching voltage (low): <0,5 VDC Input voltage: max. 40 VDC Impedance: 22 kOhm pull up (+5 V)
Malfunction relay output	1 Voltage range: 30 VAC - 40 VDC Switching current: max. 500 mA AC or DC Switching power: max. 10 VA
Relay Outputs (NO / NC)	12 Voltage range: 30 VAC - 40 VDC Switching current: max. 500 mA AC or DC Switching power: max. 10 VA
Spot monitor output	2 CVBS outputs for full screen or sequences from connected analog cameras
Bilinx control	For AutoDome control and Dinion camera configuration via coax
PTZ control	Bilinx: Via coax cable, up to 12 AutoDome units. Biphase: Up to 12 AutoDome units. RS 232: Protocols from Bosch, Panasonic, Pelco (D-Protocol), JVC, SAE are supported. RS 232: Via Console Port of any Allegiant matrix.
Storage capacity (internal hard disk)	120 GB, 250 GB, 400 GB (8 GB are needed for the operating system and video system software)
Video output	1x VGA
Ethernet	10/100/1000Base-T, bandwidth-limited
CPU	Intel Celeron® (min. 2,8 GHz)
RAM	512 MB
RS 232	1
USB 2.0	6
CD-RW or DVD-RW	Included (DVD-RW not in DB 06 C1 012 DL2 and DB 06 C1 012 D2)
Power supply	100 / 240 VAC, 50 / 60 Hz (auto switch)
Typical power consumption	approx. 120 W
Power consumption	max. 140 W
Operating system	Microsoft Windows® XP Embedded
Web Browser	Microsoft Internet Explorer 6 or higher, on Windows 2000 or Windows® XP
Export of video/audio datas	DiBos-format or ASF-format on CD/DVD writer, USB-device or network drive
Video export media	CD-R, CD-RW, DVD-R
Image Printer	via USB (with Windows XP drivers)

Mechanical facilities

Dimensions (H x W x D)	11.5 x 48.0 x 43 cm (4.5 x 19 x 16,9 inch), also in 19 inch rack mountable
Weight	Approx. 11.5 kg (25 lb), dependent on model

Environmental conditions

Operating temperature	+5 °C to +40 °C (41 °F to 104 °F)
Storage temperature	-10 °C to +60 °C (-14 °F to 140 °F)
Relative humidity in operation	15% to 80%, no condensation
Relative humidity when stored	8% to 80%, no condensation

Electromagnetic Compatibility (EMC)

• USA	FCC Part 15, Class B
• EU	EMC Directive 89/336/EEC Interference immunity: Conformance with EN 50130-4 requires an external UPS. The product is tested according to EN 50130-4, with the exception of voltage interruption to EN 50130-4:1995 Chapter 3/8/04. To comply with EN 50130-4, an external UPS is required. The UPS (Pulsar ellipse 500) is not included in the product and must be ordered separately. The UPS should be dimensioned for at least 480 VA. Interference emission: EN 55022, Class B Mains power fluctuations: EN 61000-3-2 Voltage fluctuations: EN 61000-3-3

Safety

• USA	UL60950 Third edition (2000) CAN/CSA 22.2 No.60950-00, Third edition (2000)
• EU	EN 60950: 2000
Warranty	3 years
Approved anti virus software	Norton Anti Virus McAfee Virus Scan Trend Micro

Hardware and Software options**DiBos Micro software receiver/IP recorder:**

(for alarm image streams via network and/or ISDN and / or PSTN)

DB SR 002	DiBos Micro software receiver, no network camera/network video encoder can be connected
DB SR 162	DiBos Micro software receiver/IP recorder, up to 16 network cameras/network video encoders can be connected
DB SR 322	DiBos Micro software receiver/IP recorder, up to 32 network cameras/network video encoders can be connected

Requirements for computer with DiBos Micro receiver software/IP recorder:

Operating system	Windows XP Professional
CPU	2 GHz or more, Pentium® 4
RAM	512 MB
VGA card	1024 x 768, 32-Bit color depth
USB-connector	for dongle

Country kits

(All versions include manuals, keyboard and mouse)

DB EK 012 CS	Czech version
DB EK 012 DA	Danish version
DB EK 012 DE	German version
DB EK 012 EL	Greek version

DB EK 012 EN	English version
DB EK 012 ES	Spanish version
DB EK 012 FI	Finnish version
DB EK 012 FR	French version
DB EK 012 HU	Hungarian version
DB EK 012 IT	Italian version
DB EK 012 NL	Dutch version
DB EK 012 NO	Norwegian version
DB EK 012 PL	Polish version
DB EK 012 PT	Portuguese version
DB EK 012 RU	Russian version
DB EK 012 SV	Swedish version
DB EK 012 TR	Turkish version

External hard disk expansion

(For further information please contact Bosch Security Systems)

DB EK 021	SCSI-adapter for external hard disk drive array. Supports various Bosch disk arrays up to 16 TB (only for DB 06, due to required PCI slot)
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Interface Extension for Automated Teller Machines (ATM)

(For further information please contact Bosch Security Systems)

DB SE 013	Up to 4 ATM
DB SE 014	Up to 2 ATM

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Intel Pentium® and Celeron® are registered trademarks of Intel Corporation.

Ordering Information

DB 06 C1 012 DL2 DiBos Digital Video Recorder	DB06C1012DL2
6 channel DiBos Micro with 120 GB HDD, CD-RW, no IP devices.	
DB 06 C1 012 D2 DiBos Digital Video Recorder	DB06C1012D2
6 channel DiBos Micro with 120 GB HDD, CD-RW, 8 IP devices.	
DB 06 C1 025 D2 DiBos Digital Video Recorder	DB06C1025D2
6 channel DiBos Micro with 250 GB HDD, DVD-RW, 8 IP devices.	
DB 06 C1 040 D2 DiBos Digital Video Recorder	DB06C1040D2
6 channel DiBos Micro with 400 GB HDD, DVD-RW, 8 IP devices.	
DB 12 C2 025 D2 DiBos Digital Video Recorder	DB12C2025D2
12 channel DiBos Micro with 250 GB HDD, DVD-RW, 8 IP devices.	
DB 12 C2 040 D2 DiBos Digital Video Recorder	DB12C2040D2
12 channel DiBos Micro with 400 GB HDD, DVD-RW, 8 IP devices.	

Accessories

DB EK 012 DA English Keyboard and Danish Manuals	DBEK012DA
DB EK 012 DE German Keyboard and Manuals	DBEK012DE
DB EK 012 EN English Keyboard and Manuals	DBEK012EN
DB EK 012 ES English Keyboard and Spanish Manuals	DBEK012ES
DB EK 012 FI English Keyboard and Finnish Manuals	DBEK012FI
DB EK 012 FR English Keyboard and French Manuals	DBEK012FR

Ordering Information

DB EK 012 IT English Keyboard and Italian Manuals	DBEK012IT
DB EK 012 NL English Keyboard and Dutch Manuals	DBEK012NL
DB EK 012 NO English Keyboard and Norwegian Manuals	DBEK012NO
DB EK 012 PT English Keyboard and Portuguese Manuals	DBEK012PT
DB EK 012 SV English Keyboard and Swedish Manuals	DBEK012SV
DB EK 021 SCSI Card Adapter and SCSI Cable	DBEK021
Built in the factory. Included SCSI cable. DiBos Micro: Only for DB 06, due to required PCI slot. DiBos 19 inch: Not for DB 30 C5 100 R2 and DB 30 C5 160 R2, due to required PCI slot.	
DB EK 061 SCSI Card Adapter and SCSI Cable	DBEK061
Expansion. Included SCSI cable. DiBos Micro: Only for DB 06, due to required PCI slot. DiBos 19 inch: Not for DB 30 C5 100 R2 and DB 30 C5 160 R2, due to required PCI slot.	
DB SE 013 ATM Kit up to 4 ATM	DBSE013
Up to 4 ATM. Included ATM interface box DTP3, connection cable DiBos - DTP3, software unlock of 4 ATM and 4 foyer card readers and bank code lock. Consult your local Bosch Security Systems Sales office for further information concerning ATM protocols.	
DB SE 014 ATM Kit up to 2 ATM	DBSE014
Up to 2 ATM. Included ATM interface box DTP3, connection cable DiBos - DTP3, software unlock of 2 ATM and 4 foyer card readers and bank code lock. Consult your local Bosch Security Systems Sales office for further information concerning ATM protocols.	
Software Options	
DB SE 031 Software Interface to Bosch Alarm Panels	DBSE031
Connection via RS 232 to 9000 Series (Radionics), UGM 2020, UEZ 2000/1000, BZ 500, NZ/BZ 1060, NZ/BZ 1012, NZ 1008.	
DB SR 002 Receiver Software	DBSR002
DiBos receiver software for Win XP PC. Includes USB dongle. No recording of IP cameras.	
DB SR 162 Receiver Software/IP Recorder	DBSR162
DiBos receiver software for Win XP PC. Includes USB dongle. Recording up to 16 cameras.	
DB SR 322 Receiver Software/IP Recorder	DBSR322
DiBos receiver software for Win XP PC. Includes USB dongle. Recording up to 32 cameras.	

Bosch Video Management System Software



Features

- ▶ Enterprise-class Client/Server based video management system
- ▶ System-wide user management, alarm handling, health monitoring, and configuration
- ▶ Full virtual matrix capabilities
- ▶ Superior alarm handling with alarm priorities and selectable user group distribution
- ▶ Advanced user interface concepts for effective and efficient operation
- ▶ Compatible with standard computer servers, workstations, and storage equipment

The Bosch Video Management System is a unique enterprise IP video security solution that provides seamless management of digital video, audio and data across any IP network. It is designed to work with Bosch CCTV products as part of a total video security management system. Now you can integrate your existing components into one easy-to-manage system, or use Bosch's full-line capabilities and benefit from a complete security solution based on cutting-edge technology and years of experience.

System Overview

The Bosch Video Management System is comprised of four software components:

- Central Server software provides management, monitoring, and control of the entire system
- Network Video Recorder (NVR) software provides recording and playback management of video, audio, and data
- Configuration Client software provides the user interface for system configuration and management
- Operator Client software provides the user interface for system monitoring and operation

These software components can be run together on a single PC for small systems or on separate PCs and servers for large systems. Multiple NVRs and client workstations can be used as needed to suit any size application. NVRs can be designated to operate in failover mode, with a single failover NVR able to serve a large number of primary NVRs for cost effective redundancy. You can choose to purchase the servers and workstations directly from Bosch, or to use the components of your choice.

Functions

Deployment

- Updates of Operator Client and Configuration Client automatically deployed from Central Server.
- Supports all Bosch MPEG-4 encoders, decoders, IP Cameras, IP AutoDomes, Allegiant, DiBos, Bosch POS/ATM Bridge, and DiBos-compatible ATM Bridge

Configuration

- Automatic discovery of IP devices
- Automatic IP address assignment of IP devices
- Batch firmware updates of IP devices
- Failover NVR configurable to backup Primary NVRs
- Configurable Logical Tree
- Predefined camera sequences
- "Automatic Sequences" created by multiple selection and drag and drop to Image panes
- Four configurable user-event buttons

User Interface

- Zoomable sitemaps with Links, Devices, Sequences, and Command Scripts
- Up to 4 monitors supported per workstation
- Flexible Image panes allow any combination of video window sizes and layouts
- Any live Image pane can be switched to instant playback
- Multiple simultaneous instant playback Image panes
- Image windows can display live video, instant playback video, text documents, maps, or web pages
- Device states shown by icons, including network-connection loss, video loss, video too dark, video too bright, too much noise in video, audio available, motion detected, and recording state
- Per-user Favorites tree can be individually configured.
- Favorites tree can include complete views with Image pane layouts and camera assignments
- Camera selection by double-click or drag and drop from site maps, logical tree, or favorites tree
- Control of analog monitors connected to decoders via drag and drop
- Synchronized playback of up to 25 cameras
- Sophisticated multi-camera timeline allows easy, graphical searching of stored video
- Timeline colors indicate recording status – normal recording, alarm recording, motion recording, protected recording, and audio recording
- Easy clip selection by dragging hairlines in the timeline

- Selected clips can be exported to DVD, network, drives, or USB sticks with a few mouse clicks
- Flexible search works across all NVRs and DVRs connected to the system
- Post-recording motion search allows changes to selected areas of the image to be easily located
- Two audio listening options – selected channel only, or multiple simultaneous channels

Scheduling

- Up to 10 Recording schedules with Holidays and Exception Days
- Unlimited task schedules with Holidays, Exception Days, and recurring schedule support
- Per camera settings for minimum and maximum recording times
- Per camera, per recording schedule frame rate and quality settings for live, normal recording, motion recording, and alarm recording

Event Handling

- Event list with device events (e.g. video loss), system events (e.g. disk full), network events (e.g., heavy network traffic), subsystem events (e.g. Allegiant alarm), user events (e.g. logon failure), schedule events (e.g. every Tuesday at 10:15), etc.
- Compound events (combining events with Boolean logic)
- Event duplication allowing separate handling
- Event allocation to user groups
- Schedule dependent alarm generation
- Schedule dependent event logging
- Schedule dependent event-generated command script invocation

Alarm Handling

- Alarms can trigger alarm-mode recording for any cameras
- 100 alarm priorities
- Selective auto-popup on alarm
- Alarms displayed in separate alarm window
- Up to 5 Image panes per alarm with live or playback video, sitemaps, documents, or web pages displayed in an “alarm row”, with highest priority alarms on top
- Wave file per alarm
- Workflow with user instructions and user comments, optionally forced before clearing
- Email or SMS notification on alarm

User Management

- LDAP compatible for integration with enterprise user management systems such as Microsoft Active Directory™
- Access to system resources individually controlled per user group
- Logical tree customized per user group – users only see devices for which they have access.
- User group rights for protecting, deleting, exporting, and printing video
- User group rights for Logbook access
- User group priority assignment for PTZ control and Allegiant camera access

- Individual per-camera privileges assignable per user group for live access, playback, audio, meta data display, dome control

System Monitoring

- System-wide health monitoring, including cameras, computers, software, and network equipment
- Network equipment and other third-party devices monitored with SNMP and RMON.

Customization and Interfacing

- Custom Command Scripts can control all system functionality
- Built in Command Script editor supporting C# and Visual Basic .Net.
- External software can trigger events via “Virtual Inputs”
- Any .Net programming language (C#, JScript, etc.) or COM programming language (C++, Visual Basic, etc.) can be used to trigger Virtual Inputs

Parts Included

- The following are delivered on DVD:
 - Installation program that can selectively install all components (Central Server software, Network Video Recorder software, Configuration Client software, Operator Client software) in all supported languages
 - Configuration Manual (PDF format) in all supported languages
 - Operator’s Manual in all supported languages
- Software license key document
- Quick Start Guide in all supported languages

Technical Specifications

System Specifications

Maximum number of workstations simultaneously viewing the same camera	Multicast: 49 Unicast: 5
Supported languages	English, German, Dutch, Italian, Portuguese, French, Spanish, Chinese, Russian, Hungarian
Tested with the following anti-virus software:	Symantec Norton Anti-Virus McAfee Trend Micro
Alarm reaction time	<1 second, assuming sufficient network bandwidth
Command Encryption	128-bit AES

Required open ports

System Specifications

Connection from Central Server and Client Workstations to NVRs:

Two selectable TCP ports (default 5390 and 5391)

Connection from Central Server to SMTP (for email notifications):

TCP Port 25

Connection to Bosch encoders and decoders:

Control channel: TCP ports 80 and 1756

Network scan: UDP ports 1757 and 1758

Multicast detection: one selectable UDP port (default 1900)

Multicast video transmission:

For each encoder audio or video stream, 1 selectable UDP port

Unicast UDP transmission: random UDP ports between 1024 and 65000

Unicast TCP transmission: one selectable port TCP

Connection to DiBos DVRs (uses DCOM):

TCP Port 135 plus four TCP ports and four UDP ports dynamically assigned in the range from 1025 to 65535 or

One selectable TCP port (incompatible with Windows Firewall)

Central Server Specifications

Maximum number of sustained events per second	10,000. 750 Events/s written to the system log (Logbook)
Redundancy	Compatible with Stratus® Technologies FT Series high-availability servers Compatible with VMWare® VirtualCenter high-availability solutions

NVR Specifications

Maximum data rate per NVR	70 MB/s (cumulative data rates of all assigned cameras)
Maximum number of cameras per NVR	64 (also assure that maximum data rate is not exceeded)
Redundancy	Failover NVR can be assigned to take over for a failed NVR. Multiple Primary NVRs can be assigned to the same Failover NVR.
Maximum number of Primary NVRs serviced by a Failover NVR	Determined only by availability requirements.

Client Workstation Specifications

Performance is dependent on PC performance and video data rates. Graphics card performance has the greatest impact. The following specifications were tested with a 3.6 GHz Intel® Pentium® 4 CPU, 2 GB RAM, and an ATI Radeon® X1800 graphics card. Data rates were 1024 KBits/s for CIF resolution, 3072 KBits/s for 4CIF resolution.

Minimum number of simultaneous full-frame-rate live cameras	CIF: 50 4CIF: 16
Minimum number of simultaneous real-time playback cameras	CIF: 9 4CIF: 4 More is possible, but playback speed will slow down.

Minimum Client Workstation PC Requirements

Operation System	Windows XP Professional, Service Pack 2
CPU	3 GHz Pentium 4 or greater
RAM	2 GB or greater recommended
Free disk space	500 MB
Network card	1000Base-T recommended

Minimum Client Workstation PC Requirements

Display Resolution	Minimum per monitor 1024x768, 1280x1024 or greater recommended
Recommended Graphics Cards	2 monitors, standard performance: nVidia FX 3450 ATI Radeon® X1800 2 monitors, high performance: nVidia FX 4500 4 monitors, standard performance: nVidia Quadro NVS 440 4 monitors, high performance: nVidia FX 4500-2

Minimum Central Server PC Requirements

Operation System	Windows XP Professional, Service Pack 2, Windows 2003 Server, Service Pack 1
CPU	3 GHz Pentium 4 or greater, 3 GHz Xeon® or greater recommended
RAM	Minimum 1 GB, 2 GB or greater recommended
Free disk space	5 GB
Network card	1000Base-T recommended
Display Resolution	1024x768 or greater

Minimum NVR Server PC Requirements

Operation System	Windows XP Professional, Service Pack 2, Windows 2003 Server, Service Pack 1
CPU	3 GHz Pentium 4 or greater, 3 GHz Xeon® or greater recommended
RAM	Minimum 1 GB, 2 GB or greater recommended
Free disk space	500 MB + Video Storage
Hard disk drives	Minimum: separate partition for video storage Separate drive for video storage recommended
Network card	1000Base-T recommended
Display Resolution	1024x768 or greater

Ordering Information

Lite Edition Supports 32 Cameras, 2 Workstations, 0 DVRs - Non Expandable Supported DVRs: DiBos Version 8.0 or greater	MBV-LIT10-A
Professional Edition Supports 8 Cameras, 2 Workstations, 1 DVR Supported DVRs: DiBos Version 8.0 or greater	MBV-PRO10-A
2 Camera Expansion	MBV-XCAM-2A
8 Camera Expansion	MBV-XCAM-8A
32 Camera Expansion	MBV-XCAM-32A
128 Camera Expansion	MBV-XCAM-128A
256 Camera Expansion	MBV-XCAM-256A

Ordering Information

512 Camera Expansion	MBV-XCAM-512A
1 Workstation Expansion	MBV-XWST-1A
8 Workstation Expansion	MBV-XWST-8A
32 Workstation Expansion	MBV-XWST-32A
1 DVR Expansion	MBV-XDVR-1A
8 DVR Expansion	MBV-XDVR-8A
32 DVR Expansion	MBV-XDVR-32A
1 Failover NVR Expansion	MBV-XFONVR-1A
Allegiant Matrix Connection	MBV-FALG-A
ATM/POS Connection	MBV-FATM-A

DVR4C Series Digital Video Recorder



Features

- ▶ 4-Channel video and audio
- ▶ Real-time recording
- ▶ Small file sizes for extended recording
- ▶ Simultaneous recording and playback
- ▶ Easy local archiving via USB
- ▶ Remote viewing, playback and control

Never miss a beat in your retail store, gas station, bank, parking lot or warehouse. The DVR4C digital video recorder from Bosch lets you watch every corner, hallway, door or aisle. This high performance, economical system provides continuous video and audio recording from four cameras plus alarm handling, motion detection and local archiving. This means you are never totally alone because the DVR4C works alongside you as your round-the-clock surveillance partner.

DVR4C puts the emphasis on uninterrupted real-time recording from each of the four cameras, even while you are playing back earlier recordings. Thanks to advanced encoding techniques with very small file sizes, DVR4C captures weeks and weeks of activity, giving you reliable, continuous surveillance with no downtime.

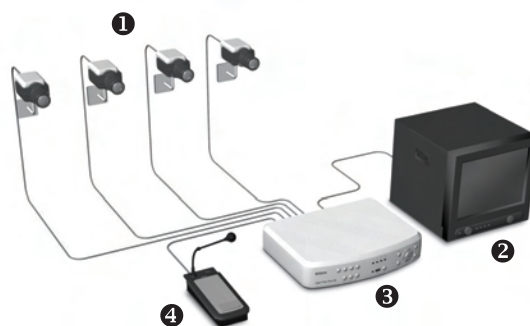
Despite all this power, it's easy to search for specific dates, times, alarms or motion with the built-in intelligent search capability.

Video and audio are archived quickly and conveniently using the built-in USB port to a USB memory stick. And if a recording might be required as legal evidence, it is essential that the recording includes embedded proof of authentication. DVR4C recordings cannot be altered in any way without detection, so the integrity of recordings is guaranteed.

Remote access is available using standard analog or digital telephone lines, over a standard LAN/WAN or Internet connection.

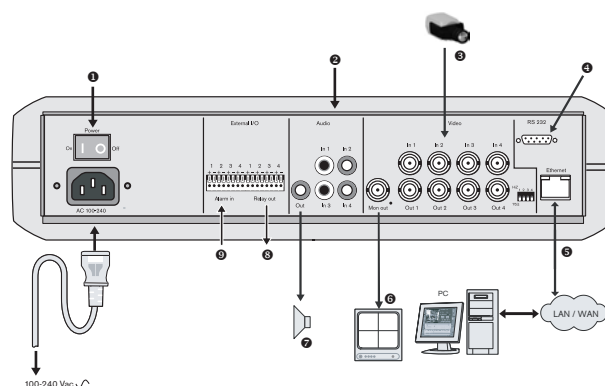
Yet the DVR4C is quick to install and easy to operate, making it ideal for a host of small business applications such as retail stores, banks, gas stations and parking lots.

Installation/Configuration Notes



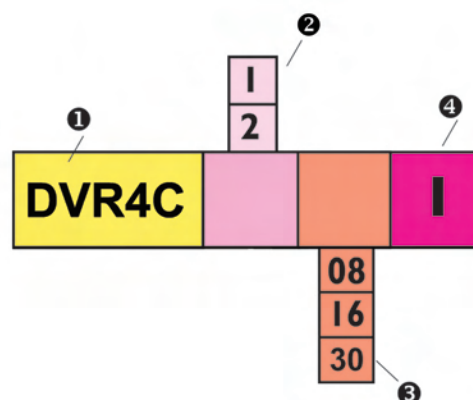
DVR4C with four cameras, microphone and monitor.

1	Cameras	3	DVR4C Digital Video Recorder
2	Monitor	4	Microphone (with line amplifier)



Connections on backside of DVR4C

01	Power switch	06	Monitor output
02	Audio inputs	07	Audio output
03	Camera inputs	08	Relay outputs
04	RS232 connector	09	Alarm inputs
05	Network connector		



DVR4C Typenumber

01	Type	03	Size per disk in GB
02	Number of disks	04	Revision

Parts Included

Quantity	Component
1	DVR4C
1	DVR4C remote software

Technical Specifications**Electrical****Rated Voltage and Power**

	100 – 240 VAC; 0.7 - 0.3 A; 50 / 60 Hz
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Video

Video Standard	PAL / NTSC auto-detect
Live Resolution	720 x 576 PAL – 720 x 484 NTSC
Digital Zoom	2 times
Compression	MPEG4-based
Inputs	Composite video 0.5V – 2Vpp, 75 ohm
Output	1Vpp, 75 ohm

Audio

Inputs	Mono RCA, 1.0Vpp
Output	Mono RCA, 1.0Vpp

Alarm Handling

Inputs	4 Inputs configurable NO/NC, max input voltage 40VDC.
Outputs	4 Relay outputs, configurable NO/NC, max. rated 30VAC-40VDC-0,5A

Control

RS232	Output signals according EIA/TIA-232-F, max. input voltage ±25V
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Connectors

Video Inputs	4 Looping BNC, manual termination
Monitor	1 BNC
Audio Inputs	4 Cinch
Audio Output	1 Cinch
Ethernet	RJ45S modular jack 8 pins shielded: 10/100 Base-T according IEEE802.3
RS232	DB9 Male
USB	Type A Connector
Alarm I/O	Screw terminal

Storage

Size	80 – 160 – 320 – 600 GB
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Bitrates (per camera at 25/30 IPS)

Low	250 kbps
Standard	500 kbps
Medium	750 kbps
High	1 Mbps
Superior	1.5 Mbps

Video recording

Record Rate (IPS)	
NTSC	120 total, configurable: 30, 15, 7.5, 4, 2, 1, 0
PAL	100 total, configurable: 25, 12.5, 6, 3, 1.5, 0.75, 0
Recording Resolution	352 x 288 PAL – 352 x 240 NTSC

Display Modes

Monitor	Full, full sequence, quad, alarm call-up
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Recording Modes

	Linear, Continuous
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Electrical**Audio recording**

Compression	ADPCM
Quality	32 kbps, 8 kHz sampling
Audio/Video Synchronisation	Best effort, typically <0,5s offset

USB

USB Version	1.1
Supported Media	USB Memory Stick

Mechanical

Dimensions	369 x 270 x 83 mm (14.5 x 10.6 x 3.3 inch)
Weight Approx.	with 1HDD 4.5 kg (9.9 lbs) with 2HDDs 5 kg (11 lbs)

Environmental**Temperature**

- Operating	+5°C to +40°C (+41°F to +104°F)
- Storage	-25°C to +70°C (-13°F to +158°F)

Humidity

- Operating	<93% non-condensing
- Storage	<95% non-condensing

Electromagnetic compatibility**EMC requirements**

- USA	FCC Part 15, Class B
- EU	EMC Directive 89/336/EEC
	Immunity: EN50130-4
	Emission: EN55022 Class B
	Harmonics: EN61000-3-2
	Voltage fluctuations: EN61000-3-3

Safety

- USA	UL60950 3rd edition
- EU	CE, EN60950 2000 3rd edition
- Can.	CAN/CSA-E60065-00

PC requirements - remote software

Operating System	Windows 2000 Professional, XP
Processor	PIII 600MHz (PIV 2GHz Recommended)
RAM Memory	128MB (256MB Recommended)
Free Disk Space	10MB
Video System	16MB Memory, 1024x768 Resolution (64MB Memory Recommended)
Connection	10/100 Base-T network interface

Ordering Information

DVR4C1081 Digital Video Recorder 4 channel, 80 GB	DVR4C1081
DVR4C1161 Digital Video Recorder 4 channel, 160 GB	DVR4C1161
DVR4C2161 Digital Video Recorder 4 channel, 320 GB	DVR4C2161
DVR4C2301 Digital Video Recorder 4 channel, 600 GB	DVR4C2301

Ordering Information

DVR4C1081U Digital Video Recorder 4 channel, 80 GB (UK version)	DVR4C1081U
DVR4C1161U Digital Video Recorder 4 channel, 160 GB (UK version)	DVR4C1161U
DVR4C2161U Digital Video Recorder 4 channel, 320 GB (UK version)	DVR4C2161U
DVR4C2301U Digital Video Recorder 4 channel, 600 GB (UK version)	DVR4C2301U

DVR1C Series Digital Video Recorder



Features

- ▶ Superior image and audio quality through digital recording
- ▶ Quick search by date/time, alarm events and recording list
- ▶ Easy jog/shuttle playback control
- ▶ Built-in display
- ▶ Export pictures and clips to Compact Flash cards
- ▶ Uninterrupted recording for one week or longer
- ▶ Remote viewing of recordings and live pictures via Web browser

The DVR1C1161 digital video recorder is the ideal and logical replacement for analog video recorders in CCTV systems. There is no need for costly and frequent maintenance, nor are there any videotapes to change and store. And, being digital, it offers many advanced recording and playback features, as well as continuous or time-lapse recording for up to a week or longer.

The DVR1C can connect directly to a single camera, or to multiple camera inputs routed via a multiplexer. It is compatible with Bosch and many other brands of multiplexers. The DVR1C allows the recording of both video and audio signals.

Functions

Easy access to stored images

One of the main benefits is the easy access to stored images. Search, for instance, by date/time or alarm events, and images are retrieved instantly. To make it even easier to view, store and share recorded data, individual frames or video can be exported to a Compact Flash card at the touch of a button, then transferred to a PC. Video data is stored in M-JPEG format to ensure compatibility across computer platforms.

Simple to use

The DVR1C is characterized by its ease-of-use. Simple front panel controls, including jog/shuttle playback control, make it extremely easy to navigate through the menu (displayed on a connected monitor), select options as well as view images. Operation is also possible via an optional supplied remote control. An optional cable incorporating an IR sensor enables remote control even if the recorder is out of the line of sight.

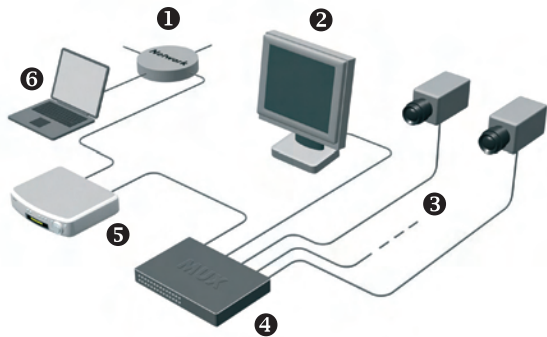
Event-triggered recording

Recording can be triggered by an alarm connected directly to the DVR. All video images pass through a buffer. When an alarm is activated the video footage recorded just prior to the alarm is transferred to the hard disk, allowing users to view events leading up to the alarm at later time. Various recording modes are available, giving users the choice of optimized image quality or longer uninterrupted recording periods.

Remote access via Internet

For added convenience, the DVR1C incorporates a network facility that allows remote, Internet-based viewing using a standard web browser. Live or stored images can be accessed from any location, without disrupting recording. Users with the appropriate access clearance can even stop or start recording remotely. This is part of the multi-level password protection, which makes it possible to determine precisely who can view recorded and/or live images.

Installation/Configuration Notes



1	LAN	4	Multiplexer
2	Monitor	5	DVR1C Digital Video Recorder
3	Cameras	6	PC

Technical Specifications

Electrical

Video Format	PAL / NTSC
Video Input	1 camera input (BNC), 1 Vpp, 75 Ohm
Video Output	1 video output (BNC) for main monitor, 1 Vpp, 75 Ohm
Video Compression	M-JPEG
Video Resolution	720 x 576 (PAL) / 720 x 484 (NTSC)

Electrical

Video Display	Full display for live and playback
Audio Connectors	2 mono (Line) inputs, 1.6 Vpp 2 mono (speaker) outputs, 1.6 Vpp
Alarm Input	Yes
Alarm Output	Yes (max. 24 Vdc / 2 Adc)
HDD Storage	160 GB
Recording Mode	Continuous, time-lapse, schedule or event recording
Recording Rate	50 images/sec. (PAL) 60 images/sec. (NTSC)
Playback Rate	50 images/sec. (PAL) 60 images/sec. (NTSC)
Playback Search	Date/time, recording list or event(alarm)
Video Loss Detection	Yes
Event Log	Yes
User Interface	Menu-driven
Setup	By on-screen display menu
User Input Device	Front panel keypad, remote control (IR with wired receiver)
Image Export	Built-in Compact Flash slot
Security	Password protection
Power Supply	100 - 240 VAC, 50/60 Hz
Power Consumption	< 40 W
Timer	Weekly timer, built-in real time clock
Network Connection	TCP/IP via Ethernet, RJ45 connector
Control Connection	RS-232, 9-pin D-Sub connector
Dimensions (W X H X D)	346 x 88 x 269 mm / 13.6 x 3.5 x 10.5 inch
Weight	5.2 kg / 11.5 lbs.
Operating Temp.	+0°C to +40°C (+32°F to +104°F)

Ordering Information

DVR1C1161 Digital Video Recorder	DVR1C1161
1 channel, PAL/NTSC, 100-240 VAC, 50/ 60 IPS, 160 GB, NETWORK I/F	
DVR1C1161U Digital Video Recorder (UK)	DVR1C1161U
1 channel, PAL/NTSC, 100-240 VAC, 50/ 60 IPS, 160 GB, NETWORK I/F(UK version)	

DVR1A Series Digital Video Recorder



Features

- ▶ Superior image quality through digital recording
- ▶ Quick search by date/time, alarm events and recording list
- ▶ Easy jog/shuttle playback control
- ▶ Export pictures and clips to Compact Flash cards
- ▶ Uninterrupted recording for one week or longer

The DVR1A1081 digital video recorder is an ideal, logical and very cost-effective replacement for analog video recorders in CCTV systems. There is no need for costly and frequent maintenance, nor are there any videotapes to change and store. And, being digital, it offers many advanced recording and playback features, as well as continuous or time-lapse recording for up to a week or longer.

The DVR1A can connect directly to a single camera, or to multiple camera inputs routed via a multiplexer. It is compatible with Bosch (inclusive Eazeo Mux.) and many other brands of multiplexers.

Functions

Easy access to stored images

One of the main benefits is the easy access to stored images. Search, for instance, by date/time or alarm events, and images are retrieved instantly. To make it even easier to view, store and share recorded data, individual frames or video can be exported to a Compact Flash card at the touch of a button, then transferred to a PC. Video data is stored in M-JPEG format to ensure compatibility across computer platforms.

Simple to use

The DVR1A is characterized by its ease-of-use. Simple front panel controls, including jog/shuttle playback control, make it extremely easy to navigate through the menu (displayed on a connected monitor), select options as well as view images. Operation is also possible via an optional supplied remote control. An optional cable incorporating an IR sensor enables remote control even if the recorder is out of the line of sight.

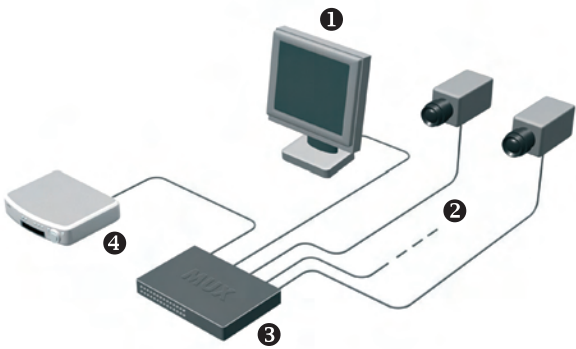
Event-triggered recording

Recording can be triggered by an alarm connected directly to the DVR. All video images pass through a buffer. When an alarm is activated the video footage recorded just prior to the alarm is transferred to the hard disk, allowing users to view events leading up to the alarm at later time. Various recording modes are available, giving users the choice of optimized image quality or longer uninterrupted recording periods.

Extra security

Password protection makes it possible to determine precisely who can alter settings in the menu

Installation/Configuration Notes



1	Monitor
2	Cameras
3	Multiplexer
4	DVR1A Digital Video Recorder

Technical Specifications

Electrical

Video Format	PAL / NTSC
Video Input	1 camera input (BNC), 1 Vpp, 75 Ohm
Video Output	1 video output (BNC) for main monitor, 1 Vpp, 75 Ohm
Video Compression	M-JPEG
Video Resolution	720 x 576 (PAL) / 720 x 484 (NTSC)
Video Display	Full display for live and playback
Alarm Input	Yes
Alarm Output	Yes (max. 24Vdc/2Adc)
HDD Storage	80 GB
Recording Mode	Continuous, time-lapse, schedule or event recording
Recording Rate	50 images/sec. (PAL) 60 images/sec. (NTSC)
Playback Rate	50 images/sec. (PAL) 60 images/sec. (NTSC)
Playback Search	Date/time, recording list or event (alarm)
Video Loss Detection	Yes
Event Log	Yes
User Interface	Menu-driven

Electrical

Setup	By on-screen display menu
User Input Device	Front panel keypad, remote control (IR with wired receiver)
Image Export	Built-in Compact Flash slot
Security	Password protection
Power Supply	100 - 240 VAC, 50 / 60 Hz
Power Consumption	< 40 W
Timer	Weekly timer, built-in real time clock
Control Connection	RS-232, 9-pin D-Sub connector
Dimensions (W X H X D)	346 x 88 x 269 mm / 13.6 x 3.5 x 10.5 inch
Weight	5.2 kg / 11.5 lbs.
Operating Temp.	+0°C to +40°C (+32°F to +104°F)

7

Ordering Information

DVR1A1081 Digital Video Recorder 1 channel, PAL/NTSC, 100-240 VAC, 50/60 IPS, 80 GB	DVR1A1081
DVR1A1081U Digital Video Recorder (UK) 1 channel, PAL/NTSC, 100-240 VAC, 50/60 IPS, 80 GB (UK version)	DVR1A1081U

DVRXEAP01 ATM/POS Bridge (Accessories)



Features

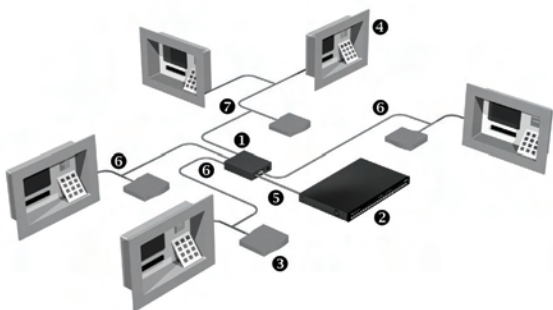
- ▶ Supports both ATM and POS devices
- ▶ Multiple connection ports
- ▶ Connect using network interface

The ATM/POS bridge provides an interface between a digital recorder (for example the Divar) and either Automatic Teller Machines (ATM) or Point-of-Sale (POS) equipment such as cash registers. This allows financial transaction data to be recorded and linked to specific camera images. Up to 4 devices may be connected to each ATM/POS bridge. Both single- and multi-drop ATM networks are supported.

The bridge is easy to install. It communicates with the digital recorder via a standard Ethernet cable, making it possible to use it anywhere on a local area network. Configuration of the bridge can be done by simply connecting a PC via a serial cable and connecting with Windows HyperTerminal.

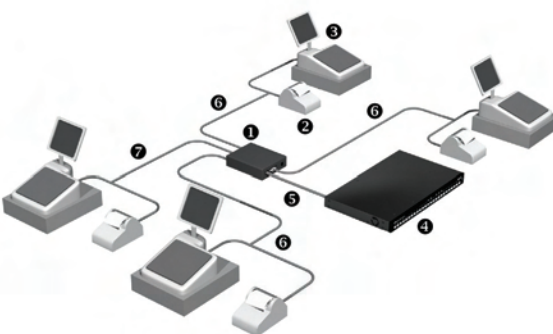
By using an ATM/POS bridge, a digital recorder can be easily integrated into a wide range of critical banking and retail applications. Please contact your Bosch sales support representative for more information on the ATM/POS protocols and the Bosch Security Systems digital recorders that are supported.

Installation/Configuration Notes



Configuration exampler for ATM's

01	ATM/POS Bridge	05	Ethernet
02	Digital Recorder	06	RS-232
03	ATM Modem	07	RS-485
04	ATM		



Configuration example for POS terminals

01	ATM/POS Bridge	05	Ethernet
02	Receipt Printer	06	RS-232
03	POS Terminal	07	RS-485
04	Digital Recorder		

Technical Specifications

Electrical

External DC power supply (included)	
- Input	100 – 240 VAC; 150 mA, 50 / 60Hz
- Output	12 VDC; 450 mA
Interface to recorder	Ethernet, 10 Base T
Terminal connection ports	
- 1 RS232, async., signals according EIA/TIA-232-F	
- 2 RS232, async. or sync., signals according EIA/TIA-232-F	
- 1 RS485, asynchronous	
Connectors	
Power	DC jack, positive center pin, 10-30VDC
Ethernet	RJ45 shielded, 10 BaseT
Terminal Connectors	DB9 male

Electrical**Supported ATM/POS devices**

Standard	Serial EPSON TM-T88II, TM-T88-III, TM-U200B/D, TM-U300A/B and TM-L60II POS printers Plain ASCII text
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Customer-Specific	Contact your Bosch Security Systems sales representative for more information
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Supported DVR's	Divar-2 (required ATM/POS license included for 1 Divar)
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Mechanical

Dimensions	152 x 110 x 35 mm (5.98 x 4.33 x 1.38 inch)
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Weight	Approx. 0,6 kg (1.3 lbs)
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Mounting Kit	For mounting one unit
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Environmental

Temperature (bridge only)

- Operating	+0°C to +45°C (+32°F to +113°F)
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- Storage	-25°C to +70°C (-13°F to +158°F)
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Relative Humidity

- Operating	<80% non-condensing
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- Storage	<90% non-condensing
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Electromagnetic Compatibility

EMC requirements

- USA	FCC Part 15 Class B
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- EU	EMC directive 89/336/EEC
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Immunity	EN 50130-4
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Emission	EN 55022 Class B
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Harmonics	EN 61000-3-2
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Voltage Fluctuations	EN 61000-3-3
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Safety

- USA	UL 60950
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- EU	EN 60950
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- Can.	CAN/CSA - C22.2 - 60950-00
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Ordering Information

DVRXEAP01 ATM/POS Bridge (Accessories)	DVRXEAP01
ATM/POS bridge Divar	

DVSA Premium Series Digital Video Storage Array



Features

- ▶ Preconfigured RAID 5 protection with up to 7.5 Terabytes of video storage
- ▶ Eight or sixteen bays for hot-swappable 3 Gbps SATA-II hard disk drives
- ▶ Redundant hot-swappable power supplies and dual-host capability for two DVRs
- ▶ DVSA management using Bosch RAIDWatch GUI
- ▶ Dual SCSI U-320 interface
- ▶ Modular design for simple service
- ▶ 2 and 3 HU 19" rack mount chassis

The DVSA Premium series, Bosch Digital Video Storage Array, is built for the security industry's most demanding digital video storage applications, providing high capacity, unlimited flexibility and unmatched reliability.

Functions

Bosch DVSA satisfies the ever increasing demands of CCTV for video – high speed recording, high performance playback, uninterruptible reliability and massive capacities. With complete RAID 5 protection and SATA-II hard drives, it is ideally suited for when the highest level of data availability is demanded.

The "Premium" models are fully featured RAID 5 disk arrays. With the focus on nonstop reliability all critical components (including the drive trays, power supply units and cooling modules) are hot-swappable within the cableless modular chassis.

Bosch DVSA "Premium" models are also designed for expansion. Dual-stack connectors allow for daisy-chaining the disk arrays for when extremely large capacities are required per DVR or NVR. Alternatively 2 DVRs can share a single DVSA disk array using the dual-host capacity, which improves the cost-effectiveness of the RAID-based solution.

In the event of failure, the Bosch Digital Video Storage Array sounds an audible alarm to notify a user. The units also ensure that system managers are constantly updated on status via a choice of channels, including email, fax, LAN broadcast, SNMP traps, MSN Messenger, ICQ and SMS messages. The choice of channel depends on the infrastructure in place and user preferences.

Up to 8 or 16 SATA-II drive channels are routed through the backplane board to the lockable drive trays installed on the front panel of the Bosch DVSA. The completely cableless, backplane-based design eliminates problems associated with cable connections and offers a higher level of serviceability.

Bosch DVSA supports multiple RAID configurations, each with distinct write policy, stripe size and optimization modes. Hot rebuild and numerous fault correction mechanisms ensure the highest standard of RAID protection. Each unit has a battery backup unit (BBU) installed to prevent data loss during a power failure. Combined with comprehensive firmware features, the Bosch Digital Video Storage Arrays ensure maximum reliability and exceptional data availability in today's data intensive video storage environments.

A highly reliable storage solution is assured by factory burn-in procedures and extensive selection process for hard disk drives, covered by the Bosch 3 year warranty program.

Installation/Configuration Notes



DVSA rear view

The Bosch RAIDWatch Manager is a Java-based RAID management software that provides a user-friendly graphical interface for configuring and monitoring RAID systems. The program is specifically designed to manage Bosch DVSA.

Bosch RAIDWatch simplifies the otherwise complicated process of array configuration, giving system integrators a wide range of convenient RAID management options. The Bosch DVSA is equipped with an Ethernet port for local and remote management. The software gives system administrators fingertip control to instantly deploy, configure, manage and monitor multiple storage subsystems at local or remote locations. The "Install Once, Run Anywhere" convenience saves time and ensures continuous operation. With WAN/LAN support an operator can manage multiple Bosch DVSA from a single workstation.

Technical Specifications

Electrical

Model No.	No. of Hard Drives	Voltage Range	Operating Power*
DVA-08K-04050RA	4x 500 GB	120/240 VAC, 50/60 Hz	350 W (1197 BTU/hour)
DVA-08K-08050RA	8x 500 GB	120/240 VAC, 50/60 Hz	350 W (1197 BTU/hour)
DVA-16K-16050RA	16x 500 GB	120/240 VAC, 50/60 Hz	460 W (1573 BTU/hour)

*Power is based on the unit's maximum operating conditions.

Peak Current	DVA-08K: 6 A / 115 VAC or 3 A / 230 VAC DVA-16K: 10 A / 115 VAC or 5 A / 230 VAC
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Accessories

Required cables (not supplied with the array)

DiBos	DVA-ACON-HD68A
Divar	DVA-ACON-HD50A
NVR	DVA-ACON-VD68A

Required every year (1 preinstalled in the array)

Battery backup	DVA-SBBK-00A
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The DVSA includes a controller board, power supply, and a specified number of hard disks. Additional accessories are optional, for redundancy, hot spare or installation. For installation into a rack, a slider rail must be used.

Item	Type #
Hard Disk assembly (500 GB)	DVA-ADTK-050A
Loop-through cable (0.5 m)	DVA-ACON-VD680A
Power supply 8 bay array	DVA-SPKK-08A
Power supply 16 bay array	DVA-SPKK-16A
Fan module 8 bay array	DVA-SFAK-08A
Fan module 16 bay array	DVA-SFAK-16A
Dual channel SCSI controller 8 bay array	DVA-SCDK-08A
Dual channel SCSI controller 16 bay array	DVA-SCDK-16A
Slider rail for cabinet 533 mm to 724 mm, 8 Bay	DVA-ASRK-28A
Slider rail for cabinet 647 mm to 900 mm, 8 Bay	DVA-ASRK-36A

Item	Type #
Slider rail for cabinet 521 mm to 812 mm, 16 Bay	DVA-ASRK-32A
Slider rail for cabinet 600 mm to 900 mm, 16 Bay	DVA-ASRK-35A

Compatible Bosch Video Servers

DiBos

Divar

NVR

Mechanical

Connectors

Power	IEC Male
RS-232 (Serial) Port	DB-9 Male, for upgrade and service
Host Ports	2 x manual-terminating, Ultra SCSI-320
Loop-through	2 x Ultra SCSI-320 Divar: Connect max. 2 arrays DiBos / NVR: Connect max. 3 arrays
Network	RJ45, Ethernet 10/100 Base-T compatible

Dimensions (WxHxD)

8 bay Array	446 x 88 x 490 mm 17.6 x 3.5 x 19.3 in.
16 bay Array	445 x 130 x 488 mm 17.6 x 5.1 x 19.3 in.

Weight

8 bay Array	32.5 kg, (71.6 lb) approx.
16 bay Array	46 kg, (101.4 lb) approx.

Environmental

Operating Temperature	0°C to 40°C (32°F to 104°F)
Relative Humidity	5% to 95% non condensing
Electromagnetic Compatibility (EMC)	Complies with FCC and CE Regulations
Product Safety	CE, UL, CB, EN, and IEC
Warranty (excl battery)	3 years
Warranty battery backup unit	1 year

Ordering Information

DVA-08K-04050RA SCSI Diskarray 8-bay 4 HDD, 2 TB	DVA-08K-04050RA
DVA-08K-08050RA SCSI Diskarray 8-bay 8 HDD, 4 TB	DVA-08K-08050RA
DVA-16K-16050RA SCSI Diskarray 16-bay 16 HDD, 8 TB	DVA-16K-16050RA

Accessories

DVA-ACON-HD50A Divar SCSI cable 0.5 m, HD50-VHDCI plug	DVA-ACON-HD50A
DVA-ACON-HD68A DiBos SCSI cable 1 m, HD68-VHDCI plug	DVA-ACON-HD68A
DVA-ACON-VD68A NVR SCSI cable 1 m, VHDCI-VHDCI plug	DVA-ACON-VD68A
DVA-ACON-VD680A Loop through SCSI cable 0.5 m, VHDCI-VHDCI plug	DVA-ACON-VD680A
DVA-SBBK-00A Battery Backup Unit	DVA-SBBK-00A
DVA-ADTK-050A Diskarray HDD expansion, 500 GB	DVA-ADTK-050A
DVA-SPKK-08A PSU for 8-bay Premium Diskarray, 350 W	DVA-SPKK-08A
DVA-SPKK-16A PSU for 16-bay Premium Diskarray, 460 W	DVA-SPKK-16A

Ordering Information

DVA-SFAK-08A Diskarray Fan Module for 8- and 12-bay	DVA-SFAK-08A
DVA-SFAK-16A Diskarray Fan Module for 16-bay	DVA-SFAK-16A
DVA-SCDK-08A Diskarray Controller for DVA-08K	DVA-SCDK-08A
DVA-SCDK-16A Diskarray Controller for DVA-16K	DVA-SCDK-16A
DVA-ASRK-28A Diskarray Cabinet Slider for DVA-08 and DVA-12, 533 mm - 724 mm/ 21 in. - 28.5 in.	DVA-ASRK-28A
DVA-ASRK-32A Diskarray Cabinet Slider for DVA-16, 610 mm - 813 mm/24 - 32 in.	DVA-ASRK-32A
DVA-ASRK-35A Diskarray Cabinet Slider for DVA-16, 660 - 914 mm/26 - 36 in.	DVA-ASRK-35A
DVA-ASRK-36A Diskarray Cabinet Slider for DVA-08 and DVA-12, 647 mm - 914 mm/ 25.5 in. - 36 in.	DVA-ASRK-36A

DVSA Premium Series iSCSI Digital Video Storage Array



DVSA Front view

Features

- ▶ Preconfigured RAID 5 protection with up to 5.5 Terabytes of video storage
- ▶ Shared storage over Ethernet
- ▶ Twelve bays for hot swappable 3Gbps SATA-II hard disk drives
- ▶ Redundant hot swappable power supplies and high-speed network connectivity
- ▶ DVSA Management using Bosch RAIDWatch GUI
- ▶ Two Gigabit Ethernet Ports
- ▶ Modular design for simple service
- ▶ Dual speed fans to reduce system noise
- ▶ High density 2 HU 19" rack mount chassis

The DVSA Premium series, Bosch Digital Video Storage Array, is built for the security industries most demanding digital video storage applications, providing high capacity, unlimited flexibility and unmatched reliability

Functions

Bosch DVSA satisfies the ever increasing demands of CCTV for video – high speed recording, high performance playback, uninterruptable reliability and massive capacities. With complete RAID 5 protection and SATA-II hard drives, it is ideally suited for when the highest level of data availability is demanded.

The "Premium" models are fully featured RAID 5 disk arrays. With the focus on non stop reliability all critical components, including the drive trays, power supply units and cooling modules, are hot-swappable within the cableless modular chassis.

Bosch DVSA "Premium" models are also designed for expansion. Two Gigabit Ethernet ports allow the connection of up to 31 Bosch video servers over standard Ethernet networks, which improves the cost-effectiveness of the RAID-based solution. The Bosch DVSA iSCSI solution is ideal for building a shared pool of storage for Bosch Video Servers.

In the event of a failure, the Bosch Digital Video Storage Array sounds an audible alarm to notify a user. The units also ensure that system managers can be constantly updated with their status via a choice of channels, including email, fax, LAN broadcast,

SNMP traps, MSN Messenger, ICQ and SMS messages depending on the infrastructure in place and user preferences.

The 4 or 12 SATA-II drive channels are routed through the backplane board to the lockable drive trays installed via the front of the Bosch DVSA. The completely cableless, backplane-based design eliminates problems associated with cable connections and offers a higher level of serviceability.

Bosch DVSA supports multiple RAID configurations, each with distinct write policy, stripe size and optimization modes. Hot rebuild and numerous fault correction mechanisms ensure the highest standard of RAID protection. Each unit has a battery backup unit (BBU) installed to prevent data loss during a power failure.

Combined with comprehensive firmware features, the Bosch Digital Video Storage Arrays ensures extreme reliability and exceptional data availability in today's most data intensive video storage environments. A highly reliable storage solution is assured by factory burn-in procedures and extensive selection process for hard disk drives, covered by the Bosch 3 year warranty program.

Installation/Configuration Notes



DVSA Rear view.

The Bosch RAIDWatch Manager is a Java-based RAID management software that provides a user-friendly graphical interface for configuring and monitoring RAID systems. The program is specifically designed to manage Bosch DVSA.

Bosch RAIDWatch simplifies the otherwise complicated process of array configuration, giving system integrators a wide range of convenient RAID management options. The Bosch DVSA is equipped with Ethernet ports for local and remote management. The software gives system administrators fingertip control to instantly deploy, configure, manage and monitor multiple storage subsystems at local or remote locations. The "Install Once, Run Anywhere" convenience saves time and ensures continuous operation. With WAN/LAN support an operator can manage multiple Bosch DVSA from a single workstation.

Technical Specifications

Electrical

Model No.	No. of Hard Drives	Voltage Range	Operating Power*
DVA-12T-04050RA	4x 500GB	120/240 VAC 50/60 Hz	350 W (1197 BTU/hour)
DVA-12T-12050RA	12x 500 GB	120/240 VAC 50/60 Hz	350 W (1197 BTU/hour)

*Power is based on the unit's maximum operating conditions.

Peak Current 6 A / 115 VAC or 3 A / 230 VAC

Accessories

Required every year (1 pre-installed in the array)

Battery backup DVA-SBBK-00A

The DVSA includes a controller board, power supply, and a specified number of hard disks. Additional accessories are optional, for redundancy, hot spare or installation. For installation into a rack, a slider rail must be used.

Item	Type #
Hard Disk assembly (500 GB)	DVA-ADTK-050A
Power supply	DVA-SPKK-08A
Fan module	DVA-SFAK-08A
iSCSI to SATA-II controller, 2x 1GB Ethernet Host Channels, 1GB DDR RAM	DVA-SCIK-12A
Slider rail for cabinet 533 mm - 724 mm	DVA-ASRK-28A
Slider rail for cabinet 647 mm - 900 mm	DVA-ASRK-36A

Compatible Bosch Video Servers

VIP X Series Video Encoders (VIP X1/X2, VIP X1600)

Dinion IP cameras

G4 Auto Dome

Mechanical

Connectors

Power	IEC Male
RS-232 (Serial) Port	Audio Jack, for upgrade and service
Host Ports	Two (2) RJ-45 Gigabit Ethernet Host Channels

Dimensions (WxHxD) 446 x 88 x 490 mm
17.6 x 3.5 x 19.3 inches

Weight 32.5 kg, (71.6 lb) approximate

Environmental

Operating Temperature	0°C to 40°C (32°F to 104°F)
Relative Humidity	5% to 95% non-condensing
Electromagnetic Compatibility (EMC)	Complies with FCC and CE Regulations
Product Safety	CE, UL, CB, EN and IEC
Warranty (excl battery)	3 years
Warranty battery backup unit	1 year

Ordering Information

DVA-12T-04050RA iSCSI Diskarray 12-bay DVA-12T-04050RA
4 HDD, 2 TB

DVA-12T-12050RA iSCSI Diskarray 12-bay DVA-12T-12050RA
12 HDD, 6 TB

Accessories

DVA-ADTK-050A Diskarray HDD expansion, 500 GB DVA-ADTK-050A

DVA-SPKK-08A PSU DVA-SPKK-08A
for 8-bay Premium Diskarray, 350 W

DVA-SFAK-08A Diskarray Fan Module DVA-SFAK-08A
for 8- and 12-bay

DVA-SCIK-12A iSCSI Diskarray Controller DVA-SCIK-12A

DVA-ASRK-28A Diskarray Cabinet Slider DVA-ASRK-28A
for DVA-08 and DVA-12, 533 mm - 724 mm/
21 in. - 28.5 in.

DVA-ASRK-36A Diskarray Cabinet Slider DVA-ASRK-36A
for DVA-08 and DVA-12, 647 mm - 914 mm/
25.5 in. - 36 in.

Video Transmission

8

LTC 46xx and LTC 47xx Series Fiber Optic Transmission Units



8

Features

- ▶ Video and data models available
- ▶ No adjustments required
- ▶ Long distance-high security
- ▶ Surface-mount or rack-mount units
- ▶ Video models support NTSC, PAL, and SECAM standards
- ▶ Data communication link supports keyboards used with:
 - Allegiant Series of Switcher/Control Systems
 - Divar Series of Digital Video Recorders
 - System4 Series of Multiplexers

The LTC 4600 Series are transmission systems that provide efficient, high quality video and data transmission via a multimode fiber optic cable for improved CCTV system performance. Signals are immune to ground loops, radio frequency interference (RFI), electromagnetic interference (EMI), and cross talk because the video carrier is infrared light and is transmitted through a nonconductive fiber optic cable. Interference-free operation ensures reliable service. Unlike microwave, wire, and coaxial cable transmission systems, fiber optic transmission is difficult, if not impossible to tap. And, since fiber optic cable is nonconductive and does not radiate a signal, it is difficult to detect and locate. These compact devices are available in a surface mount enclosure or in a modular style package that can be rack-mounted using an optional EIA 48 cm (19 in.) compatible rack unit.

Model Summary

Model No.	Description/Use
LTC 4641, LTC 4642 Series	Single-channel Video Transmissions
LTC 4744, LTC 4745 Series	4-Channel Video Transmissions
LTC 4630, LTC 4631 Series	Bilinx™ Video/Data Transmissions
LTC 4628, LTC 4629 Series	Video/Bi-Phase Data Transmissions
LTC 4671 Series	RS-485 Allegiant/ Divar/System4 Keyboard Data Transmissions
LTC 4651 Series	RS-232/ Bi-Phase Data Transmissions
LTC 4681, LTC 4682 Series	10/100Base-T Ethernet Data Transmissions
LTC 4637 Series	Card Cage Enclosure for Rack-mount Models

LTC 4641 and LTC 4642 Series

The LTC 4641 Series Transmitters and LTC 4642 Series Receivers are designed for transmission of CCTV video signals. Efficient installation is assured because there are no user adjustments required. The wide bandwidth transmission capability of these units enables clear, sharp black and white or color pictures to be transmitted over long distances. The compact transmitters are small enough to be connected directly to a camera's BNC connector, thereby simplifying installation.

LTC 4744 and LTC 4745 Series

The LTC 4744 Transmitter and LTC 4745 Receiver are designed for the transmission of up to 4 CCTV video signals using one multimode fiber cable. This link operates in the 1310 nm range and incorporates 8-bit video encoding exceeding the requirements of EIA RS-250C for Medium Haul video transmissions. Integral LED status indicators provide an indication of operating parameters.

LTC 4630 and LTC 4631 Series

The LTC 4630 and LTC 4631 are a bidirectional transmission system designed to operate with Bilinx-compatible video/data CCTV products using a single multimode optical fiber cable. This system independently transmits a video signal from the camera location to the controller location, while simultaneously transmitting Bilinx control/event data in both directions. The video channel is compatible with both NTSC and PAL color cameras. The data channel is compatible with all Bilinx-compatible control systems and cameras. Both units incorporate LED indicators to provide quick visual indication of the module performance.

LTC 4628 and LTC 4629 Series

The LTC 4628 and LTC 4629 are a bidirectional transmission system designed to implement a complete CCTV system using a single optical fiber cable. This system independently transmits a video signal from the camera location to the controller location, while simultaneously transmitting Allegiant Bi-Phase control code from the controller location to the camera location. The video channel is compatible with monochrome or color cameras. The data channel is compatible with control systems that utilize simplex RS-232 or RS-422 signals. Both units incorporate LED indicators to provide quick visual indication of the module performance. The LTC 4629 Transceiver Series is also compatible with the ENV Series of Bosch AutoDome® Cameras that incorporate an integral fiber optic transceiver.

LTC 4671 Series

The LTC 4671 Series are Transceivers designed especially for the transmission of RS-485 signals used by system keyboards in the Allegiant Series of switcher/controller systems, the Divar Series of digital video recorders, and the System4 Series of multiplexers. The unit contains both a transmitter and a receiver operating in the 850 nm range to allow bidirectional communication using two fibers between the main control site and its remote keyboard.

LTC 4651 Series

The LTC 4651 Transceivers are designed especially for the transmission of Bi-Phase control code signals used in the Allegiant Series of switcher/controllers, various DVRs, multiplexers, and other camera control systems. They are also compatible with Manchester code and standard RS-232 signals. These units operate in the 850 nm range and contain a removable screw terminal type connector that allows easy connection to the shielded twisted pair cable carrying the control signal. These units can also be used as an RS-232C transceiver that is compatible with EIA Standard RS-232C levels. The system is suitable for simplex asynchronous data transmissions using one fiber, or full duplex asynchronous data transmissions using two fibers up to 64 kbaud.

LTC 4681 and LTC 4682 Series

The LTC 4681 and LTC 4682 Series are IEEE 802.3-compliant transceivers designed especially for the transmission of 10/100BaseT Ethernet signals. Having no user adjustments, a quick and easy installation is guaranteed. The modules are designed to automatically detect MDI/MDI-X type cable connections, and are compatible with both 10 Mb/s and 100 Mb/s speeds. LED status indicators that provide a clear indication of operating parameters, and data connections are made to standard RJ-45 connectors.

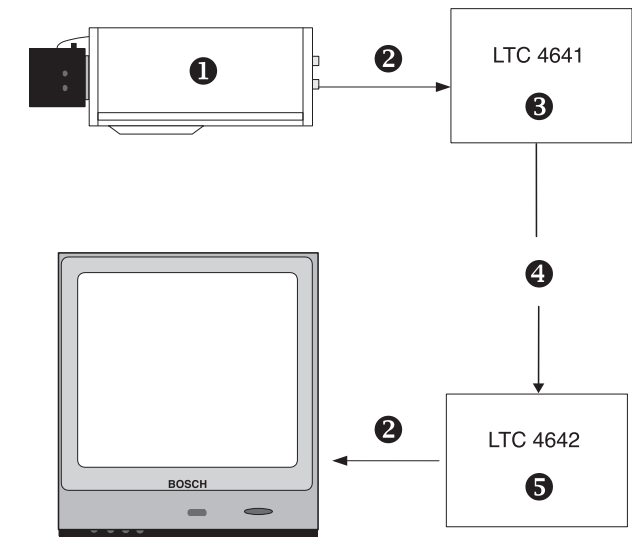
LTC 4637 Series Rack

The LTC 4637 Series Rack Units provide the option to rack-mount LTC 4600 Series Fiber Optic Modules in a standard EIA 48 cm (19 in.) rack. The unit incorporates an integral power supply that supplies power to all modules installed in the rack-mount unit. The supply also utilizes a standard IEC AC power connector for easy power cord replacement or exchange with various worldwide AC power plug configurations. Modules installed in the rackmount unit can be hot-swapped, so it is not necessary to power down the rack when removing or replacing modules. The integral power supply incorporates an automatic electronic current limiting feature for each individual rack-mount slot. This design eliminates the possibility of a single-point failure causing a complete shut down of the entire rack. The current limiting function is also self-resetting, should the fault or overload be of a temporary or intermittent nature.

Certifications and Approvals

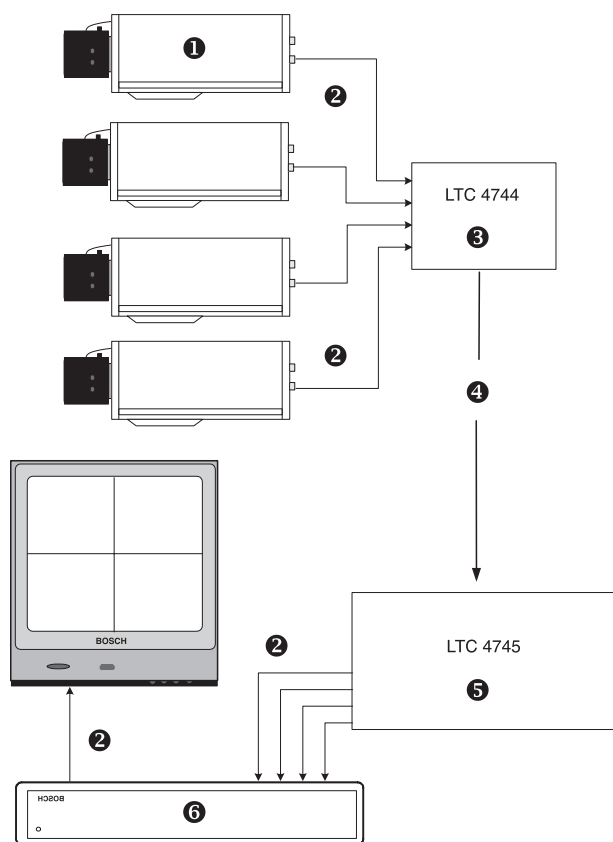
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003 and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN and IEC Standards
Laser Diode Models	Comply with FDA performance Standard for Laser Products, Title 21; Code of Federal Regulations Subchapter J

Installation/Configuration Notes



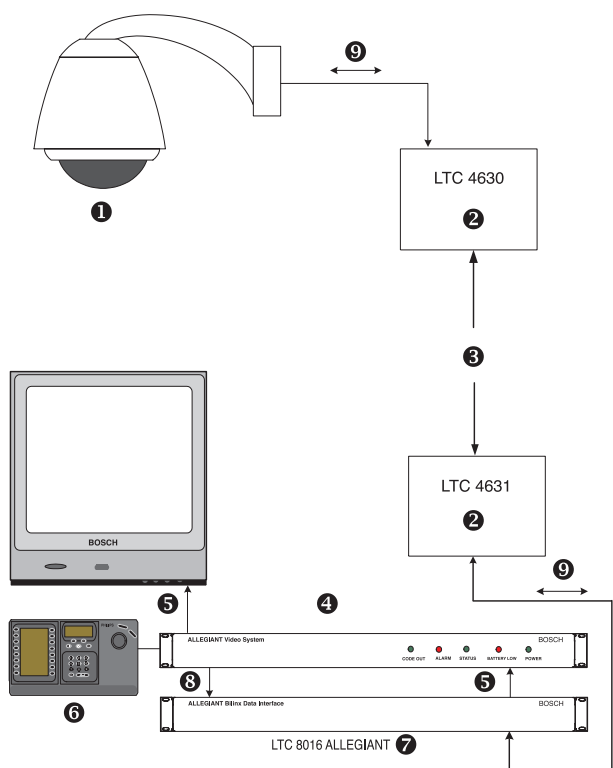
LTC 4641 and LTC 4642 Series Configuration

1	Camera
2	Coax Cable
3	Fiber Optic Video Transmitter
4	Fiber Optic Cable: Up to 4 km (2.5 miles) using 62.5/125 micron
5	Fiber Optic Video Receiver



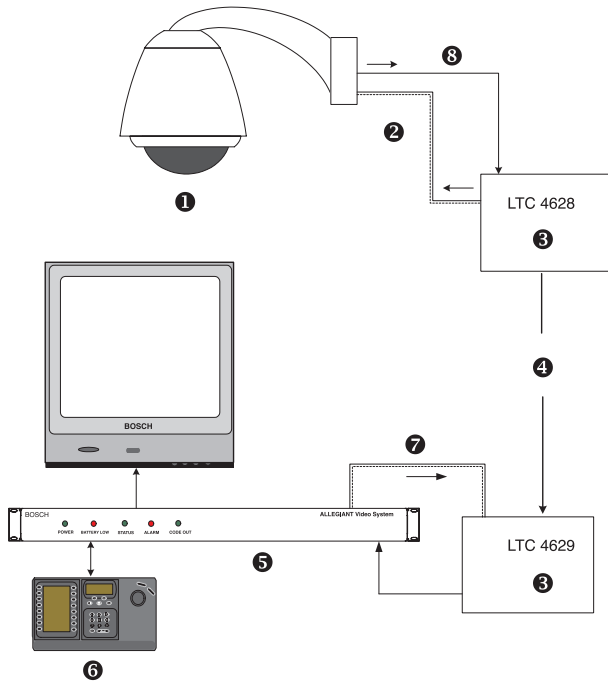
LTC 4744 and LTC 4745 Series Configuration

- | | |
|---|--|
| 1 | Camera |
| 2 | Coax Cable |
| 3 | Fiber Optic Video Transmitter |
| 4 | Fiber Optic Cable: Up to 3 km (1.9 miles) using 62.5/125 micron Multi-mode Fiber Optic Cable |
| 5 | Fiber Optic Video Receiver |
| 6 | Video Quad Unit |



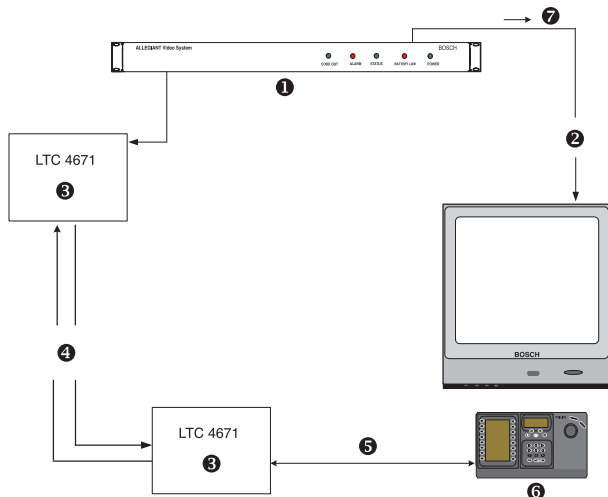
LTC 4630 and LTC 4631 Series Configuration

- | | |
|---|--|
| 1 | Bilinx-enabled AutoDome Series Pan/Tilt/Zoom Camera |
| 2 | Fiber Optic Transceiver |
| 3 | Fiber Optic Cable: Up to 600 m (2000 ft) using 62.5/125 micron Multi-mode Fiber Optic Cable |
| 4 | Allegiant Series Switcher/Controller, Divar Digital Video Recorder, or other Bosch Security Systems Control System |
| 5 | Video |
| 6 | IntuiKey Series Keyboard |
| 7 | Bilinx Data Interface |
| 8 | Data |
| 9 | Video + Bilinx Data |



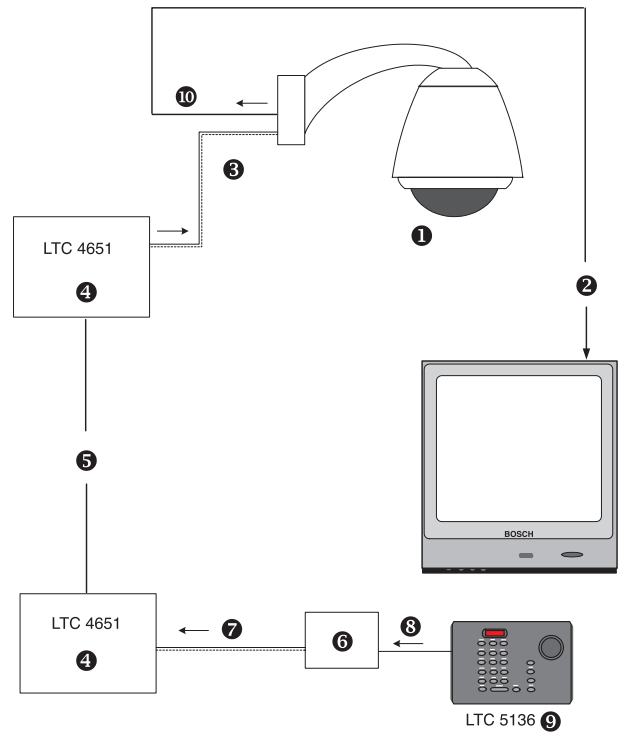
LTC 4628 and LTC 4629 Series Configuration

- 1 AutoDome Series Pan/Tilt/Zoom Camera
- 2 Bi-Phase Control Data Cable
- 3 Fiber Optic Transceiver
- 4 Fiber Optic Cable: Up to 4 km (2.5 miles) using 62.5/125 micron Multimode Fiber Optic Cable
- 5 Allegiant Series Switch/Controller, Divar Digital Video Recorder, or System4 Series Multiplexer
- 6 IntuiKey Series Keyboard
- 7 Bi-Phase Control Data Cable
- 8 Video



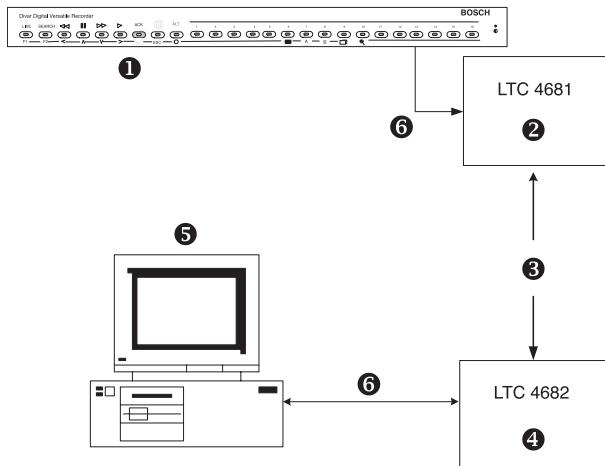
LTC 4671 Series Configuration

- 1 Allegiant Series Switch/Controller, Divar Digital Video Recorder, or System4 Series Multiplexer
- 2 Separate Video Signal Transmission Link
- 3 Fiber Optic Data Transceiver
- 4 Up to 4 km (2.5 miles) using 62.5/125 micron Multimode Fiber Optic Cables
- 5 Keyboard Data
- 6 IntuiKey Series Keyboard
- 7 Video



LTC 4651 Series Configuration

- 1 AutoDome Series Pan/Tilt/Zoom Camera
- 2 Separate Video Signal Transmission Link
- 3 Bi-Phase Control Data Cable
- 4 Fiber Optic Data transceiver
- 5 Up to 3.5 km (2 miles) using 62.5/125 micron Multimode Fiber Optic Cable
- 6 Controller Junction Box
- 7 Bi-Phase Control Data Cable
- 8 Data
- 9 Controller
- 10 Video



LTC 4681 and LTC 4682 Series Configuration

1	Typical Divar Digital Video Recorder
2	Fiber Optic Data Receiver
3	Fiber Optic Cable: Up to 10 km (6.2 miles) using 62.5/125 micron Multimode Fiber Optic Cable
4	Fiber Optic Data Transceiver
5	PC Running Remote Viewer Software
6	10/100 Base-T Ethernet

Technical Specifications

LTC 4641 and LTC 4642 Series

Models No.	Description	Power Source ¹	Requires
LTC 4641/60	Mini Video Transmitter	120 VAC, 50/60 Hz	LTC 4642 Series Receiver
LTC 4641/50	Mini Video Transmitter	230 VAC, 50/60 Hz	LTC 4642 Series Receiver
LTC 4642/60	Video Receiver	120 VAC, 50/60 Hz	LTC 4641 Series Transmitter
LTC 4642/50	Video Receiver	230 VAC, 50/60 Hz	LTC 4641 Series Transmitter
LTC 4642/00	Video Receiver, Rack Module	LTC 4637 Rack	LTC 4641 Series Transmitter

1. Appropriate external power pack supplied with surface-mount models or power provided by

Power Requirements (surface-mount versions only)

Transmitter	9–12 VDC @ 150 mA; 10–14 VAC @ 200 mA
Receiver	12 VDC @ 150 mA
Number of Fibers	One (1)
Optical Budget	14 dB
Maximum Distance	4 km (2.5 miles)
Wavelength	850 nm
Optical Emitter	LED
Transmitter Output Power	25 uW (–16 dBm)
Technology Type	AM modulation, with AGC
Rack Slots Required when used with LTC 4637 Rack	One (1), (rack-mount version only)
Dimensions (surface-mount version)	

LTC 4641 and LTC 4642 Series

Transmitter (L x W x H)	6.4 x 4.1 x 2.5 cm (2.5 x 1.6 x 1.0 in.)
Receiver (L x W x H)	10.7 x 8.9 x 2.5 cm (4.2 x 3.5 x 1.0 in.)
Video Bandwidth	5 Hz to 10 MHz
Differential Gain	< 5%
Differential Phase	< 5°
Tilt	< 1%
Signal-to-noise Ratio(SNR)	> 55 dB @ 10 dB attenuation > 60 dB @ 7 dB attenuation
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4744 and LTC 4745 Series

Models No.	Description	Power Source ²	Requires
LTC 4744/60	4-ch. Video Transmitter	120 VAC, 50/60 Hz	LTC 4745 Series Receiver
LTC 4744/50	4-ch. Video Transmitter	230 VAC, 50/60 Hz	LTC 4745 Series Receiver
LTC 4744/00	4-ch. Video Transmitter Rack Module	LTC 4637 Rack	LTC 4745 Series Receiver
LTC 4745/60	4-ch. Video Receiver	120 VAC, 50/60 Hz	LTC 4744 Series Transmitter
LTC 4745/50	4-ch. Video Receiver	230 VAC, 50/60 Hz	LTC 4744 Series Transmitter
LTC 4745/00	4-ch. Video Receiver Rack Module	LTC 4637 Rack	LTC 4744 Series Transmitter

2. Appropriate external power packs supplied with surface-mount models or power provided by LTC 4637 rack unit for rack-mount models.

Power Requirements (surface-mount versions only)	+12 VDC @ 500 mA
Number of Fibers	One (1)
Optical Budget	17 dB
Maximum Distance	3 km (1.9 miles)
Wavelength	1310 nm
Optical Emitter	Laser diode
Technology Type	8-Bit digital video encoding
Rack Slots Required when used with LTC 4637 Rack	Two (2), rack-mount version only
Dimensions (surface-mount versions)	
Transmitter (L x W x H)	17.8 x 12.5 x 2.5 cm (7.0 x 4.9 x 1.0 in.)
Receiver (L x W x H)	17.8 x 12.5 x 5.0 cm (7.0 x 4.9 x 2.0 in.)
Video Bandwidth	10 Hz to 6.5 MHz
Differential Gain	< 2%
Differential Phase	< 0.7°
Tilt	< 1%
Signal-to-noise Ratio (SNR)	60 dB @ maximum optical loss budget
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4630 and LTC 4631 Series

Models No.	Description	Power Source ³	Requires
LTC 4630/60	Video Transmitter/ Data Transceiver	120 VAC, 50/60 Hz	LTC 4631 Series
LTC 4630/50	Video Transmitter/ Data Transceiver	230 VAC, 50/60 Hz	LTC 4631 Series
LTC 4630/00	Video Transmitter/ Data Transceiver Rack Module	LTC 4637 Rack	LTC 4631 Series
LTC 4631/60	Video Receiver/ Data Transceiver	120 VAC, 50/60 Hz	LTC 4630 Series
LTC 4631/50	Video Receiver/ Data Transceiver	230 VAC, 50/60 Hz	LTC 4630 Series
LTC 4631/00	Video Receiver/ Data Transceiver Rack Module	LTC 4637 Rack	LTC 4630 Series

3. Appropriate external power packs supplied with surface-mount models or power provided by LTC 4637 rack unit for rack-mount models.

Power Requirements (surface-mount versions only)

LTC 4630	24 VAC C.T., 11–14 VDC @ 200 mA
LTC 4631	12 VDC @ 200 mA
Number of Fibers	One (1)
Optical Budget	14 dB
Maximum Distance for Bilinx Transmissions	600 m (2000 ft)
Technology Type	AM Video modulation
Wavelength	850 nm / 1310 nm
Optical Emitter	LED
Transmitter Output Power	25 uW (-16 dBm)
Rack Slots Required when used with LTC 4637 Rack	One (1), rack-mount version only
Dimensions (surface-mount versions) (L x W x H)	17.8 x 12.5 x 2.5 cm (7.0 x 4.9 x 1.0 in.)
Video Bandwidth	5 Hz to 10 MHz
Differential Gain	< 5%
Differential Phase	< 5°
Tilt	< 1%
Signal-to-noise Ratio (SNR)	> 55 dB @ 10 dB attenuation
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4628 and LTC 4629 Series

Models No.	Description	Power Source ⁴	Requires
LTC 4628/60	Video/Data Transceiver	120 VAC, 50/60 Hz	LTC 4629 Series Transceiver
LTC 4628/50	Video/Data Transceiver	230 VAC, 50/60 Hz	LTC 4629 Series Transceiver
LTC 4628/00	Video/Data Transceiver Rack Module	LTC 4637 rack	LTC 4629 Series Transceiver
LTC 4629/60	Data/Video Transceiver	120 VAC, 50/60 Hz	LTC 4628 Series Transceiver
LTC 4629/50	Data/Video Transceiver	230 VAC, 50/60 Hz	LTC 4628 Series Transceiver

LTC 4628 and LTC 4629 Series

LTC 4629/00	Data/Video Transceiver Rack Module	LTC 4637 Rack	LTC 4628 Series Transceiver
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4. Appropriate external power packs supplied with surface-mount models or power provided by

Power Requirements (surface-mount versions only)

LTC 4628	24 VAC C.T., 11–14 VDC @ 200 mA
LTC 4629	12 VDC @ 200 mA
Number of Fibers	One (1)
Optical Budget	14 dB
Maximum Distance	4.0 km (2.5 miles)
Technology Type	AM Video modulation
Wavelength	850 nm / 1310 nm
Optical Emitter	LED
Transmitter Output Power	25 uW (-16 dBm)
Rack Slots Required (when used with LTC 4637 Rack)	One (1), rack-mount version only
Dimensions (surface-mount versions) (L x W x H)	17.8 x 12.5 x 2.5 cm (7.0 x 4.9 x 1.0 in.)
Video Bandwidth	5 Hz to 10 MHz
Differential Gain	< 5%
Differential Phase	< 5°
Tilt	< 1%
Signal-to-noise Ratio (SNR)	> 55 dB @ 10 dB attenuation > 60 dB @ 7 dB attenuation
Data Rate	DC to 100 kbps (NRZ)
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4671 Series

Models No.	Description	Power Source ⁵	Requires
LTC 4671/60	RS-485 Transceiver	120 VAC, 50/60 Hz	LTC 4671 Series Transceiver
LTC 4671/50	RS-485 Transceiver	230 VAC, 50/60 Hz	LTC 4671 Series Transceiver
LTC 4671/00	RS-485 Transceiver Rack Module	LTC 4637 Rack	LTC 4671 Series Transceiver

5. Appropriate external power packs supplied with surface-mount models or power provided by

Power Requirements (surface-mount versions only)	12 VDC @ 200 mA
Number of Fibers	Two (2)
Optical Budget	14 dB
Maximum Distance	4.0 km (2.5 miles)
Wavelength	850 nm
Optical Emitter	LED
Transmitter Output Power	25 uW (-16 dBm)
Rack Slots Required (when used with LTC 4637 Rack)	One (1), rack-mount version only
Dimensions (surface-mount versions) (L x W x H)	17.8 x 12.5 x 2.5 cm (7.0 x 4.9 x 1.0 in.)
Data Rate	DC to 150 kbps

LTC 4671 Series

Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4651 Series

Models No.	Description	Power Source ⁶	Requires
LTC 4651/60	Biphase/RS-232 Transceiver	120 VAC, 50/60 Hz	LTC 4651 Series Transceiver
LTC 4651/50	Biphase/RS-232 Transceiver	230 VAC, 50/60 Hz	LTC 4651 Series Transceiver
LTC 4651/00	Biphase/RS-232 Transceiver, Rack Module	LTC 4637 Rack	LTC 4651 Series Transceiver

6. Appropriate external power packs supplied with surface-mount models or power provided by

Power Requirements (surface-mount versions only)	12 VDC @ 150 mA
Number of Fibers	One (1) for Bi-Phase and simplex RS-232 transmissions; Two (2) for duplex RS-232 transmissions
Optical Budget	14 dB
Maximum Distance	3.5 km (2 miles)
Wavelength	850 nm
Optical Emitter	LED
Transmitter Output Power	25 uW (-16 dBm)
Rack Slots Required (when used with LTC 4637 Rack)	One (1), rack-mount version only
Dimensions (surface-mount versions) (L x W x H)	10.7 x 8.9 x 2.5 cm (4.2 x 3.5 x 1.0 in.)
Data Rate	DC to 1.5 Mbps (NRZ)
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4681 and LTC 4682 Series

Models No.	Description	Power Source ⁷	Requires
LTC 4681/60	Ethernet Transmitter	120 VAC, 50/60 Hz	LTC 4682 Series Receiver
LTC 4681/50	Ethernet Transmitter	230 VAC, 50/60 Hz	LTC 4682 Series Receiver
LTC 4681/00	Ethernet Transmitter Rack Module	LTC 4637 Rack	LTC 4682 Series Receiver
LTC 4682/60	Ethernet Receiver	120 VAC, 50/60 Hz	LTC 4681 Series Transmitter
LTC 4682/50	Ethernet Receiver	230 VAC, 50/60 Hz	LTC 4681 Series Transmitter
LTC 4682/00	Ethernet Receiver Rack Module	LTC 4637 Rack	LTC 4681 Series Transmitter

7. Appropriate external power pack supplied with surface-mount models or power provided by

LTC 4681 and LTC 4682 Series

Power Requirements (surface-mount versions only)	12 VDC @ 200 mA
Number of Fibers	One (1)
Optical Budget	10 dB
Maximum Distance	10 km (6.2 miles)
Wavelength	1310 nm / 1550 nm
Optical emitter	LED
Rack Slots Required when used with LTC 4637 Rack	Two (2), rack-mount version only
Dimensions (surface-mount versions) (L x W x H)	17.8 x 12.5 x 2.5 cm (7.0 x 4.9 x 1.0 in.)
Shipping Weight	< 0.9 kg (2 lb)
MTBF	> 100,000 hours

LTC 4637 Series Rack

Models No.	Input Voltage	Voltage Range	Output Voltage	Max Power ⁸
LTC 4637/60	120 VAC, 50/60 Hz	108 to 132	20 VAC	80 W
LTC 4637/50	230 VAC, 50/60 Hz	198 to 264	20 VAC	80 W

8. Maximum power dissipation (fully loaded).

Construction	Modular style aluminum enclosure, with detachable IEC type AC power connector
Number of Slots	14
Indicators	Power supply pilot lamp
Power Supplied to Modules	20 VAC, Center tapped @ 4.0 A
Fusing	One (1) slow-blow for rack power supply; modules individually electronically fused
Connectors	AC line cord; 3-terminal adaptor sockets, per slot
Dimensions (L x W x H)	48.3 x 17.8 x 13.3 cm (19.0 x 7.0 x 5.25 in.)
Shipping Weight	< 2.15 kg (< 5 lb)

Common Specifications

NOTE: Specifications noted below apply to all models unless otherwise specified in applicable

Optical Connector Type	ST
Optical Fiber Compatibility	50/125 µm or 62.5/125 µm, graded index multimode glass fiber rated for a minimum bandwidth of 600 MHz-Km. For 50/125 fiber, subtract 4 dB from the specified optical budget value.
Optical Distance Specifications	Specified transmission distances are limited to the optical loss of the fiber and any additional loss introduced by connectors, splices, and patch panels. The modules are designed to operate over the entire optical loss budget range, so they do not require a minimum loss in order to operate.
Data and Power Connections	Removable screw terminal blocks
Construction	Surface-mountable metal enclosure designed to maximize EMI/RFI shielding

Environmental

Operating	–40°C to 74°C (–40°F to 165°F)
Storage	–40°C to 85°C (–40°F to 185°F)
Humidity	0% to 95% relative, non-condensing
Product Regulatory Compliance	

Accessories

LTC 4600/00 blank panel (1 rack slot). Used to cover unused slots in LTC 4637 Series racks.

Replacement Power Supply Part Numbers

TC120PS	For 120 VAC, 50/60 Hz models
TC220PS	For 230 VAC, 50/60 Hz models

Ordering Information

LTC 4600/00 Blank Panel	LTC4600/00
to cover one slot of the LTC 4637 48-cm (19-in.) rack	
LTC 4628/50 Video/Data Transceiver	LTC4628/50
850 nm FOM, 230 VAC, 50 Hz	
LTC 4628/60 Video/Data Transceiver	LTC4628/60
850 nm FOM, 120 VAC, 60 Hz	
LTC 4628/00 Video/Data Transceiver, Rack Module	LTC4628/00
850 nm FOM, receives data, use with LTC 4637 series rack	
LTC 4629/50 Data/Video Transceiver	LTC4629/50
850 nm FOM, 230 VAC, 50 Hz	
LTC 4629/60 Data/Video Transceiver	LTC4629/60
850 nm FOM, 120 VAC, 60 Hz	
LTC 4629/00 Data/Video Transceiver, Rack Module	LTC4629/00
850 nm FOM, use with LTC 4637 series rack	
LTC 4630/50 Video Transmitter/Data Transceiver	LTC4630/50
850/1310 nm FOM, side A, 230 VAC, 50/60 Hz	
LTC 4630/60 Video Transmitter/Data Transceiver	LTC4630/60
850/1310 nm FOM, side A, 120 VAC, 50/60 Hz	
LTC 4631/50 Video + Bilinx Fiber Receiver	LTC4631/50
850/1310 nm FOM, side B, 230 VAC, 50/60 Hz	
LTC 4631/60 Video + Bilinx Fiber Receiver	LTC4631/60
850/1310 nm FOM, side A, 120 VAC, 50/60 Hz	
LTC 4631/00 Video + Bilinx Fiber Receiver, Rack Module	LTC4631/00
850/1310 nm FOM, side B, use with LTC 4637 series rack	
LTC 4637/50 Rack and Power Supply	LTC4637/50
for FOM, 48 cm (19 in.), 230 VAC, 50 Hz	
LTC 4637/60 Rack and Power Supply	LTC4637/60
for FOM, 48 cm (19 in.), 110 VAC, 60 Hz	
LTC 4641/50 Mini Video Transmitter	LTC4641/50
Video fiber transmitter, 850 nm, 230 VAC, 50 Hz	
LTC 4641/60 Mini Video Transmitter	LTC4641/60
850 nm FOM, video signals, 120 VAC, 60 Hz	
LTC 4642/60 Video Receiver	LTC4642/60
850 nm, 120 VAC, 60 Hz	
LTC 4642/50 Video Receiver	LTC4642/50
850 nm, 230 VAC, 50 Hz	

Ordering Information

LTC 4642/00 Video Receiver, Rack Module	LTC4642/00
850 nm FOM, video signals, use with LTC 4637 series rack	
LTC 4651/50 Bi-Phase/RS-232 Transceiver	LTC4651/50
850 nm FOM, 230 VAC, 50 Hz	
LTC 4651/60 Bi-Phase/RS-232 Transceiver	LTC4651/60
850 nm, FOM, 120 VAC, 60 Hz	
LTC 4651/00 Bi-Phase/RS-232 Transceiver, Rack Module	LTC4651/00
850 nm FOM, use with LTC 4637 series rack	
LTC 4671/50 RS-485 Transceiver	LTC4671/50
850 nm FOM, RS-485 data, 230 VAC, 50 Hz	
LTC 4671/60 RS-485 Transceiver	LTC4671/60
850 nm, 120 VAC, 60 Hz	
LTC 4671/00 RS-485 Transceiver, Rack Module	LTC4671/00
850 nm FOM, use with LTC 4637 series rack	
LTC 4681/50 Ethernet Transmitter	LTC4681/50
1310/1550 nm FOM, side A, 10/100 Base-T Ethernet, 230 VAC, 50/60 Hz	
LTC 4681/60 Ethernet Transmitter	LTC4681/60
1310/1550 nm FOM, side A, 10/100 Base-T Ethernet, 120 VAC, 50/60 Hz	
LTC 4681/00 Ethernet Transmitter, Rack Module	LTC4681/00
10/100 Base-T Ethernet, use with LTC 4637 series rack	
LTC 4682/50 Ethernet Receiver	LTC4682/50
1310/1550 nm FOM, side B, 10/100 Base-T Ethernet, 230 VAC, 50/60 Hz	
LTC 4682/60 Ethernet Receiver	LTC4682/60
1310/1550 nm FOM, side B, 10/100 Base-T Ethernet, 120 VAC, 50/60 Hz	
LTC 4682/00 Ethernet Receiver, Rack Module	LTC4682/00
1310/1550 nm FOM, side B, 10/100 Base-T Ethernet, use with LTC 4637 series rack	
LTC 4744/50 Transmitter	LTC4744/50
1310 nm FOM, 4 channel, video signals, 230 VAC, 50/60 Hz	
LTC 4744/60 Transmitter	LTC4744/60
1310 nm FOM, 4 channel, video signals, 120 VAC, 50/60 Hz	
LTC 4744/00 Transmitter, Module Rack	LTC4744/00
1310 nm FOM, 4 channel, video signals, use with LTC 4637 series rack	
LTC 4745/50 Receiver	LTC4745/50
1310 nm FOM, 4 channel, video signals, 230 VAC, 50/60 Hz	
LTC 4745/60 Receiver	LTC4745/60
1310 nm FOM, 4 channel, video signals, 120 VAC, 50/60 Hz	
LTC 4745/00 Receiver, Rack Module	LTC4745/00
1310 nm FOM, 4 channel, video signal, use with LTC 4637 series rack	

Miscellaneous

9

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KBD Series IntuiKey Series Keyboards



Features

- ▶ Control matrix, DVR, and IP video products with one keyboard
- ▶ Soft keys allow for product-specific menus
- ▶ Backlit keys and easy-to-read displays
- ▶ Simplified system programming with an intuitive interface
- ▶ Multilingual support
- ▶ Plug-and-play with Bosch Switchers, DVRs, Multiplexers, and IP solutions
- ▶ Optional PC software allows for customizable keys for use with Allegiant command scripts

The IntuiKey Series digital keyboards are full function, multipurpose keyboards used for system control and programming. The IntuiKey includes an integral variable speed pan/tilt/zoom (PTZ) joystick and a splash resistant design. An optional rack mount kit allows the IntuiKey to be mounted in a standard EIA 48 cm (19 in.) rack.

Functions

The main Allegiant switcher, the Divar Digital Video Recorder, or the System4 Multiplexer provides power when used in a local configuration. At remote distances, an optional auxiliary power supply (sold separately) provides power.

The keyboard is connected to a system using a supplied 3 m (10 ft) cable. Simply attach the keyboard and the system is operational. No additional programming is required.

The IntuiKey Digital Keyboard is available in two models, KBD-Universal and KBD-Digital. The Universal version can be connected to an Allegiant switcher and either Divar Digital Video Recorders or System4 Multiplexers at the same time. This capability eliminates the need for multiple keyboards. The KBD-Universal is also used in ADIM system configurations that integrate digital video recorders with an Allegiant switcher. The KBD-Digital version supports Divar Digital Video Recorders and System4 Multiplexers. Both types can be used with the VIDOS video management system.

The IntuiKey accepts both the standard Allegiant RS-485 Keyboard protocol and the Allegiant RS-232 protocol. The Allegiant RS-232 Keyboard protocol is well suited when communicating to a remote KBD-Universal over an IP network.

The IntuiKey can also operate in a Terminal mode using a special RS-232 protocol. This mode allows third-party integrators and internal developers to use the IntuiKey as a customizable user interface.¹

The IntuiKey's soft keys provide a menu-driven system for ease of use. The soft keys make it easy for new operators to program and control even the largest systems without memorizing system commands.

The IntuiKey features a quick selection menu function, providing immediate access to the most commonly used screen displays.

The IntuiKey also features a user-friendly menu tree approach for programming all advanced system and camera settings. Languages available via the IntuiKey unit are English, Spanish, French, German, Dutch, Italian, Polish, and Portuguese. Additional languages can be downloaded from the IntuiKey section of www.boschsecurity.us. The additional languages are: Czech, Russian, Slovak, Simplified Chinese, Traditional Chinese, and Korean.

1. Contact your local Bosch Security System sales representative for details about obtaining Terminal mode protocol information.

Certifications and Approvals

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Technical Specifications

Electrical

Operating Voltage

12-15 VAC/DC (supplied by one, or a combination of Allegiant switchers, Divar Digital Video Recorder, System4 Multiplexers, and/or optional power supply)

Power	5 W nominal
Allegiant Signal	RS-485: 2-wire, 9600 Baud, 8 bits, no parity, 1 stop bit RS-232: 3-wire, 9600 Baud, 8 bits, no parity, 1 stop bit

Electrical

Mux/DVR Signal	RS-485: 2-wire, 19,200 Baud, 8 bits, no parity, 1 stop bit
Terminal Mode Signal	RS-232: 3 wire, 9600 Baud, 8 bits, no parity, 1 stop bit
Console Signal	RS-232 RTS/CTS handshaking, 19,200/57600 Baud, 8 bits, no parity, 1 stop bit

Mechanical

Construction Finish	Charcoal
Width	327 mm (12.9 in.)
Depth	190 mm (7.5 in.)
Height	75 mm (2.9 in.)
Weight	1.1 kg (2.6 lb)
Allegiant Connector	RJ-11 data/power
Mux/DVR Connector	RJ-11 data/power
Aux Power Connector	Bayonet plug (optional)
Console Connector	Male, 9-pin D-sub

Environmental

Enclosure	Splash-resistant
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Temperature

Operating	0°C to 50°C (32°F to 122°F)
Storage	-20°C to 50°C (-4°F to 122°F)
Relative Humidity	10%–90%, non-condensing

Compatibility

Allegiant	Backwards compatible with all systems using variable speed protocol (CPU firmware 5.3 and higher, released 6/94)
Divar	All models
System4	Backwards compatible with all System4 Multiplexers
VIDOS	Version 3.0 or later

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Windows and Windows NT® are registered trademarks of Microsoft Corporation.

Allegiant, ADIM, Divar and System4 are registered by Bosch Security

Systems, Inc. in the US Patent Trademark Office.

Ordering Information

KBD-Universal Keyboard IntuiKey Universal Keyboard for use with LCD Displays for Allegiant, Divar and System4 Multiplexers	KBD-universal
KBD-Digital Keyboard IntuiKey Digital Keyboard for use with Divar Digital Video Recorders and System4 Multiplexers	KBD-Digital
Accessories	
KBD-120PS Power Supply Unit 120 VAC/12 VDC, 600 mA, 50/60 Hz power supply and power cable	KBD120PS
KBD-220PS Power Supply Unit 220-240 VAC/12 VDC, 600 mA, 50/60 Hz power supply and cable	KBD220PS

Ordering Information

LTC 8557/50 Keyboard Extension Kit Hook-up kit for remote keyboard, up to 1.5 km (5000 ft), includes power supply for 230 VAC, 50 Hz	LTC8557/50
LTC 8557/60 Keyboard Extension Kit Hook-up-kit for remote keyboard, up to 1.5 km (5000 ft), includes power supply for 120 VAC, 60 Hz	LTC8557/60
LTC 8558/00 Keyboard Cable length 30 m (100 ft)	LTC8558/00
KBD-RACK Rack mount kit for KBD-Universal and KBD-Digital, 48 cm (19 in.) EIA standard rack unit; W x H: 428 x 220 mm (19 x 8.75 in.); 1 kg (2 lb)	KBD-RACK

Software Options

KBD-SFTCFG Configuration software for KBD series keyboards; PC-based software package used for customizing the keyboard's text display and programming of softkeys to activate Allegiant command script macros. Requirements: Pentium® Class PC with Windows® NT 4.0 (service pack 6), Windows® 2000 or Windows XP®; CD-ROM drive; 1 Serial (COM) port	KBD-SFTCFG
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LTC 5136 Autodome Controller



Features

- Controls a single AutoDome Camera System or Standard Allegiant Receiver/Drivers
- Up to 16 individual Bi-Phase control code outputs available
- Controls all AutoDome System features including auto playback
- Small, compact design
- Ergonomic layout for single-handed control

The LTC 5136 AutoDome Controller provides complete control of the AutoDome system's advanced features, including proportional speed control, auto tour, 99 presets, and full pan/tilt/zoom operation - all from a single one-handed control unit.

Functions

The LTC 5136 AutoDome Controller is compatible with the standard Allegiant LTC 856x Series Receiver/Drivers, using the Allegiant Bi-Phase control code.

Each of the 16 Bi-Phase control code outputs provided by this control system is capable of transmitting data up to 1.5 km (5000 ft) using 1 mm² (18^{AWG}) shielded twisted pair cable.

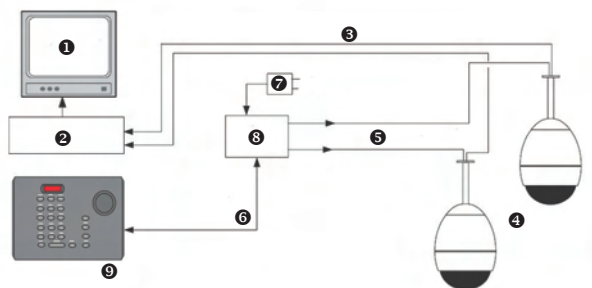
Wiring configurations consisting of either 'star' or 'daisy' chain can be used. In a 'star' configuration, a single camera can be connected to each of the 16 outputs. When using 'daisy chain' wiring configurations, where a single data cable is 'looped' through each of the cameras, up to 8 cameras can be connected to an output.

The LTC 5136 AutoDome Controller includes a 22-key control unit with integral vector-solving pan/tilt/zoom joystick, interface box, and an appropriate power supply.

Certifications and Approvals

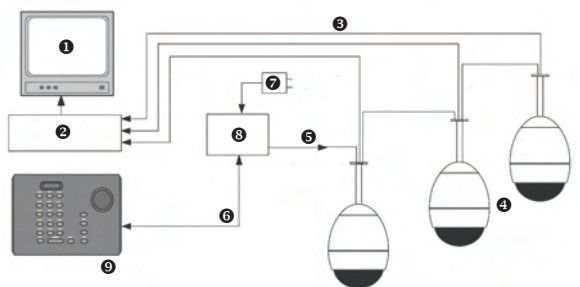
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

Installation/Configuration Notes



Typical Installation

1	Video Monitor
2	DVR or Video Switcher
3	Video Coax Cable
4	Typical AutoDome Camera or Allegiant Receiver/Driver Units
5	Up to 16 Bi-Phase Control Code Outputs
6	RS-232 Data and Power
7	Power Supply Adapter (Supplied)
8	Data Converter Unit
9	AutoDome Controller



Typical Multiple Camera Sites using Daisy Chain Bi-Phase Control Code Wiring Configuration

1	Video Monitor
2	DVR or Video Switcher
3	Video Coax Cable
4	Typical AutoDome Cameras or Allegiant Receiver/Driver Units
5	Typical Bi-Phase Control Code Output
6	RS-232 Data and Power
7	Power Supply Adapter (Supplied)
8	Data Converter Unit
9	AutoDome Controller

Technical Specifications

Electrical

Includes Control Unit and Interface Box with applicable power supply.

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5136/51	230 VAC 50/60 Hz	195.5 to 253	6 W
LTC 5136/61	120 VAC 50/60 Hz	105 to 132	6 W

Transmission Distance

1.5 km (5000 ft) using 1 mm² (18 AWG) shielded twisted pair cable (Belden 8760 or equivalent).

Control Unit

Indicators	Camera/entry data; 4-digit 7-segment LED display
Controls	Set, User, Camera, Shot, On, Off, Enter, Clear, Focus, Iris, 10-Digit Numeric Keypad, Joystick
Connector	RJ-11
Finish	Charcoal
Dimensions (W x D x H)	220 x 155 x 101 mm (8.67 x 6.11 x 4.00 in.)
Weight	0.55 kg (1.2 lb)

Interface Box

Indicator	Green data LED
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Connectors

Data In	9-pin D connector
Bi-Phase Output	Removable terminal blocks with three connections: "+", "-", and "S" (Shield) for each of the sixteen Bi-Phase code outputs
Control Unit Connection	RJ-11
Control Unit to Interface Box Cable	3 m (10 ft) with RJ-11 connector
Power Connector	Bayonet type
Case	Black plastic with metal mounting flanges
Dimensions - Overall (W x D x H)	154 x 132 x 38 mm (6.08 x 5.25 x 1.5 in.)
Weight	0.132 kg (0.7 lb)

Environmental

Temperature	Operating: 0°C to 40°C (32°F to 104°F) Storage: -10°C to 50°C (14°F to 122°F)
Humidity	10%–90%, non-condensing

Ordering Information

LTC 5136/51 Autodome Controller with 16 outputs for AutoDomes or for Allegiant Receiver/Drivers units, 230 VAC, 50/60 Hz	LTC5136/51
LTC 5136/61 Autodome Controller with 16 outputs for AutoDomes or for Allegiant Receiver/Drivers units, 110 VAC, 50/60 Hz	LTC5136/61

Power Supplies/Transformers

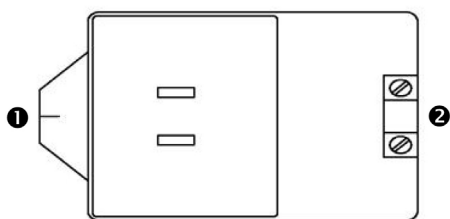


Features

- ▶ For CCD cameras and other low power applications
- ▶ 24 VAC, 15 VDC and 12 VDC secondary output models
- ▶ Models for 120 VAC, 230 VAC and 24 VAC power sources
- ▶ Isolation transformer for 24 VAC
- ▶ Safety agency certified

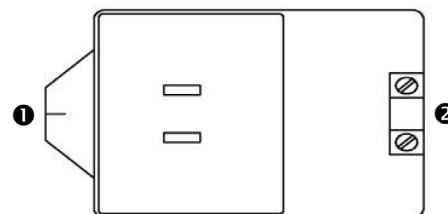
The Bosch line of Power Supplies and Transformers is primarily designed for CCD cameras. Their small size and low power requirements also make them ideal for powering many other low power security products, including many Allegiant® system accessories and control devices.

Installation/Configuration Notes



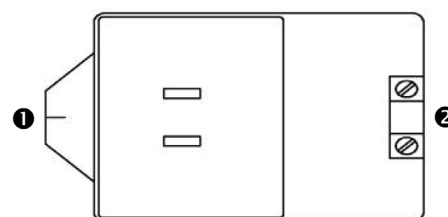
RT2440SL Power Supply

- | | |
|---|----------------------|
| 1 | Input 120 VAC, 60 Hz |
| 2 | To 24 VAC on Camera |



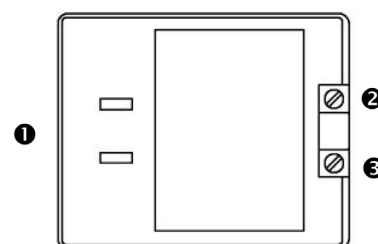
TC1334 Power Supply

- | | |
|---|----------------------|
| 1 | Input 120 VAC, 60 Hz |
| 2 | To 24 VAC on Camera |



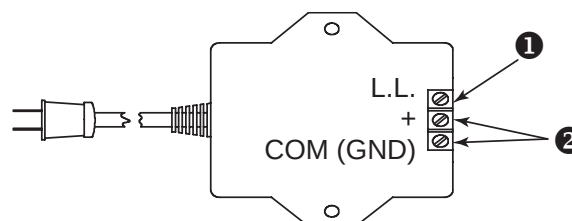
RTD12/3RT Power Supply (for CAM940x cameras)

- | | |
|---|-------------------------------|
| 1 | Input 120 VAC, 60 Hz |
| 2 | To 12 VDC Regulated on Camera |



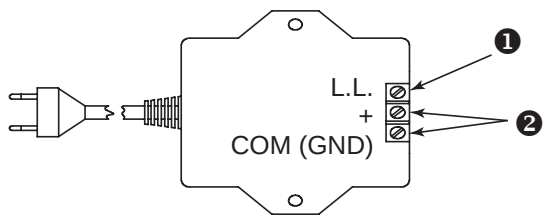
TC1323 Power Supply

- | | |
|---|-------------------------------|
| 1 | Input 120 VAC, 60 Hz |
| 2 | To 24 VAC Terminals on Camera |
| 3 | 24 VAC Output |



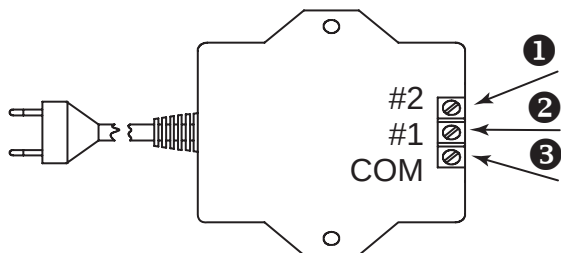
TC120PS Power Supply

- | | |
|---|--------------------------------|
| 1 | Not used |
| 2 | To 15 VDC Terminals on Cameras |



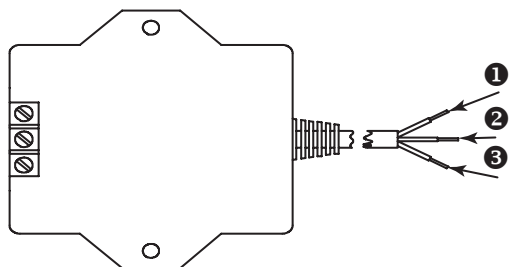
TC220PS Power Supply

- | | |
|---|--------------------------------|
| 1 | Not Used |
| 2 | To 15 VDC Terminals on Cameras |



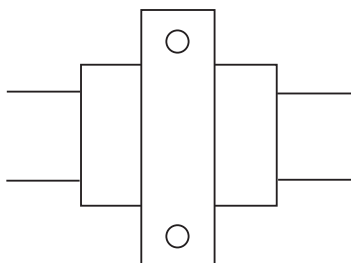
TC220PSX-24 Power Supply

- | | |
|---|------------------------------------|
| 1 | To 24 VAC Terminals on Camera |
| 2 | With 240 VAC Input: Use #1 and COM |
| 3 | With 220 VAC Input: Use #2 and COM |

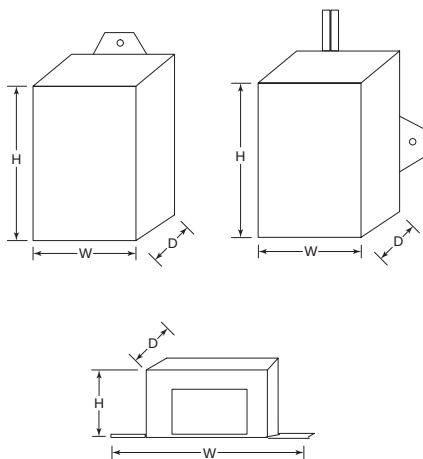


TC24PS Power Supply

- | | |
|---|---|
| 1 | Blue Not Used |
| 2 | Green (-) GND To 15 VDC Terminals on Camera |
| 3 | Brown (+) To 15 VDC Terminals on Camera |



TC1382 Isolation Transformer



Dimensions Codes

Note: The Dimension specified are approximate and relate to the general diagrams shown above

Technical Specifications

Model No.	Rated Input	Rated Output
RT2440SL	120 VAC 60 Hz	24 VAC 60 Hz, 40 VA
TC1334	120 VAC 60 Hz	24 VAC 60 Hz, 30 VA
RTD12/3RT	120 VAC 60 Hz	12 VDC regulated 300 mA
TC1323	120 VAC 60 Hz	24 VAC 60 Hz, 10 VA
TC120PS	120 VAC 50/60 Hz	15 VDC, 9 VA
TC220PS	220–240 VAC 50/60 Hz	15 VDC, 9 VA
TC220PSX-24	220–240 VAC 50/60 Hz	24 VAC 50/60 Hz, 20 VA
TC24PS	24–30 VAC 50/60 Hz	15 VDC, 9 VA
TC1382 ¹	24 VAC 50/60 Hz	24 VAC 50/60 Hz, 7 VA

1. Isolation transformer.

For 120 VAC Power Sources

RT2440SL	
Rated Input	120 VAC, 60 Hz
Rated Output	24 VAC, 60 Hz, 40 VA
Surge Protection	
Maximum Spike Voltage	6,000 Volts
Maximum Spike Current	4,500 Amps
Connectors	

For 120 VAC Power Sources

Input	Two (2)
Output	Two (2) screw terminals
Construction/Finish	White plastic case
Dimensions (W x D x H)	66.8 x 57.2 x 82.6 mm (2.63 x 2.25 x 3.25 in.)
Weight	0.65 kg (1.44 lb)
Safety	UL, cUL

TC1334

Rated Input	120 VAC, 60 Hz
Rated Output	24 VAC, 60 Hz, 30 VA
Connectors:	

Input	2-prong
Output	Two (2) screw terminals
Construction/Finish	Beige plastic case
Dimensions (W x D x H)	70 x 56.4 x 88.9 mm (2.75 x 2.22 x 3. in.)

Weight	0.62 kg (1.36 lb)
Safety	UL

RTD12/3RT

Rated Input	120 VAC, 60 Hz
Rated Output	12 VDC regulated, 300 mA
LED Indicator	Supervises power
Connectors	2-prong input, 2 screw terminals for output
Construction	Plastic case with built-in strain relief
Finish	White
Dimensions (W x D x H)	50.8 x 41.4 x 65.0 mm (2.0 x 1.63 x 2.56 in.)
Weight	0.23 kg (0.5 lb)
Product Safety	UL, cUL

TC1323

Rated Input	120 VAC, 60 Hz
Rated Output	24 VAC, 60 Hz, 10 VA
Connectors:	

Input	2-prong
Output	Two (2) screw terminals
Construction/Finish	Beige plastic case
Dimensions (W x D x H)	52 x 43 x 62 mm (2.0 x 1.7 x 2.4 in.)
Weight	0.24 kg (0.53 lb)
Safety	UL, CSA

TC120PS

Rated Input	120 VAC, 50/60 Hz
Rated Output	15 VDC, 9 VA
Connectors:	

Input	2-wire cord with plug, 2 m (6.5 ft)
Output	Screw terminals
Construction/Finish	Black plastic
Dimensions (W x D x H)	63.5 x 54 x 82.6 mm (2.5 x 2.12 x 3.25 in.)
Weight	0.65 kg (1.44 lb)
Safety	UL, CSA

For 220–240 Vac Power Sources**TC220PS**

Rated Input	220–240 VAC, 50/60 Hz
Rated Output	15 VDC, 9 VA

Connectors	
Input	2-wire cord with plug, 2 m (6.5 ft)
Output	Screw terminals
Construction/Finish	Black plastic
Dimensions (W x D x H)	63.5 x 54 x 82.6 mm (2.5 x 2.12 x 3.25 in.)
Weight	0.60 kg (1.33 lb)
Safety	GS, CE

TC220PSX-24

Rated Input	220–240 VAC, 50/60 Hz
Rated Output	24 VAC, 50/60 Hz, 20 VA

Connectors	
Input	2-wire cord with plug, 2 m (6.5 ft)
Output	Screw terminals
Construction/Finish	Black plastic
Dimensions (W x D x H)	63.5 x 54 x 82.6 mm (2.5 x 2.12 x 3.25 in.)
Weight	0.78 kg (1.72 lb)
Safety	GS, CE

For 24 VAC Power Sources**TC24PS**

Rated Input	24 VAC to 30 VAC, 50/60 Hz
Rated Output	15 VDC, 9 VA

Connectors:	
Input	Screw terminals
Output	Wire leads, 3.6 m (12 ft)
Construction/Finish	Black plastic
Dimensions (W x D x H)	63.5 x 54 x 82.6 mm (2.5 x 2.12 x 3.25 in.)
Weight	0.73 kg (1.61 lb)

TC1382 Isolation Transformer

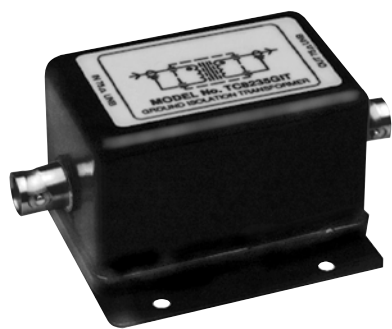
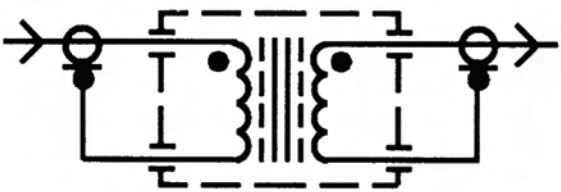
Rated Input	24 VAC, 50/60 Hz.
Rated Output	24 VAC, 50/60 Hz, 7 VA

Connectors:	
Input	Black wire leads, 203 mm (8 in.)
Output	Brown wire leads, 203 mm (8 in.)
Construction/Finish	Uncased
Dimensions (W x D x H)	82.6 x 51 x 50 mm (3.25 x 2 x 1.95 in.)
Weight	0.45 kg (1 lb)

Ordering Information

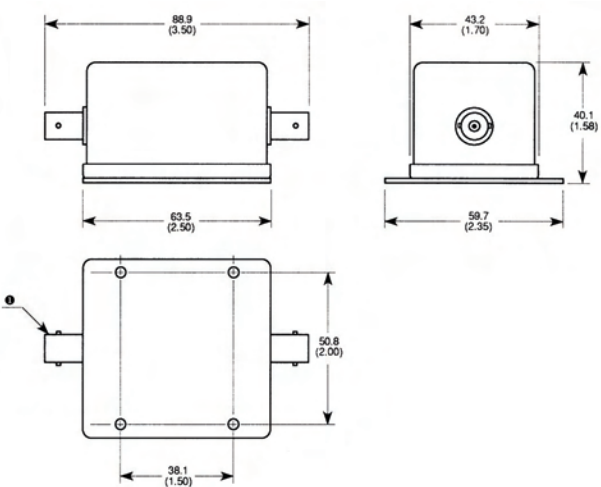
TC120PS Power Supply Unit 110-120 VAC/12 VDC, 50/60 Hz, 300 mA	TC120PS
TC220PS Power Supply Unit 230 VAC/12 VDC, 50 Hz, 10 VA	TC220PS
TC220PSX-24 Power Supply Unit 230 VAC/24 VAC, 50 Hz, 20 VA	TC220PSX-24
TC24PS Power Supply Unit 24 VAC/15 VDC, 50/60 Hz, 9 VA	TC24PS
TC1382 Isolation Transformer 24 VAC	TC1382

TC8235GIT Ground Loop Isolation Transformer



Circuit Diagram of Transformer

Input	75Ω UNB
Output	75Ω UNB



Dimensional Outline in mm (inches)

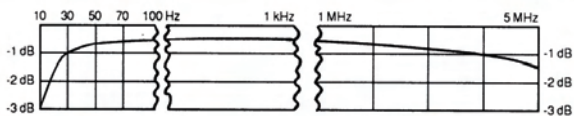
1 Insulated BNC Connector (2)

Features

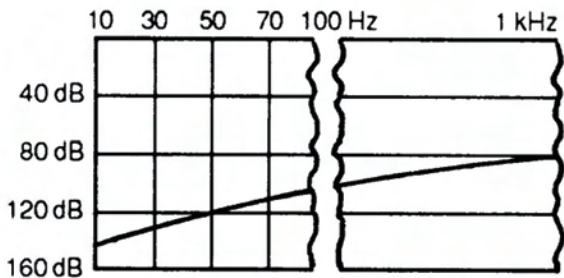
- ▶ Ground isolation for 75 Ohm video/data lines
- ▶ 10 Hz to 7 MHz bandwidth
- ▶ Low insertion loss
- ▶ Insulated BNC connectors
- ▶ Excellent discrimination against power line inter-ground potentials
- ▶ Easy installation

The TC8235GIT is a one-to-one isolation transformer for 75 Ohm coax video/data lines. These units are designed to eliminate the effects of power line and spurious noise potentials between ground points on transmitted signals.

Installation/Configuration Notes



Signal Transmission



Ground Isolation

Technical Specifications

Electrical

Impedance Levels	75Ω unbalanced, input and output
Insertion Loss	0.5 dB at 1 kHz
Return Loss	Better than 20 dB, 120 Hz to 5 MHz

Sine Wave Transmission(Bandwidth)

Amplitude	Flat loss is 0.45 dB maximum at 15 kHz, 3 dB down relative mid-frequency response at 10 Hz and 7 MHz
Phase	Linear with slope of 18 MHz, 1 MHz to 5 MHz
Ground Isolation	En/Eo = 115 dB at 60 Hz (decreases with frequency at 6 dB/octave to 30 dB minimum at 1 MHz)

Dielectric Withstanding Voltage

500 Vrms, 60 Hz (from connectors to case and each other)

Mechanical

Weight	223 g (0.5 lb)
Finish	Black

Ordering Information

TC8235GIT Ground Loop Isolation Transformer	TC8235GIT
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Classic Range	322
Professional Range	330
X-Range	341
VIDOS Pro Suite	362
Miscellaneous	371
VCA	373

VIP 10 Single - channel MPEG-4 Encoder or Decoder



Features

- ▶ Single Channel Encoder or Decoder
- ▶ MPEG-4 Compression
- ▶ Dual Streaming, View at One Quality, Record at Another
- ▶ Two-way Audio
- ▶ Alarm Inputs and Relay Output
- ▶ PTZ Control
- ▶ Built-in Web Server
- ▶ Multicast & Internet Streaming

The VIP 10 features S-VHS quality MPEG-4 video at up to 30 fps and two-way audio over IP networks. Supporting PAL / NTSC and CCIR / EIA sources it is available in two models, either as an encoder or decoder.

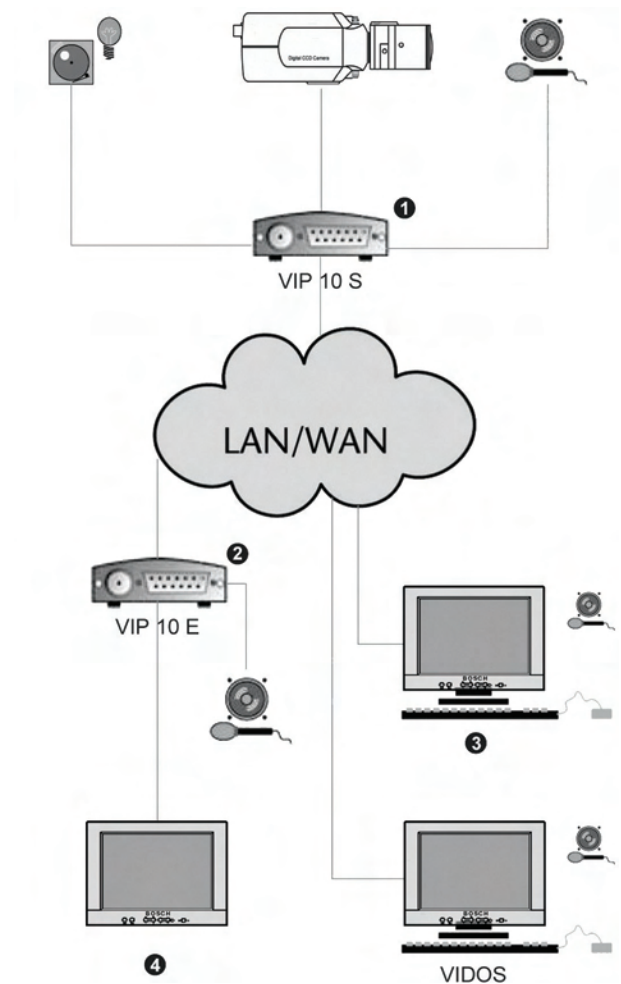
The video signal can be received and displayed with a standard web browser or VIDOS video management software. Using a decoder you can integrate point-to-point connections into your system to display video from any camera on your analog monitors.

The VIP 10 provides dual streaming for viewing at one resolution and/or frame rate, and recording at another. This reduces disk storage costs and minimizes network traffic.

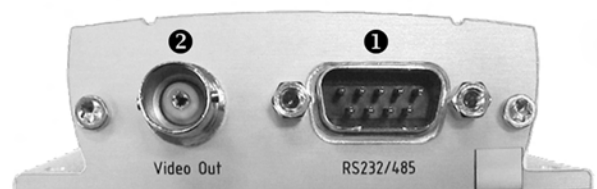
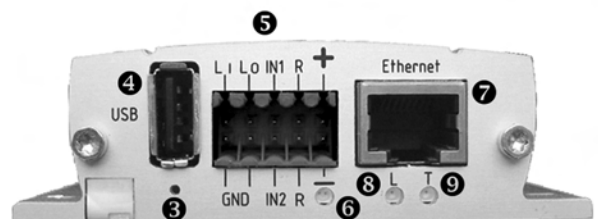
The VIP 10 supports remote control of popular PTZ cameras, domes, and multiplexers. It includes sophisticated directional motion detection to conserve bandwidth and centralized storage.

The VIP 10 is tiny enough to be embedded within a camera housing, or can be mounted near the camera, or centrally rack-mounted. The VIP 10 is the perfect solution for any compact MPEG-4 application.

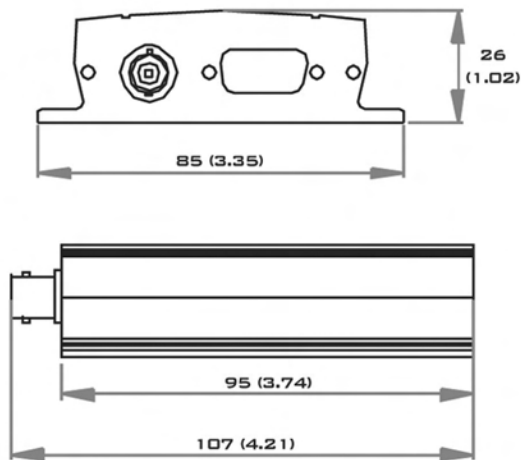
Installation/Configuration Notes



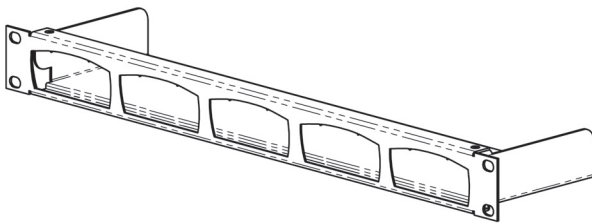
1	Encoder	4	Analog Monitor
2	Decoder	5	VIDOS Workstation
3	Web Browser		



1	COM1: RS232/422/485	6	LED Power
2	Video in / out (encoder / decoder)	7	10/100 Base-T FastEthernet
3	Factory Reset	8	LED Link
4	USB Port (not used)	9	LED Traffic
5	- Audio in/out - Alarm In (x2) - Relay out - Power - Ground (x2)		



Dimensions in mm (inches)



Rack Mount Kit

Parts Included

Quantity	Component
1	VIP 10 encoder or decoder with 110/220 V external power supply
1	RS232 Null modem cable
1	Quick installation Guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	ISO/IEC 14496 (MPEG-4); JPEG
Video Data Rate	9.6 kBit/s - 4 MBit/s

Electrical

Video Resolution	720 x 576/480* (full D1: 7 fields/s**) 720 x 576* (4CIF: 7 fps**) 704 x 288 (2CIF: 14 fps**) 352 x 576/480* (half D1: 25 resp. 30 fields/s**) 352 x 288 (CIF: 25 resp. 30 fps**) 176 x 144 (QCIF: 25 resp. 30 fps**)
Overall Delay (IP)	100 ms
Audio Standards	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Sampl. Rate	8 kHz
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

*) Supported from Firmware version 2.10 onwards

**) Depends on picture content

Interfaces

Video In (Transmitter)	1x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Video Out (Receiver)	1x analog composite: NTSC or PAL; BNC connector 75 Ohm, 1 Vpp
Audio In	1 clamp mono line in, 3Vpp, ca. 50 kOhm
Audio Out	1 clamp mono line out, 2.5 Vpp, 60 mW, 8 Ohm
Alarm In	2x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x clamp, 30 Vpp, 1 A
COM Port	1x RS232/422/485, 9-pin Sub-D
Ethernet	10/100 Base-T, auto sensing, half/full duplex, RJ45

Environmental

Input Voltage	12-24 VDC, spring clamp contact
Power usage	App. 10 VA
Weight	App. 0.3 kg (0.66lbs)
Operating Temperature	0°C - 50°C (32 - 122 °F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VIP 10S 2010	VIP10S2010
MPEG - 4, dual stream 1 channel encoder, serial interface, alarm in and relay out	
VIP 10E 2011	VIP10E2011
MPEG - 4 decoder, audio, serial interface, alarm in and relay out	

VideoJet 10 Single-channel MPEG-4 Video Encoder or Decoder



Features

- ▶ Single Channel Encoder or Decoder
- ▶ MPEG-4 Compression
- ▶ Compact Flash Card Slot
- ▶ Wireless 802.11b Card Slot
- ▶ Dual Streaming, View at One Quality, Record at Another
- ▶ Two-way Audio
- ▶ Alarm Input and Relay Output
- ▶ PTZ Control
- ▶ Built-in Web Server

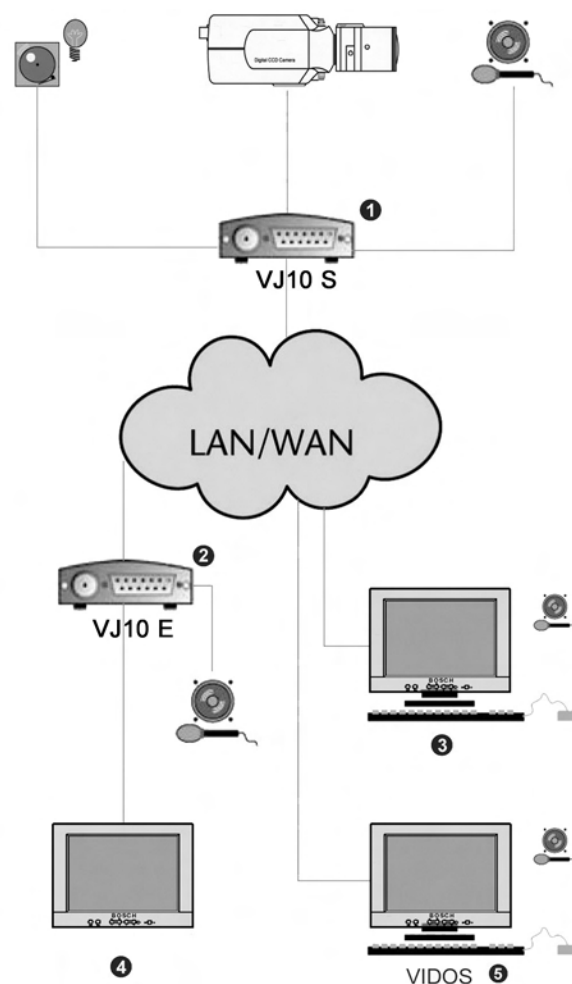
The VideoJet 10 features high quality MPEG-4 video at up to 30 images per second, and two-way audio over IP networks. Supporting PAL/NTSC and CCIR/EIA sources, it is available in two models either, as an encoder or decoder.

The video signal can be received and displayed with a standard web browser or VIDOS video management software. Using a decoder you can integrate point-to-point connections into your system, to display video from any camera on your analog monitors.

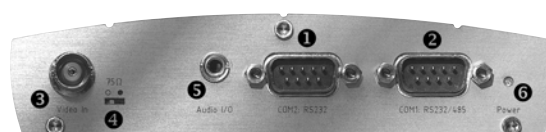
The VideoJet 10 offers a Compact Flash slot. When used with a memory card, it provides low cost storage to take advantage of Automatic Network Replenishment, providing resilience against network outages. This storage is also highly reliable since there are no moving parts, making it well suited to mobile CCTV applications. Alternately, the slot accommodates an optional wireless card, for optimal flexibility in positioning the encoder and camera. The wireless card follows the popular 802.11b standard.

The VideoJet 10 supports remote control of popular PTZ cameras, domes, and multiplexers. It includes sophisticated motion detection and pre-alarm recording, to conserve bandwidth and centralized storage. With alarm, relay, and two serial port connections, the unit provides the ideal mechanism to remotely manage events via the network.

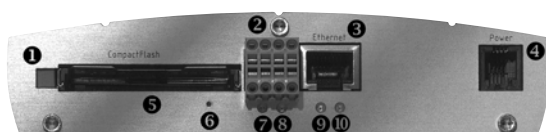
Installation/Configuration Notes



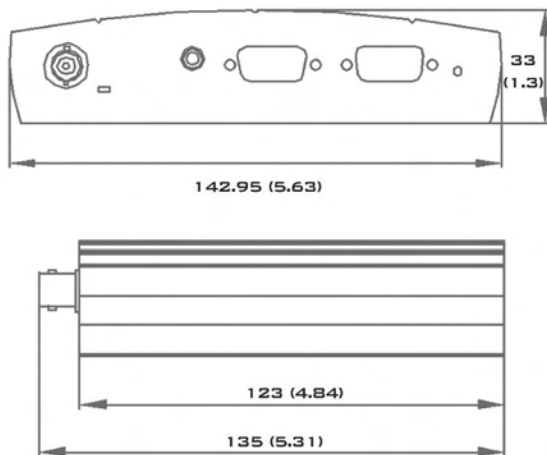
01	Encoder	04	Analog Monitor
02	Decoder	05	VIDOS Workstation
03	Web Browser		



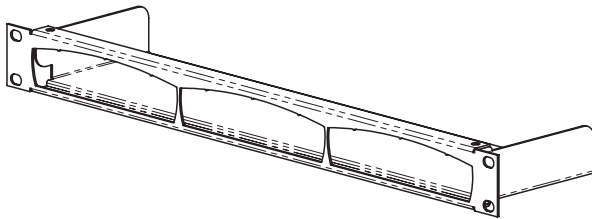
01	COM2: RS232	04	750hm Video Termination (encoder.)
02	COM1: RS232/422/485	05	Audio In/Out
03	Video In/out (encoder/decoder)	06	LED power



01	Ejector for CompactFlash port	06	Reset: Factory default
02	Alarm in	07	LED Alarm in
	Relay out		
03	10/100 Base-T FastEthernet	08	LED Alarm Out
04	Power	09	LED Link
05	CompactFlash port	10	LED Traffic



Dimensions in mm (inches)



Rack-Mount Kit (optional)

Parts Included

Quantity	Component
1	VideoJet 10 encoder or decoder with international plug-in power supply
1	RS232 Null Modem cable
1	Quick installation Guide
1	CD-Rom with manual

Technical Specifications

Electrical

Video Standards	ISO/IEC 14496 (MPEG-4), JPEG
Video Data Rate	9.6 kBit/s - 4 MBit/s
Video Resolution	720 x 576/480* (full D1: 12 fields/s**) 704 x 576* (4CIF: 12 fps**) 704 x 288 (2CIF: 20 fps**) 352 x 576/480* (half D1: 25 resp. 30 fields/s**) 352 x 288 (CIF: 25 resp. 30 fps**) 176 x 144 (QCIF: 25 resp. 30 fps**)
Overall Delay (IP)	100 ms
Audio Standards	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Sampl. Rate	8 kHz
Network Protocols	RTP, Telnet, UDP, TCP, IP, ARP, HTTP, IGMP, ICMP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In (Encoder)	1x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Video Out (Decoder)	1x analog composite: NTSC or PAL; BNC connector 75 Ohm, 1 Vpp
Audio In	1x mono line, stereo jack 3.5 mm, 1 Vpp, 50 kOhm
Audio Out	1x mono line, stereo jack 3.5 mm, 1 Vpp, 60 mW, min. 8 Ohm
Alarm In	1x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x clamp, 30 Vpp, 1 A
Analog Sensor In	1x clamp; 0-5 VDC general purpose analog input (e.g. temperature sensor)
COM Ports	1x RS232/422/485, 9-pin Sub-D; 1x RS232, 9-pin Sub-D
Ethernet	10/100 Base-T, auto sensing, half/full duplex, RJ45
Wireless Ethernet	RF-interface 802.11b via CF card interface
Storage Media***	CompactFlash card Type I and II, Microdrive.

*) Supported from firmware version 2.10 onwards

**) Depends on picture content

***) 2Gb - 4 Gb supported in firmware 2.10

Environmental

Input Voltage	12-24 VDC, RJ11
Power usage	App. 10 VA
Weight	App. 0.4 kg (0.88lbs)
Operating Temp.	0 - 50 °C (32 - 122 °F) ambient temperature

Environmental

Humidity	20 - 80%, atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VJ10S 2915 MPEG-4 dual-stream encoder, audio, CF slot, 2 serial interfaces, alarm in and relay out	VJ10S2915
VJ10E 2935 MPEG-4 decoder, audio, CF slot, 2 serial interfaces, alarm in and relay out	VJ10E2935
VJ10SXT-2915 MPEG-4, 1 channel dual-streaming transmitter, audio, CF slot, 2 serial IF, alarm in, relay out, extended temperature range (-20°C to 60°C)	VJ10SXT-2915

Accessories

CF WLAN 7907 Compact Flash WLAN-Card 802.11B for VJ10 units	CFWLAN7907
VJ10 WMK 2918/2 Wall mount kit for videojet 10 unit	VJ10WMK2918/2
VJ10 RMK 2918/0 19-inch rack mount kit for 3 videojet 10 units	VJ10RMK2918/0
CF1G 7906 Compact Flash Memory Card Microdrive 1 GB for VJ10 units	CF1G 7906

VideoJet 10-I Single-channel MPEG-4 Video Encoder or Decoder with ISDN



Features

- ▶ Single-channel Encoder or Decoder
- ▶ MPEG-4 Compression
- ▶ Compact Flash card slot
- ▶ Wireless 802.11b Card Slot
- ▶ Dual streaming, View at One Quality, Recorded at Another
- ▶ Two-way Audio
- ▶ Alarm Input and Relay Output
- ▶ PTZ Control
- ▶ Built in Web Server
- ▶ Fast Ethernet & ISDN Interface

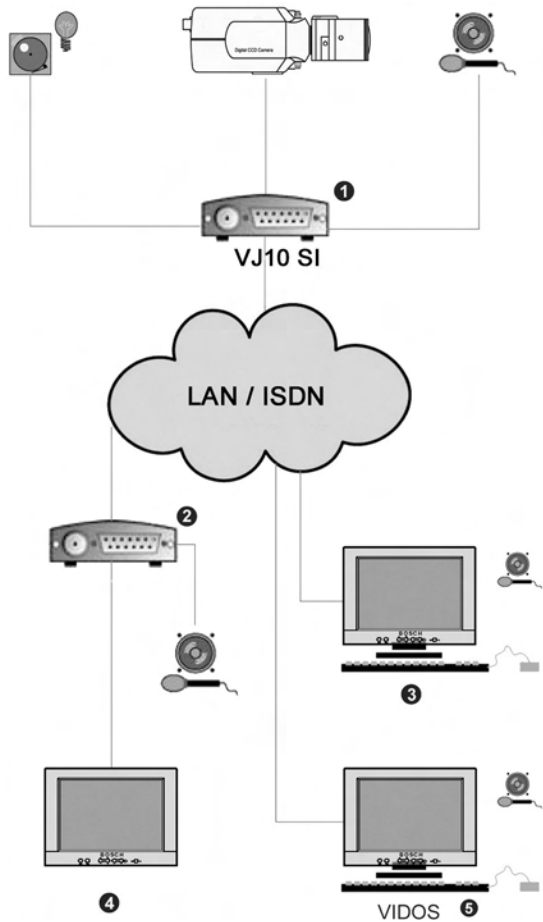
The VideoJet 10 features high quality MPEG-4 video at up to 30 images per second, and two-way audio over IP- and ISDN networks. Supporting PAL/NTSC and CCIR/EIA sources, it is available in two models either, as an encoder or decoder.

The video signal can be received and displayed with a standard web browser or VIDOS video management software. Using a decoder you can integrate point-to-point connections into your system, to display video from any camera on your analog monitors.

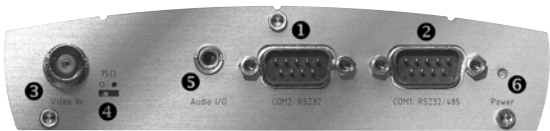
The VideoJet 10-I offers a Compact Flash slot. When used with a memory card, it provides low cost storage to take advantage of Automatic Network Replenishment, providing resilience against network outages. This storage is also highly reliable since there are no moving parts, making it well suited to mobile CCTV applications. Alternately, the slot accommodates an optional wireless card, for optimal flexibility in positioning the encoder and camera. The wireless card follows the popular 802.11b standard.

The VideoJet 10-I supports remote control of popular PTZ cameras, domes, and multiplexers. It includes sophisticated motion detection and pre-alarm recording, to conserve bandwidth and centralized storage. With alarm, relay, and two serial port connections, the unit provides the ideal mechanism to remotely manage events via the network.

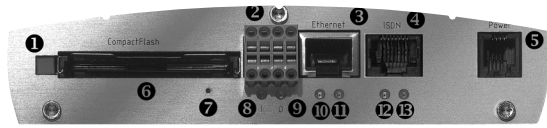
Installation/Configuration Notes



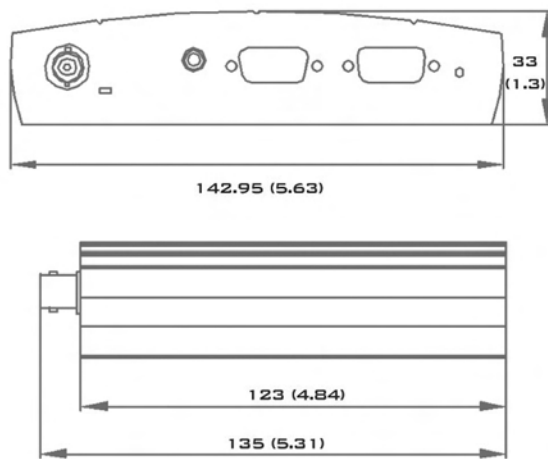
01	Encoder VideoJet 10 I S	04	Analog Monitor
02	Decoder VideoJet 10 E	05	VIDOS Workstation
03	Web Browser		



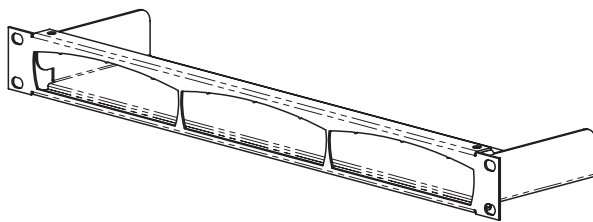
01	COM2: RS232	04	75Ohm Video Termination (encoder)
02	COM1: RS232/422/485	05	Audio In/Out
03	Video In / Out (encoder / decoder)	06	LED power



01	Ejector for CompactFlash port	08	LED Alarm in
02	Alarm in	09	LED Alarm Out
03	10/100 Base-T FastEthernet	10	LED Link
04	ISDN	11	LED Traffic
05	Power	12	LED B1
06	CompactFlash port	13	LED B2
07	Reset: Factory default		



dimensions in mm (inches)



Rack Mount Kit (optional)

Parts Included

Quantity	Component
1	VideoJet 10 I Encoder or Decoder with international plug-in power supply
1	RS-232 Null modem cable
1	ISDN cable
1	Quick installation Guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	ISO/IEC 14496 (MPEG-4), JPEG
Video Data Rate	9.6 kBit/s - 4 MBit/s
Video Resolution	720 x 576/480* (full D1: 12 fields/s**) 704 x 576* (4CIF: 12 fps**) 704 x 288 (2CIF: 20 fps**) 352 x 576/480* (half D1: 25 resp. 30 fields/s**) 352 x 288 (CIF: 25 resp. 30 fps**) 176 x 144 (QCIF: 25 resp. 30 fps**)
Overall Delay (IP)	100 ms
Audio Standards	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Samplerate	8 kHz
Network Protocols	RTP, Telnet, UDP, TCP, IP, ARP, HTTP, IGMP, ICMP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server Interfaces
Video In (Encoder)	1x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Video Out (Decoder)	1x analog composite: NTSC or PAL; BNC connector 75 ohm, 1 Vpp
Audio In	1 mono line, stereo jack 3.5 mm, 1 Vpp, 50 kOhm
Audio Out	1 mono line, stereo jack 3.5 mm, 1 Vpp, 60 mW, min. 8 Ohm
Alarm In	1x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x clamp, 30 Vpp, 1 A
Analog Sensor In	1x clamp, 0-5 VDC general purpose analog input (e.g. temperature sensor)
COM Ports	1x RS232/422/485, 9-pin Sub-D; 1x RS232, 9-pin Sub-D
Ethernet	10/100 Base-T, auto sensing, half/full duplex, RJ45
ISDN	RJ45, S0-Basic-rate
Wireless Ethernet	RF-interface 802.11b via CF card interface
Storage Media	CompactFlash card Type I and II, Microdrive

*) Supported from firmware version 2.10 onwards

**) Depends on picture content

***) 2 Gb - 4Gb Supported in Firmware 2.10

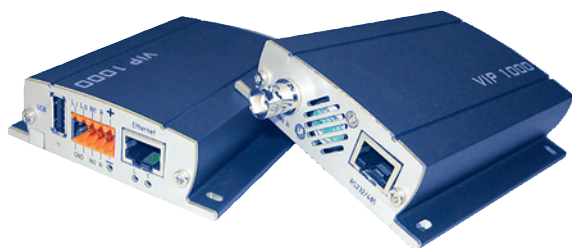
Environmental

Input Voltage	12-24 VDC, RJ11
Power Consumption	App. 10 VA
Weight	App. 0.4 kg (0.88lbs)
Operating Temperature	0 - 50 °C (32 - 122 °F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VJ10SI 2925 MPEG-4, 1 channel dual-stream encoder, audio, CF slot, 2 serial interfaces, alarm in and relay out, ISDN	VJ10SI2925
VJ10EI 2955 MPEG-4, 1 channel decoder, audio, CF slot, 2 serial interfaces, alarm in and relay out, ISDN	VJ10EI2955
Accessories	
CF WLAN 7907 Compact Flash WLAN-Card 802.11B for VJ10 units	CFWLAN7907
VJ10 WMK 2918/2 Wall mount kit for videojet 10 unit	VJ10WMK2918/2
VJ10 RMK 2918/0 19-inch rack mount kit for 3 videojet 10 units	VJ10RMK2918/0
CF1G 7906 Compact Flash Memory Card Microdrive 1 GB for VJ10 units	CF1G 7906

VIP 1000 Single-channel Video Encoder or Decoder



Features

- ▶ Single-channel Encoder or Decoder
- ▶ MPEG-2 @ 4CIF
- ▶ MPEG-4 @ 4CIF/2CIF/CIF
- ▶ Bandwidth-efficient Triple Streaming
- ▶ Ultra-compact Size
- ▶ Multicast & Internet Streaming
- ▶ Full-duplex Audio
- ▶ Alarm Inputs & Relay Output
- ▶ Serial Data Port

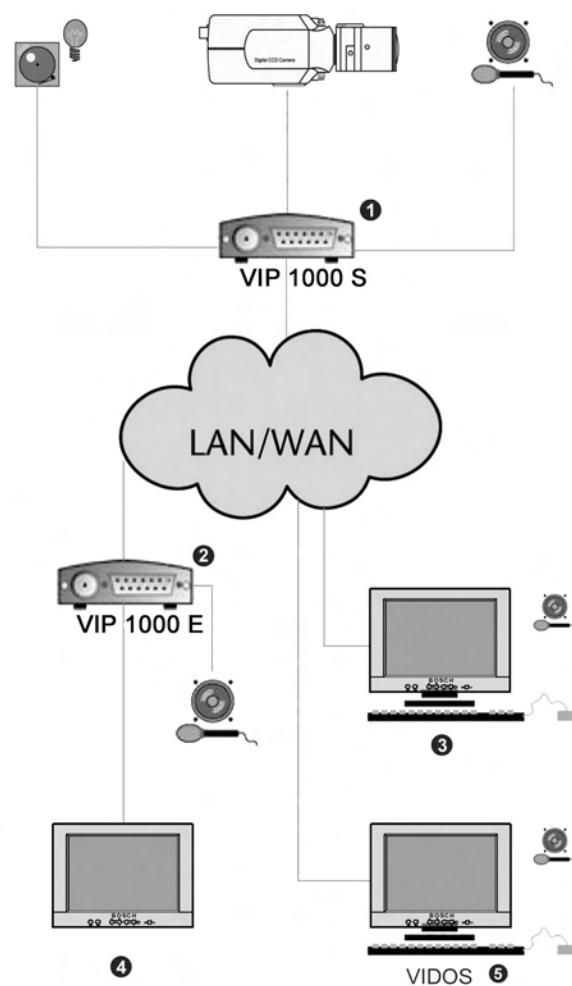
The VIP 1000 features DVD quality fully interlaced MPEG-2 video and high quality MPEG-4 video, at up to 30 images per second, over IP networks. Supporting PAL/NTSC and CCIR/EIA sources and full-duplex audio, it is available in two models, either as encoder or decoder.

The video signal can be received and displayed with a standard web browser or VIDOS video management software. Using the decoder, you can integrate point-to-point connections into your system, to display video from any VIP or VideoJet encoder on analog monitors.

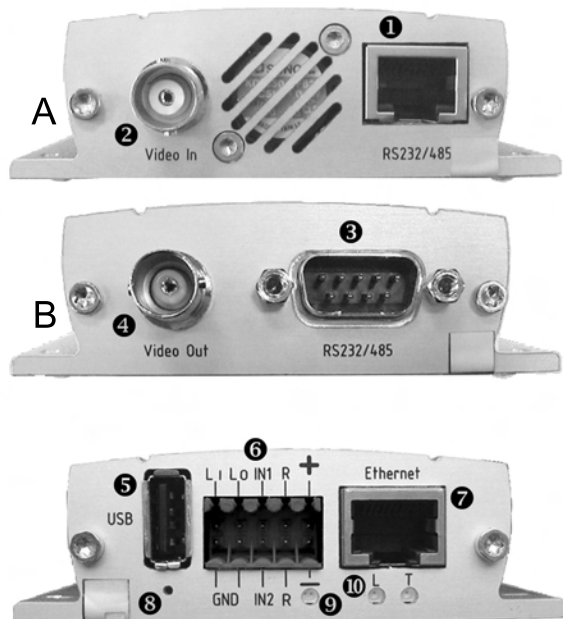
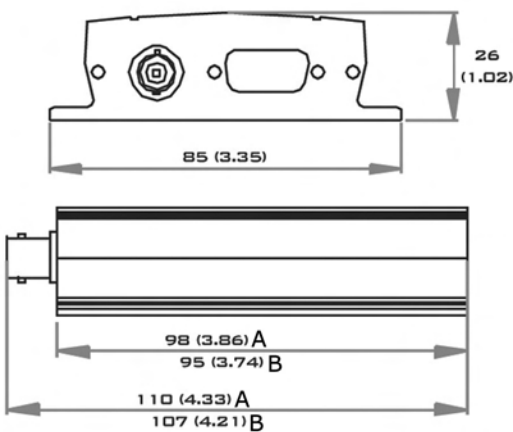
The VIP 1000 provides triple streaming. It will generate an MPEG-2 video stream and concurrently dual stream two MPEG-4 video streams.

The VIP 1000 is ultra-compact, so it's perfect for any application that depends on space-saving solutions.

Installation/Configuration Notes



1	Encoder	4	Analog Monitor
2	Decoder	5	VIDOS Workstation
3	Web Browser		

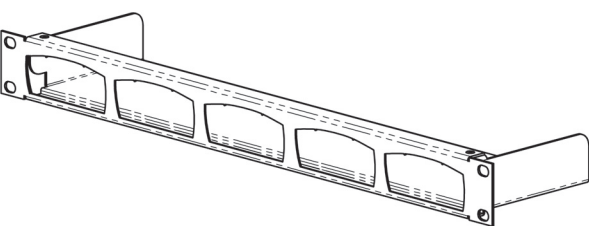


Dimensions in mm (inches)

A	Encoder
B	Decoder

01	COM1: RS232/422/485	07	10/100 Base-T FastEthernet
02	Video in (encoder)	08	Reset: Factory Default
03	COM1: RS232/422/485	09	LED power
04	Video out (decoder)	10	LED link
05	USB Port (not used)	11	LED traffic
06	- Audio in/out - Alarm in - Relay out - Power		

A	Encoder
B	Decoder



Rack Mount Kit (optional)

Parts Included

Quantity	Component
1	VIP 1000 encoder or decoder with international plug-in power supply
1	RS232 Null modem cable
1	Quick installation Guide
1	CD-ROM with manual

Technical Specifications

Electrical	
Video Standards	ISO/IEC13818-2 (MPEG-2) MP@ML; ISO/IEC14496 (MPEG-4); JPEG
Video Data Rate	MPEG-2: 1 MBit/s - 8 MBit/s MPEG-4: 9.6 kBit/s - 4 MBit/s Constant & variable
Video Resolution	MPEG-2: 720 x 576/480 (full D1:50 resp. 60 fields/s**) 352 x 288 (CIF: 25 resp. 30 fps**) MPEG-4: 720 x 576/480* (full D1: 7 fields/s**) 704 x 576* (4CIF: 7 fps**) 704 x 288 (2CIF: 14fps**) 352 x 576/480* (half D1 : 25 resp. 30 fields/s**) 352 x 288 (CIF: 25 resp. 30 fps**) 176 x 144 (QCIF:25 resp. 30 fps**)
GOP Structure	I, IP, IPB, IPBB
Overall Delay (IP)	MPEG-2: 198 resp. 180 ms (PAL resp. NTSC) MPEG-4: 100 ms
Select. Frame Rate	1-50 resp. 60 fields/s (PAL resp. NTSC); Field/frame based coding
Audio Standards	MPEG-1: ISO/IEC 11172-3; MPEG-2: Layer I/II; 300 Hz - 10 kHz MPEG-4: G.711; 300 Hz - 3.4 kHz
Audio Data rate	MPEG-2: 256 kBit/s MPEG-4: 80 kBit/s

Electrical

Audio Sampl. rate	MPEG-2: 48 kHz MPEG-4: 8 kHz
Multiplex stan.	MPEG-2: ISO/IEC 13818-1
Stream Types	Elementary (video only), program stream
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server Interfaces
Video In (Encoder)	1x analog composite: NTSC or PAL; BNC connector 75 ohm switchable, 0.7-1.2 Vpp
Video Out (Decoder)	1x analog composite: NTSC or PAL; BNC connector 75 ohm, 1 Vpp
Audio In	1 clamp mono line in, 3Vpp, ca. 50kOhm
Audio Out	1 clamp mono line out, 2.5 Vpp, 60 mW, min. 8 Ohm
Alarm In	2x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x clamp, 30 Vpp, 1 A
COM Port	1x RS232/422/485, RJ45 (Transmitter) resp. 9-pin Sub-D (Receiver)
Ethernet	10/100 Base-T, auto sensing, half/full duplex, RJ45

Environmental

Input Voltage	12-24 VDC, spring clamp contact
Power usage	App. 10 VA
Weight	App. 0.3 kg (0.66lbs)
Operating Temp.	0 - 50 °C (32 - 122 °F) ambient temp.
Humidity	20 – 80%, atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; S/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

* Supported from firmware version 2.10 onwards

** Depends on picture content

Ordering Information

VIP 1000S 2975	VIP1000S2975
MPEG-2/4, 1 channel encoder, serial interface, alarm in and relay out	
VIP 1000E 2976	VIP1000E2976
MPEG-2/4, 1 channel decoder, serial interface, alarm in and relay out	

VideoJet 8000 8-channel MPEG-2 Encoder



Features

- ▶ 8-channel Encoder
- ▶ 25 IPS on Every Channel Simultaneously
- ▶ MPEG-2 @ 4CIF
- ▶ Internal Storage (120/240/600 GB)
- ▶ Gigabit Ethernet
- ▶ 10 Alarm Inputs
- ▶ Low Profile Rack-mountable
- ▶ Multicasting
- ▶ Serial Data Port

The VideoJet 8000 delivers the highest quality real-time video available today. Its advanced hardware engine produces 30 images per second of pure MPEG-2 DVD-quality video. This power is further multiplied by incorporating multiple encoders within the single unit, delivering eight full-motion video channels. Each channel generates fully interlaced non-multiplexed video at 30 IPS.

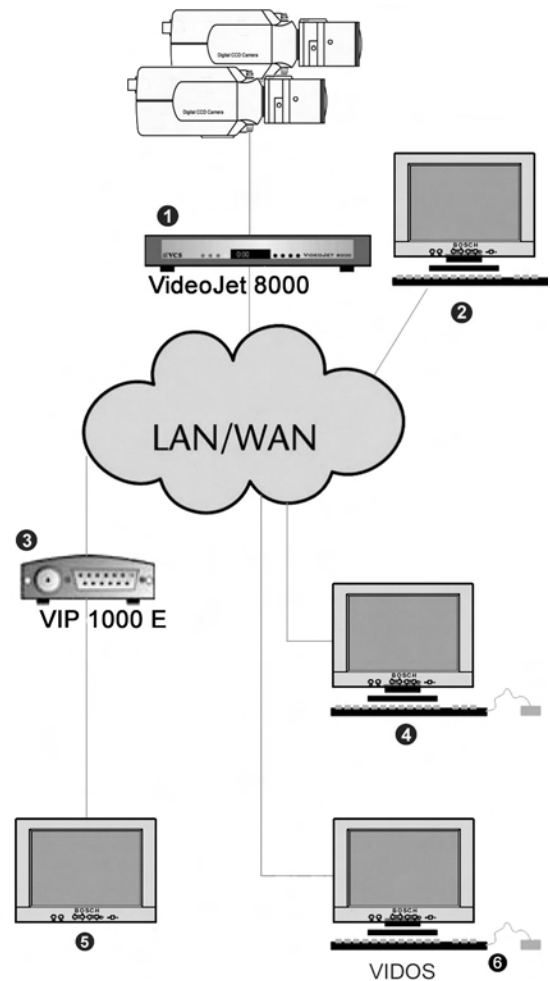
The video can be viewed on a standard PC using the VIDOS video management software or a web browser. Alternately, when used in conjunction with an MPEG-2 hardware decoder (such as the VIP 1000E), you can create point-to-point hybrid analog/digital solutions. This technology uses the highest quality analog cameras and analog CCTV monitors, but with a pure IP solution in-between.

The VideoJet 8000 8-channel MPEG-2 encoder features three key recording modes. The simplest mode is continuous. The alarm-sensitive mode also runs continuously, but increases the frame rate on alarm. A pre-alarm option preserves a short segment of video just prior to the alarm, at 1, 2, or 25/30 IPS (PAL/NTSC).

The VideoJet 8000's 120, 240, or 600 GB internal hard disk records weeks at a time locally, or for more extended recording periods it can use the VIDOS-NVR network video recorder. Such an NVR server has one or two RAID5 disk arrays attached for maximum fault tolerance and a storage capacity of over 12 TB.

The VideoJet 8000 is powerful enough to simultaneously allow MPEG-2 live viewing, recording, playback, and backup. With eight channels in a rack-mountable 1U form factor it offers the highest port density at this quality of video. Combined with a complete set of security and distributed system management features it is the market's most powerful, highest quality MPEG-2 encoder and recorder.

Installation/Configuration Notes



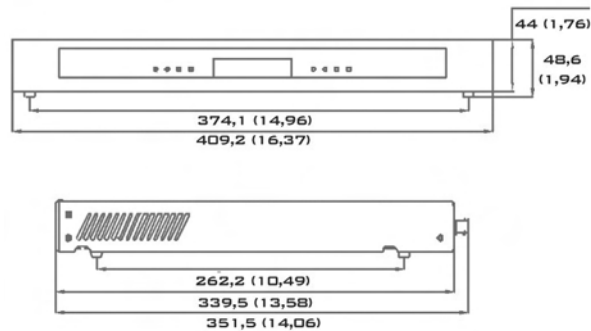
01	VideoJet 8000 Encoder	04	Web Browser
02	VIDOS Workstation	05	Analog Monitor
03	VIP 1000E Decoder	06	VIDOS Workstation



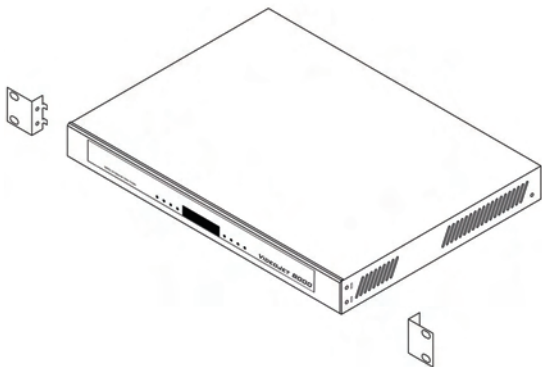
01	Power Indicator	05	Menu/exit
02	HDD indicator	06	Set
03	Failure indicator	07	UP
04	Display	08	Down



01	Video In	06	ISDN port (EU only)
02	75 Ohm Video Termination (x8)	07	GigaBitEthernet 10/100 Base-T
03	Alarm inputs (10x)	08	Fan 1
04	USB Port	09	Fan 2
05	COM Port: RS232/485	10	Power Connector



Dimensions in mm (inches)



Rack Mount Kit

Parts Included

Quantity	Component
1	VideoJet 8000 with internal wide range power supply incl. IEC power cable
1	RS232 Null modem cable
1	Accessory Kit (19" rack mounting)
1	Quick Installation Guide
1	CD-ROM with manual

Technical Specifications

Electrical

VideoJet 8000 MPEG-2 Encoder

Video Standards	ISO/IEC13818-2 (MPEG-2) MP@ML
Video Data Rate	1 - 5 Mbps per channel constant & variable
Video Frame-rate	1-25/30 IPS (PAL/NTSC); Field/frame-based coding
Video Resolution	704 x 576/480 (4CIF: 25/30 IPS*) (D1) 352 x 288/240 (CIF: 25/30 IPS*)
Storage Media	HDD integrated
GOP Structure	I, IP, IPB, IPBB
Overall Delay (IP)	174/164 ms (PAL/NTSC)
Select Frame Rate	25/30 IPS streaming (PAL/NTSC) 1, 2 or 25/30 IPS internal recording Field/frame-based coding
Multiplex Standards	ISO/IEC 13818-1 (MPEG-2)
Stream Types	Video Elementary Stream VES(video only)
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server Interfaces or serial interface
Video In	8x Analog composite: NTSC/PAL; BNC connector 75 Ohm switchable, 0.7 - 1.2 Vp-p
Alarm In	10x (non-isolated closure contact type), max. activation resistance 10 Ohm
Connectors	20-way spring clamp for alarm inputs
COM Ports	1x RS-232/422/485, RJ-45
Ethernet	10/100/1000Base-T, auto-sensing, half-/full-duplex, RJ-45

*)Depends on picture content

Environmental

Input Voltage	90 - 250 VAC, 50/60 Hz
Power Consumption	Max. 60 VA
Weight	App. 6.0 kg (13.22 lbs) with 240 GB HD
Operating Temperature	0°C - 40°C (32°F - 104 °F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VJ8000 2906 8 channels MPEG-2, DVR and encoder with 120 GB HDD	VJ80002906
VJ8000 2926 8 channels MPEG-2, DVR and encoder with 240 GB HDD	VJ80002926

Ordering Information

VJ8000 2927 8 channels MPEG-2, DVR and encoder with 600 GB HDD	VJ80002927
VJ8000A 2907 8 channels MPEG-2 with 1 MPEG-4 channel DVR and encoder with 120 GB HDD, audio	VJ8000A2907
VJ8000A 2936 8 channels MPEG-2 with 1 MPEG-4 channel DVR and encoder with 240 GB HDD, audio	VJ8000A2936
VJ8000A 2937 8 channels MPEG-2 with 1 MPEG-4 channel DVR and encoder with 600 GB HDD, audio	VJ8000A2937

VideoJet XPro



Features

- ▶ Modular digital CCTV matrix
- ▶ Highest port-density in compact 7 HU
- ▶ 2 MPEG-2 and 4 MPEG-4 cartridges
- ▶ 2 Hard disk cartridges
- ▶ Single or redundant power supply
- ▶ Transmitter and DVR operation
- ▶ Gigabit Ethernet
- ▶ Triplex hard disk recording
- ▶ Integrated video scene analysis
- ▶ Multicasting & Internet Streaming

Designed for the toughest demands of professional CCTV, large-scale security projects and enterprise TV distribution the VideoJet XPro features unlimited flexibility and scalability. Each 7-HU XPro cabinet is available with single or redundant power supply. It has room for up to 20 VideoJet XPro cartridges providing a maximum of 160 non-multiplexed video streams (depends on the chosen cartridge).

Fully customizable the VideoJet XPro can come with any combination out of 8 different cartridge types offered. The V8 cartridge transmits 8 PAL/NTSC or CCIR/EIA video channels, the VA8 in addition offers stereo input audio channels. The V8-X8 and V8-X4 cartridges transmit 8 PAL or NTSC video channels in MPEG-4.

The audio versions provide bi-directional audio channels. The HDD cartridge adds hard disks for efficient local recording and BOSCH's ANR high-reliability networked recording.

Highest port-density and uncompromising video quality make the VideoJet XPro a great drop-in replacement for existing multiplexers and matrices. It provides exceptional price/performance, modularity and reliability particularly required for projects in government, retail and transportation. With VIDOS and VIDOS-NVR software, the XPro is ideal for applications with demanding specifications and long life spans.

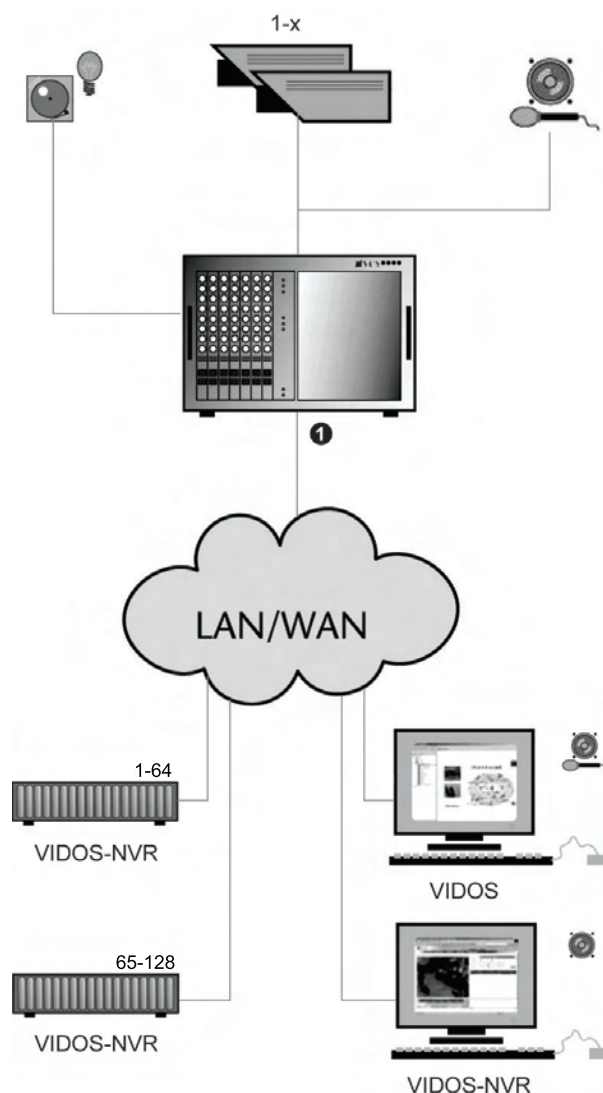
System Overview

Each VideoJet XPro video cartridge provides 8 non-multiplexed video streams simultaneously over Gigabit-Ethernet. Six different types of cartridges are available for Encoding, MPEG-2 and MPEG-4. For local recording you can add extra hard disk cartridges.

Compatible with both, PAL or NTSC sources, the signal can be viewed on any standard PC using Bosch video management system VIDOS or a web browser. With one of Bosch MPEG-2 or MPEG-4 hardware decoders you can put setup box-to-box solutions.

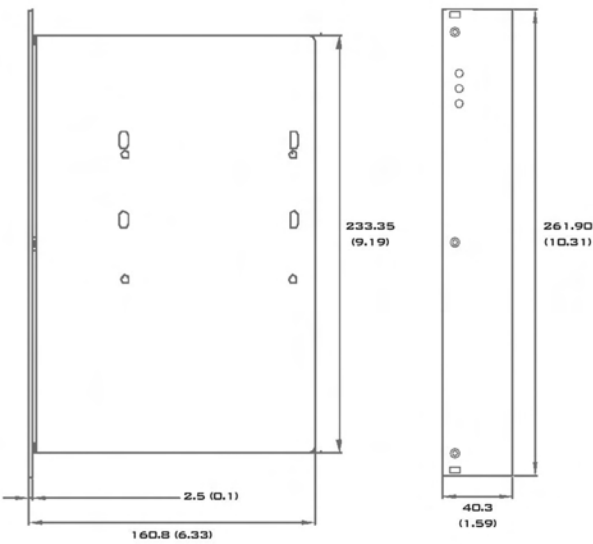
Pure video cartridges are 4-U wide, the cartridges with audio are 8-U width. Also 8-U in size the HDD cartridge features 240 GB or 600 GB hard disks free in allocation allowing simultaneous playback and back-up while recording.

Installation/Configuration Notes

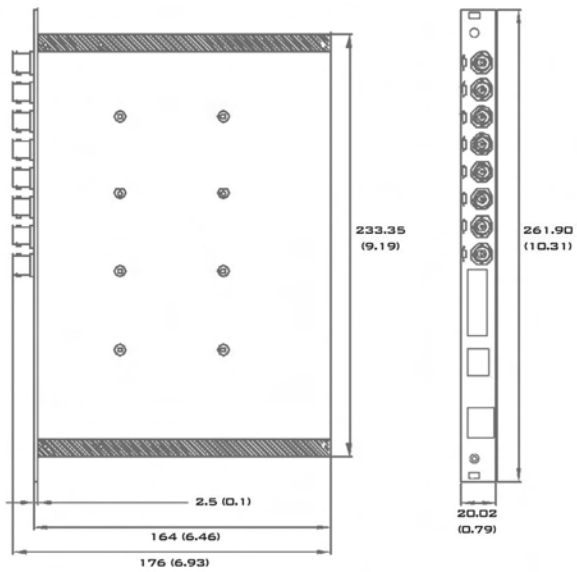




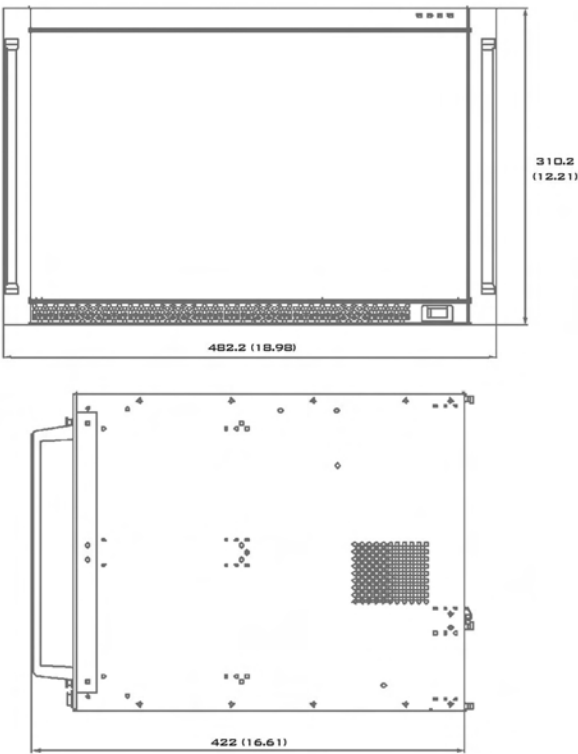
Rear view



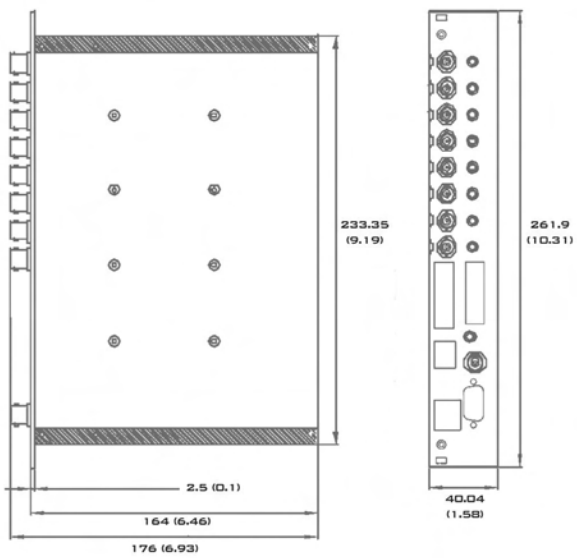
Cartridge HDD Dimensions in mm (inches)



VideoJet XPro V8 Dimensions in mm (inches)



Cabinets Dimensions in mm (inches)



VideoJet Xpro VA8 Dimensions in mm (inches)

Parts Included

Quantity	Component
1	different content for different cartridges
1	Quick Installation Guide
1	CD-ROM with VCS software and manual

Technical Specifications

Electrical – Videojet XPro V8

Video Standards	ISO/IEC 13818-2 (MPEG-2) MP@ML; M-JPEG
Video Data Rate	1 MBit/s - 5 MBit/s per channel Constant & variable
Video Resolution	720 x 576/480 (full D1: 50 resp. 60 fields/s*) 352 x 288 (CIF: 25 resp. 30 fps*)
GOP Structure	I, IP, IPB, IPBB
Overall Delay (IP)	198 resp. 180 ms (PAL resp. NTSC)
Select. Frame Rate	1-50 resp. 60 fields/s (PAL resp. NTSC); Field/frame based coding
Multiplex Standards	ISO/IEC 13818-1 (MPEG-2)
Stream Types	Elementary (video only), program stream
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
COM Port	1x RS232/422/485, RJ45
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)

Environmental V8

Input Voltage	Supplied by cabinet
Power Consumption	Max. 35 VA
Weight	App. 0.7 kg (1.54lbs)
Operating Temperature	0°C - 50°C (32 - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) depends on picture content

Electrical – Videojet XPro VA8

Video Standards	ISO/IEC 13818-2 (MPEG-2) MP@ML; M-JPEG
Video Data Rate	1 MBit/s - 5 MBit/s per channel Constant & variable
Video Resolution	720 x 576/480 (full D1: 50 resp. 60 fields/s*) 352 x 288 (CIF: 25 resp. 30 fps*)
GOP Structure	I, IP, IPB, IPBB
Overall Delay (IP)	198 resp. 180 ms (PAL resp. NTSC)
Select. Frame Rate	1-50 resp. 60 fields/s (PAL resp. NTSC); Field/frame based coding
Audio Standards	MPEG-1: ISO/IEC 11172-3; MPEG-2: Layer I/II; 300 Hz - 10 kHz

Electrical – Videojet XPro VA8

Audio Data Rate	256 kBit/s
Audio Sample Rate	48 kHz
Multiplex Standards	ISO/IEC 13818-1 (MPEG-2)
Stream Types	Elementary (video only), program stream
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Audio	8x stereo line, stereo jack 3.5 mm, 50 kOhm, 1 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	5x clamp, 30 Vpp, 1 A
COM Ports	1x RS232/422/485, RJ45, 1x RS232, 9-pin Sub-D
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)

Environmental VA8

Input Voltage	Supplied by cabinet
Power Consumption	Max. 40 VA
Weight	App. 1.0 kg
Operating Temperature	0°C - 50°C (32°F - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) depends on picture content

Electrical – Videojet XPro V8-X4

Video Standards	MPEG-4; JPEG
Video Data Rate	9 KBit/s - 6 MBit/s
Video Resolution	720 x 576/480 (4CIF: 12 resp. 15fps) 720 x 288/346 (2CIF: 25 resp. 30fps); 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/346 (CIF: 25 resp. 30fps) 352 x 144/172 (QCIF: 25 resp 30fps)
GOP Structure	I, IP
Overall Delay (IP)	100 ms
Select. Frame Rate	up to 25 resp. 30 fps (PAL resp. NTSC); scalable video skip ratio
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Electrical – Videojet XPro V8-X4

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
COM Port	1x RS232/422/485, RJ45
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)

Environmental V8-X4

Input Voltage	Supplied by cabinet
Power Consumption	Max. 35 VA
Weight	App. 0.7 kg (1.54lbs)
Operating Temperature	0°C - 50°C (32 - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) depends on picture content

Electrical – Videojet XPro VA8-X4

Video Standards	MPEG-4; JPEG
Video Data Rate	9 KBit/s - 6MBit/s
Video Resolution	720 x 576/480 (4CIF: 12 resp. 15fps) 720 x 288/346 (2CIF: 25 resp. 30fps); 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/346 (CIF: 25 resp. 30fps) 352 x 144/172 (QCIF: 25 resp 30fps)
GOP Structure	I, IP
Overall Delay (IP)	100 ms
Select. Frame Rate	up to 25 resp. 30 fps (PAL resp. NTSC); scalable video skip ratio
Audio Standards	G.711
Audio Data Rate	80 kBit/s per channel
Audio Sample Rate	8 kHz
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Audio	1x mono line in (50 kOhm), 1x mono line out (60 mW, min. 8 Ohm), stereo jack 3.5 mm, 1 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	5x clamp, 30 Vpp, 1 A
COM Ports	1x RS232/422/485, RJ45, 1x RS232, 9-pin Sub-D
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45

Electrical – Videojet XPro VA8-X4

Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)
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Environmental VA8-X4

Input Voltage	Supplied by cabinet
Power Consumption	Max. 40 VA
Weight	App. 1.0 kg
Operating Temperature	0°C - 50°C (32°F - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) depends on picture content

Electrical – Videojet XPro V8-X8

Video Standards	MPEG-4; JPEG
Video Data Rate	9 KBit/s - 6MBit/s
Video Resolution	720 x 576/480 (4CIF: 25 resp. 30fps) 720 x 288/346 (2CIF: 25 resp. 30fps); 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/346 (CIF: 25 resp. 30fps) 352 x 144/172 (QCIF: 25 resp 30fps)
GOP Structure	I, IP
Overall Delay (IP)	100 ms
Select. Frame Rate	up to 25 resp. 30 fps (PAL resp. NTSC); scalable video skip ratio
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
COM Port	1x RS232/422/485, RJ45
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)

Environmental V8-X8

Input Voltage	Supplied by cabinet
Power Consumption	Max. 35 VA
Weight	App. 0.7 kg (1.54lbs)
Operating Temperature	0°C - 50°C (32 - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)

Environmental V8-X8

Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15
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*) depends on picture content

Electrical – Videojet XPro VA8-X8

Video Standards	MPEG-4; JPEG
Video Data Rate	9 KBit/s - 6MBit/s
Video Resolution	720 x 576/480 (4CIF: 25 resp. 30fps) 720 x 288/346 (2CIF: 25 resp. 30fps); half D1 352 x 288/346 (CIF: 25 resp. 30fps) 352 x 144/172 (QCIF: 25 resp 30fps)
GOP Structure	I, IP
Overall Delay (IP)	100 ms
Select. Frame Rate	up to 25 resp. 30 fps (PAL resp. NTSC); scalable video skip ratio
Audio Standards	G.711
Audio Data Rate	80 kBit/s per channel
Audio Sample Rate	8 kHz
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via Web browser, built-in Web server

Interfaces

Video In	8x analog composite: NTSC or PAL; BNC connector 75 Ohm switchable, 0.7-1.2 Vpp
Audio	1x mono line in (50 kOhm), 1x mono line out (60 mW, min. 8 Ohm), stereo jack 3.5 mm, 1 Vpp
Alarm In	10x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	5x clamp, 30 Vpp, 1 A
COM Ports	1x RS232/422/485, RJ45, 1x RS232, 9-pin Sub-D
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Storage Media (opt.)	Cartridge HDD: 2x 120 or 2x 300 GB HDD (8 WU)

Environmental VA8-X8

Input Voltage	Supplied by cabinet
Power Consumption	Max. 40 VA
Weight	App. 1.0 kg
Operating Temperature	0°C - 50°C (32°F - 122 °F) ambient temp.
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) depends on picture content

Specifications – Cartridge HDD

Storage	2x 120 or 2x 300 GB IDE HDD
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Environmental

Input Voltage	Supplied by cabinet
Power Consumption	Max. 48 VA
Weight	App. 1.6 kg
Operating Temperature	0°C - 50°C (32°F - 122 °F) ambient temperature
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Specifications - Cabinets

Power Supply	1x integrated power supply; alternative: two redundant integrated power supplies
Input Voltage	90 - 250 VAC, 50/60 Hz
Power Consumption	Max. 600 VA
Weight	App. 3.5 kg
Operating Temperature	0°C - 50°C (32°F - 122 °F) ambient temperature
Humidity	20 - 80% atmospheric humidity (not condensing)
Approvals	CE: IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

XPro V8 2410 VJXPro V8 - 8 channels MPEG-2 card	XProV82410
XPro VA8 2420 VJXPro VA8 -8 channels MPEG-2 card, with audio	XProVA82420

Accessories

XPro S1 2401 19-inch cabinet for up to 120 video channels, single power supply	XProS12401
XPro R2 2406 19-inch cabinet for up to 160 video channels, redundant second power supply up to 128ch	XProR22406

VIP X1 Single-channel Video Encoder



Features

- ▶ Single-channel encoder
- ▶ High-quality MPEG-4
@ full D1/4CIF/2CIF/Half D1/CIF/QCIF
- ▶ USB and iSCSI recording
- ▶ Storage-efficient Dual Streaming
- ▶ Ultra-compact size
- ▶ Multicast & Internet streaming
- ▶ Alarm inputs & relay output
- ▶ FastEthernet interface
- ▶ Serial data port
- ▶ Audio and PoE models

The VIP X1 features DVD like quality MPEG-4 video, at up to 30 images per second, over IP networks. This unit supports PAL/NTSC sources.

The audio models of the VIP X1 provide bidirectional audio communication in parallel to video. Besides the standard line level interface, built in amplifiers allow direct connection to microphone and speaker.

The VIP X1 Power-over-Ethernet models can be power-fed via the network cable.

The VIP X1 provides Dual Streaming. It is able to generate two independently configurable MPEG-4 video streams. The VIP X1 is ultra-compact, so it is perfect for any application that depends on space-saving solutions.

Functions

Viewing

The video can be viewed on a PC using VIDOS, the Bosch comprehensive video management system, or in a simple Web browser such as Internet Explorer. It can also be integrated into other video management systems using the Bosch Video SDK.

By routing the IP video to a high performance VIP XD video decoder or a VIDOS Monitor Wall you can present the video with ultimate clarity on an analog CCTV or large, flat-screen VGA monitor or TV.

Recording

The VIP X1 offers unparalleled recording options - locally on a USB hard disk, network-attached utilizing iSCSI devices, and of course centrally using Network Video Recorders. The iSCSI RAID5 storage enables the VIP X1 to act as a conventional DVR as well as to stream high performance live video across the network.

Dual Streaming

The VIP X1 uses Dual Streaming to generate two independent IP video streams per channel. This allows viewing and recording at two different quality levels to save disk space and bandwidth. On alarm, it may send out email with JPEG images attached.

Increased intelligence

The VIP X1 supports increased intelligence at the edge that includes detection of:

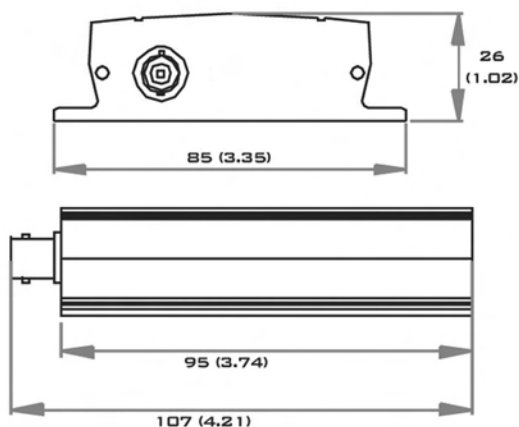
- video loss
- masking
- hooding
- defocusing
- diverted camera

These detection features provide tamper detection for various unified picture causes.

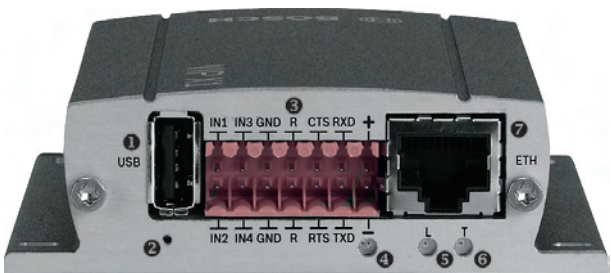
More advanced video content analysis (VCA) applications are offered with Bosch's Intelligent Video Motion Detection (IVMD) as additional licensable option, giving VCA directly at the video input.

These powerful devices represent the cutting edge of high performance Video over IP for CCTV today.

Installation/Configuration Notes

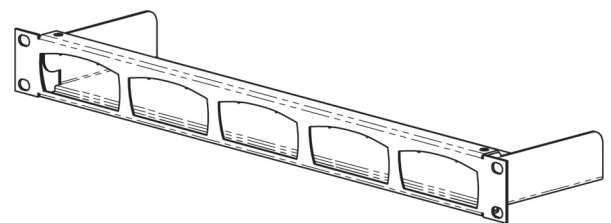


Dimensions in mm (inches)



Rear view all models

1	USB port	5	LED Link
2	Reset: Factory Default	6	LED Traffic
3	Alarm in, Relay out, Power, COM (RS232/422/485)	7	10/100 Base-T Fast Ethernet
4	LED Power		



Rack mount kit (optional)



Front view VIP X1, non audio models

1	Video In 1
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Front view VIP X1 audio models

1	Video In 1	3	Microphone In , Speaker Out
2	Line In	4	Line out

Parts Included

Quantity	Component
1	VIP X1 Single-channel Video Encoder
1	International plug-in power supply
1	RS-232 null modem cable
1	Quick Installation Guide
1	CD-ROM containing manual, software and tools

Technical Specifications

Electrical	
Video Standards	MPEG-4; JPEG
Video Data Rate	9.6 Kbps - 6 Mbps
Video Resolution	704 x 576/480 (4CIF/D1: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 464 x 576/480 (2/3 D1: 25/30 ips) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay	MPEG-4: 120 ms
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Configuration Manager, Web browser

Interfaces

Electrical

Video In	1x analog composite: NTSC/PAL; BNC connector 75 Ohm switchable, 0.7 - 1.2 Vp-p
Alarm In	4x (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x, 30 Vp-p, 2 A
Connectors	14 position spring clamp contact for alarm, relay and COM port
COM Port	1x RS-232/422/485, spring clamp contacts
USB Port	1x 2.0 external interface
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45
Audio Models	VIP X1A, VIP X1AP
Audio Standard	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Sampling Rate	8 kHz
Line In	Single channel via stereo jack 3.5 mm, 9 kOhm typ., 5.5 Vpp max.
Line Out	Single channel via stereo jack 3.5 mm, 16 Ohm min., 3 Vpp max.
Microphone In	CombiCon plug, 2kOhm typ., 2.8 Vpp max. -20dB, supply 2.3 V typ.
Speaker Out	CombiCon plug, 4 Ohm min., 6 Vpp max., power RMS 1 W
PoE Models	VIP X1P, VIP X1AP
Power-over-Ethernet (PoE)	802.11af, class 2
Output power	2,5 W max., spring clamp contacts

Environmental

Input Voltage	12 - 24 VDC, spring clamp contact
Power Consumption	Approx. 6 VA
Power Supply	VIPXPS111022 included in the box
Weight	Approx. 0.17 kg (0.37 lb)
Operating Temp	0°C - 50°C (32°F - 122°F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not cond.)
Complies with	CE: IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 50130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VIPX1	VIPX1
MPEG-4 dual-stream 1 ch encoder, USB, serial I/O, alarm in, relay	
VIP-X1A	VIP X1A
MPEG-4 dual-stream 1 ch transmitter, USB, audio, serial I/O, alarm in, relay	
VIP-X1P	VIP X1P
MPEG-4 dual-stream 1 ch transmitter, USB, PoE, serial I/O, alarm in, relay	
VIP-X1AP	VIP X1AP
MPEG-4 dual-stream 1 ch transmitter, USB, audio, PoE, serial I/O, alarm in, relay	

Ordering Information

Accessories	
VIPRMK1HU	VIPRMK1HU
VIP X/10/1000 Rack Mount Kit (5 units in 1HU)	
VIPXPS111022	VIPXPS111022
Power supply	

VIP X2 Dual-channel Video Encoder



Features

- ▶ Dual-channel encoder
- ▶ High-quality MPEG-4
 - @ full D1/4CIF/2CIF/Half D1/CIF/QCIF
- ▶ USB and iSCSI recording
- ▶ Storage-efficient Dual Streaming
- ▶ Ultra-compact size
- ▶ Multicast & Internet streaming
- ▶ Alarm inputs & relay output
- ▶ FastEthernet interface
- ▶ Serial data port
- ▶ Audio model

The VIP X2 features 2 DVD like quality MPEG-4 video signals, at up to 30 images per second, per channel, over IP networks.

This unit supports PAL/NTSC sources.

The VIP X2 is ultra-compact, so it is perfect for any application that depends on space-saving solutions.

The VIP X2 is available as audio model, providing bi-directional audio communication in parallel to video. Besides the standard line level interfaces for both audio channels, it has integrated amplifiers to directly connect to microphone and speaker for channel1.

Functions

Viewing

The video can be viewed on a PC using VIDOS, the Bosch comprehensive video management system, or in a simple Web browser such as Internet Explorer. It can also be integrated into other video management systems using the Bosch Video SDK.

By routing the IP video to a high performance VIP XD video decoder or a VIDOS Monitor Wall you can present the video with ultimate clarity on an analog CCTV or large, flat-screen VGA monitor or TV.

Recording

The VIP X2 offers unparalleled recording options - locally on a USB hard disk, network-attached utilizing iSCSI devices, and of course centrally using Network Video Recorders. The iSCSI RAID5 storage enables the VIP X2 to act as a conventional DVR as well as to stream high performance live video across the network.

Dual Streaming

The VIP X2 uses Dual Streaming to generate two independent IP video streams per channel. This allows viewing and recording at two different quality levels to save disk space and bandwidth. On alarm, it may send out email with JPEG images attached.

Increased intelligence

The VIP X2 supports increased intelligence at the edge that includes detection of:

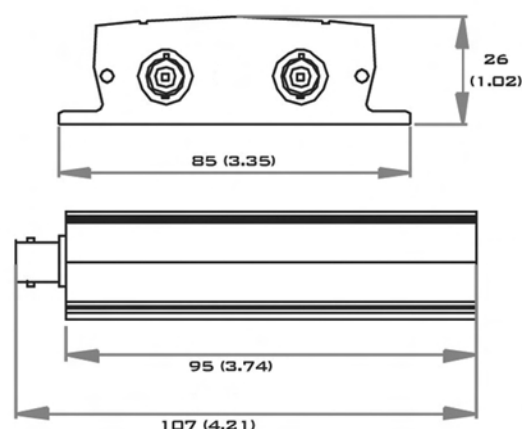
- video loss
- masking
- hooding
- defocusing
- diverted camera

These detection features provide tamper detection for various unified picture causes.

More advanced video content analysis (VCA) applications are offered with Bosch's Intelligent Video Motion Detection (IVMD) as additional licensable option, giving VCA directly at the video input.

These powerful devices represent the cutting edge of high performance Video over IP for CCTV today.

Installation/Configuration Notes



Dimensions in mm (inches)



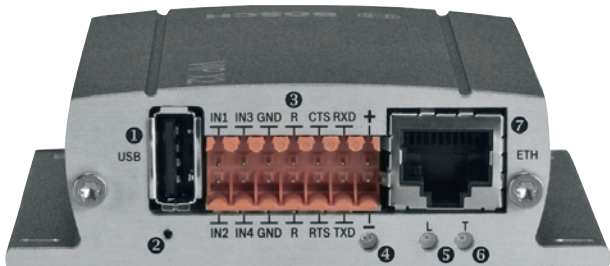
Front view VIP X2, non audio model

- | | | | |
|---|------------|---|------------|
| 1 | Video In 1 | 2 | Video In 2 |
|---|------------|---|------------|



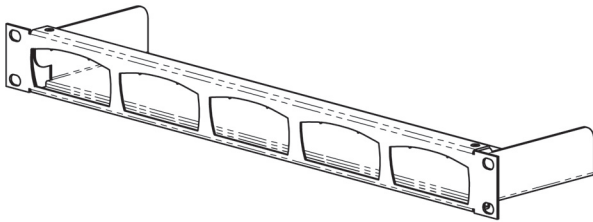
Front view VIP X2 audio model

- | | | | |
|---|-----------------------------|---|------------|
| 1 | Video In 1 | 4 | Line out |
| 2 | Line In | 5 | Video In 2 |
| 3 | Microphone In , Speaker Out | | |



Rear view all models

- | | | | |
|---|--|---|-----------------------------|
| 1 | USB port | 5 | LED Link |
| 2 | Reset: Factory Default | 6 | LED Traffic |
| 3 | Alarm in, Relay out, Power, COM (RS 232/422/485) | 7 | 10/100 Base-T Fast Ethernet |
| 4 | LED Power | | |



Rack mount kit (optional)

Parts Included

Quantity	Component
1	VIP X2 Dual-channel Video Encoder
1	International plug-in power supply
1	RS-232 null modem cable
1	Quick Installation Guide
1	CD-ROM containing manual, software and tools

Technical Specifications

Electrical

Video Standards	MPEG-4; JPEG
Video Data Rate	9.6 kbps - 6 Mbps per channel
Video Resolution	704 x 576/480 (4CIF/D1: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 464 x 576/480 (2/3 D1: 25/30 ips) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay	120 ms
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Configuration Manager, Web browser

interfaces

Video In	2x analog composite: NTSC/PAL; BNC connector 75 Ohm switchable, 0.7 - 1.2 Vp-p
Alarm In	4x (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x, 30 Vp-p, 2 A
Connectors	14 position spring clamp contact for alarm, re- lay and COM port
COM Port	1x RS-232/422/485, spring clamp contacts
USB Port	1x 2.0 external interface
Ethernet	10/100Base-T, auto-sensing, half/full duplex, RJ-45
Audio Model	VIP X2A
Audio Standard	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Sampling Rate	8 kHz
Line In	Dual channel via stereo jack 3.5 mm, 9 kOhm typ., 5.5 Vpp max.

Electrical

Line Out	Dual channel via stereo jack 3.5 mm, 16 Ohm min., 3 Vpp max.
Microphone In	CombiCon plug, 2kOhm typ., 2.8 Vpp max. - 20dB, supply 2.3 V typ.
Speaker Out	CombiCon plug, 4 Ohm min., 6 Vpp max., power RMS 1 W

Environmental

Input Voltage	12 - 24 VDC, spring clamp contact
Power Consumption	Approx. 10 VA
Power Supply Unit	VIPXPS111022 included in the box
Weight	Approx. 0.2 kg (0.44 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not cond.)
Complies with	CE: IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 50130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VIP X2	VIPX2
MPEG-4 dual-stream 2 ch encoder, USB, serial I/O, alarm in and relay	

VIP X2A	VIPX2A
MPEG-4 dual-stream 2 ch encoder, USB, audio, serial I/O, alarm in, relay	

Accessories

VIPRMK1HU	VIPRMK1HU
VIP X/10/1000 Rack Mount Kit (5 units in 1HU)	

VIPXPS111022	VIPXPS111022
Power supply	

Software Options

VIP-X2-FS1	VIPX2FS1
VIP X2 IVMD 1.0 VCA License, valid for 2 channels	

VIP XD Single / Quad Stream Decoder



Features

- ▶ Single / quad stream decoder
- ▶ MPEG-4 and MPEG-2
 - @ full D1/4CIF/2CIF/Half D1/CIF/QCIF
- ▶ Ultra-compact in size
- ▶ Multicasting
- ▶ Fast Ethernet interface
- ▶ Alarm inputs & relay output
- ▶ Serial data port
- ▶ Audio model

The VIP XD displays DVD like quality MPEG-4 and MPEG-2 encoded video at up to 30 images per second from PAL or NTSC sources over IP networks.

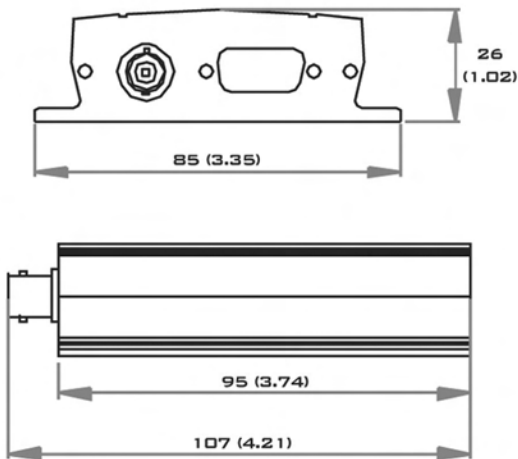
The video connections can be established automatically by the encoder or decoder or with the video management system VIDOS. The VIP XD can be set up to display video in single-view or quad-view mode. It is capable of decoding up to 4 video streams at the same time. The viewing mode can be controlled remotely by a management system like VIDOS. The VIP XD can alternatively drive a VGA display directly, and thus is ideally suited for applications like flat-screen monitor walls.

The VIP XD is available as audio model, providing one-channel bidirectional audio communication in parallel to video.

Besides the standard line level interface, it has integrated amplifiers to directly connect to microphone and speaker.

Ultra-compact in size the VIP XD is perfect for any application that depends on space-saving solutions.

Installation/Configuration Notes



Dimensions in mm (inches)



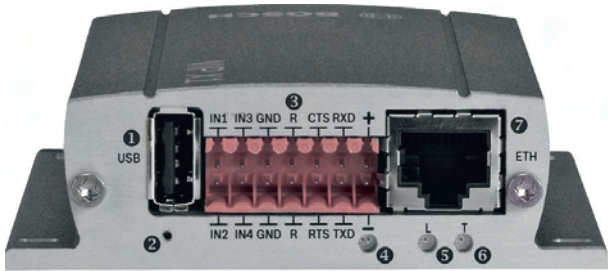
Front view VIP XD, non audio model

- | | |
|---|-----------|
| 1 | Video Out |
| 2 | VGA |



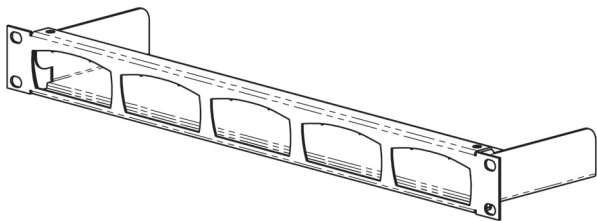
Front view VIP XD audio model

- | | | | |
|---|-----------------------------|---|----------|
| 1 | Video Out | 4 | Line out |
| 2 | Line In | 5 | VGA |
| 3 | Microphone In , Speaker Out | | |



Rear view all models

1	USB port	5	LED Link
2	Reset: Factory Default	6	LED Traffic
3	Alarm in, Relay out, Power, COM (RS 232/422/485)	7	10/100 Base-T Fast Ethernet
4	LED Power		



Rack mount kit (optional)

Parts Included

Quantity	Component
1	VIP XD Single / Quad-Stream Decoder
1	international plug-in power supply
1	RS 232 Null modem cable
1	Quick installation Guide
1	CD-ROM containing manual, software and tools

Technical Specifications

Electrical

Video Standards	MPEG-4; MPEG-2
Video Data Rate	Max. 20 MBit/s (4 channels)
Video Resolution	704 x 576/480 (D1/4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 464 x 576/480 (2/3 D1: 25/30 ips) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
Overall Delay	MPEG-4: 120 ms
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V2/V3, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable

Electrical

Configuration	Configuration Manager, Web browser
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Interfaces

Video Out	1x analog composite: NTSC or PAL; BNC connector 75 Ohm, 1 Vp-p / 5 %
VGA out:	RGB analog: 0.7 Vs-s / 5% Sub-D 15-pin connector, 1x VGA/SVGA;
Alarm In	4x clamp (non-isolated closure contact type), max. activation resistance 10 Ohm
Relay Out	1x clamp, 30 Vp-p, 2 A
Connectors	14 position spring clamp contact for alarm, relay and COM port
COM Port	1x RS 232/422/485, spring clamp contacts
USB Port	1x 2.0 external interface *
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45
Audio Model	VIP XDA
Audio Standard	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kBit/s
Audio Sampling Rate	8 kHz
Line In	Single channel via stereo jack 3.5 mm, 9 kOhm typ., 5.5 Vpp max.
Line Out	Single channel via stereo jack 3.5 mm, 16 Ohm min., 3 Vpp max.
Microphone In	CombiCon plug, 2kOhm typ., 2.8 Vpp max. -20dB, supply 2.3 V typ.
Speaker Out	CombiCon plug, 4 Ohm min., 6 Vpp max., power RMS 1 W

Environmental

Input Voltage	12-24 VDC, spring clamp contact
Power Consumption	App. 7 VA
Power Supply Unit	VIPXPS111022 included in the box
Weight App.	0.3 kg (0.66 lb)
Operating Temp.	0 - 50 °C (32 - 122 °F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not cond.)
Approvals CE:	IEC 60950; UL 1950; J 60950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

*) future use

Ordering Information

VIPXD	VIPXD
MPEG-4 quad-channel decoder, USB, serial I/O, alarm in, relay	
VIPXDA	VIPXDA
MPEG-4 quad-channel decoder, USB, audio, se- rial I/O, alarm in, relay	

Ordering Information

Accessories

VIPRMK1HU VIP X/10/1000 Rack Mount Kit (5 units in 1HU)	VIPRMK1HU
VIPXPS111022 Power supply	VIPXPS111022

VideoJet 8008 8-Channel MPEG-4 Encoder



Features

- ▶ 8-Channel encoder
- ▶ 25 IPS on every channel @ 4CIF/Full D1
- ▶ MPEG-4 @ 4CIF / Full D1
- ▶ Dual streaming per channel
- ▶ Internal harddisk storage
- ▶ Gigabit Ethernet
- ▶ 10 Alarm inputs
- ▶ Low profile rack-mountable
- ▶ Multicasting
- ▶ Serial data port
- ▶ Audio model available

The VideoJet 8008 delivers the highest quality real-time video available today. Its advanced hardware engine produces 30 images per second of pure MPEG-4 video in DVD-like quality. This power is further multiplied by incorporating multiple encoders within the single unit, delivering eight full-motion video channels. Each channel generates non-multiplexed video at 30 IPS.

The video can be viewed on a standard PC using the VIDOS video management software or a web browser. Alternatively, when used in conjunction with a high-performance MPEG-4 hardware decoder (such as the VIP XD), you can create point-to-point hybrid analog/digital solutions. This technology uses the highest quality analog cameras and analog CCTV monitors, but with a pure IP solution in-between.

The VideoJet 8008 8-channel MPEG-4 encoder features three key recording modes. The simplest mode is continuous ring or linear recording. The alarm-sensitive mode also runs continuously. A pre-/post-alarm option preserves a short segment of video just before and after the alarm. Up to 128 events per camera can be recorded. When the installation is completed with VIDOS video management software, VIDOS can automatically increase the frame rate during the alarm to capture events in detail, while saving capacity on irrelevant footage.

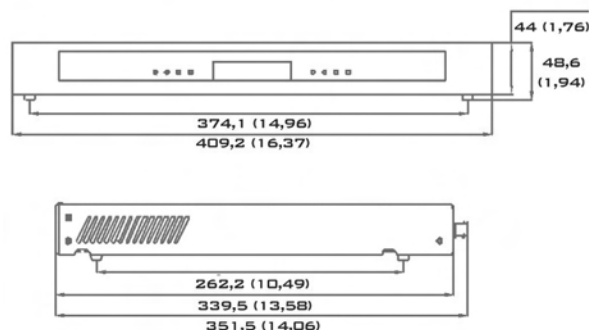
The VideoJet 8008's internal hard disk records weeks at a time locally, or for more extended recording periods it can use the VIDOS-NVR network video recorder. Such an NVR server has RAID5 disk arrays attached for maximum fault tolerance and a storage capacity of over 36 TB.

The VideoJet 8008 with its Dual Streaming technology can encode the video input signal in two different ways in parallel. For example in 4CIF resolution with 1 IPS for recording, and in CIF with 25 IPS for live viewing at a workstation with software decoder or a hardware monitor. Depending on the application, other combinations are also possible.

Audio models provide a single bidirectional audio channel that can be connected to one out of the 8 available video channels and, due to built-in amplifiers, directly to drive speakers and to a Siedle TLM611 intercom device. Audio input and output can be selected independently from each other, for example listening to channel 3 while talking through channel 8.

The VideoJet 8008 is powerful enough to simultaneously allow MPEG-4 live viewing, recording and playback or backup. With eight channels in a rack-mountable 1HU form factor it offers the highest port density at this quality of video. Combined with a complete set of security and distributed system management features it is the market's most powerful, highest quality MPEG-4 encoder and recorder.

Installation/Configuration Notes



Dimensions in mm (inches)



Front view all models

1	LED Power	6	Menu/Exit
2	Infrared receiver	7	Set
3	LED HDD	8	Up
4	LED Fail	9	Down
5	Display		

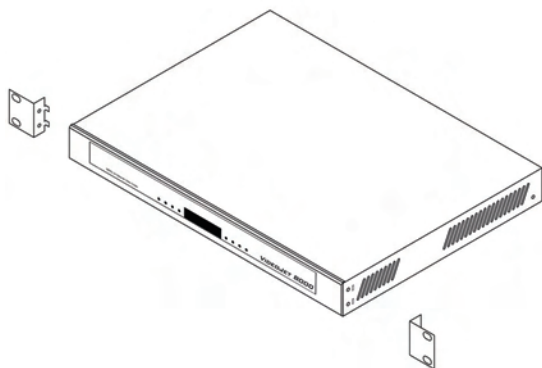


Rear view audio model



Rear view none audio model

1	8x Video in	5	GigabitEthernet 10/100/1000 Base-T
2	75 Ohm video termination	6	Fan 1
3	10x Alarm in	7	Fan 2
4	COM port: RS232/485	8	Power connector



Rack mount kit

Parts Included

Quantity	Component
1	VideoJet 8008 with internal wide range power supply including IEC and US power cables
1	RS-232 Null modem cable
1	Accessory Kit (19 in. rack-mounting)
1	Quick Installation Guide
1	CD-ROM containing software tools and manual

Technical Specifications

Electrical	
Video Standards	MPEG-4
Video Data Rate	9.6 kBit/s - 6 MBit/s per channel
Video Frame-Rate	1 up to 25/30 IPS (PAL/NTSC); scalable video skip ratio
Video Resolution	704 x 576/480 (D1/4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
Storage Media	HDD integrated
GOP Structure	I, IP
Overall Delay (IP)	120 ms
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V3, ICMP, ARP, SNMP
Software Update	Flash ROM, remote programmable
Configuration	Via web browser, built-in web server, telnet or serial interface

Interfaces	
Video In	8x analog composite: NTSC/PAL; BNC connector 75 Ohm switchable, 0.7 - 1.2 Vp-p
Alarm In	10x (non-isolated closure contact type), max. activation resistance 10 Ohm
Connectors	20 position spring clamp contacts for alarm inputs
COM Port 2	1x RS-232/422/485, RJ-45
Ethernet	10/100/1000Base-T, auto-sensing, half-/full-duplex, RJ-45

Additional Interfaces Audio Models	
Audio 1-8	8x mono line in (50 kOhm) (1 of 8 selectable), 8x mono line out (60 mW, min. 8 Ohm) (1 of 8 selectable), stereo jack 3.5 mm, 1 Vpp
Audio Out	2x speaker 5W@8Ohm / 2,5W@40Ohm, stereo jack 3.5 mm
AI / AO	Intercom compatible with Siedle TLM611-0 SM
Relay Out	5x clamp, 30 Vpp, 1 A
COM2 Port	1x RS232, 9-pin Sub-D

Environmental	
Input Voltage	90 - 250 VAC, 50/60 Hz
Power Consumption	Max. 60 VA
Weight	Approx. 6.0 kg (13.2 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F), ambient temperature
Humidity	20 - 80%, atmospheric humidity (not cond.)
Complies with	CE: IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 50130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch.1 Part 15

Ordering Information

VJ8008H160 8-channel MPEG-4 encoder and DVR with 160 GB HDD	VJ8008H160
VJ8008H250 8-channel MPEG-4 encoder and DVR with 250 GB HDD	VJ8008H250
VJ8008H500 8-channel MPEG-4 encoder and DVR with 500 GB HDD	VJ8008H600
VJ8008H1000 8-channel MPEG-4 encoder and DVR with 1000 GB HDD	VJ8008H800
VJ8008AH160 8-channel MPEG-4 encoder and DVR with 160 GB HDD and audio	VJ8008AH160
VJ8008AH250 8-channel MPEG-4 encoder and DVR with 250 GB HDD and audio	VJ8008AH250
VJ8008AH500 8-channel MPEG-4 encoder and DVR with 500 GB HDD and audio	VJ8008AH600
VJ8008AH1000 8-channel MPEG-4 encoder and DVR with 1000 GB HDD and audio	VJ8008AH800

VIP X1600 Modular High-Performance Video Encoder



Features

- ▶ Up to 16 video inputs
- ▶ Modular and expandable with hot-swappable video modules
- ▶ Direct- or network-attached RAID5 storage via iSCSI
- ▶ Up to 30 ips at 4CIF/D1
- ▶ Storage-efficient Dual Streaming
- ▶ Intelligent Video Motion Detection and camera tampering detection
- ▶ Redundant power supply inputs
- ▶ Redundant Gigabit Ethernet ports

The Bosch VIP X1600 is a high-performance modular multi-channel CCTV video encoder. The VIP X1600 is accommodating up to four hot-swappable video modules, each with four analog video inputs. Video-audio modules are also available.

Having a modular construction, expanding a system is simple and low cost. Simply plug in additional video or video-audio modules at any time, without interrupting the operation of existing channels.

The VIP X1600 delivers MPEG-4 video over IP at a rate of 25 images (PAL) or 30 images (NTSC) per second at 2CIF or 2/3 D1 resolution, but is also capable of providing 4CIF/Full D1 resolution at 12.5/15 images per second for every video channel. For those inputs, where ultimate performance is required, full 4CIF 25/30 images per second video is available when alternate channels on an input module are used.

Functions

Viewing

The video can be viewed on a PC using VIDOS, the Bosch comprehensive video management system, or in a simple Web browser such as Internet Explorer. It can also be integrated into other video management systems using the Bosch Video SDK.

By routing the IP video to a high performance VIP XD video decoder or a VIDOS Monitor Wall you can present the video with ultimate clarity on an analog CCTV or large, flat-screen VGA monitor or TV.

Recording

The VIP X1600 offers unparalleled recording options – locally, short-term RAM-based, network-attached utilizing iSCSI devices, and of course centrally using Network Video Recorders. The iSCSI RAID5 storage enables the VIP X1600 to act as a conventional DVR as well as to stream high performance live video across the network.

Reliability

Designed for reliability, the VIP X1600 features hot-swappable video modules, dual redundant power supply inputs, dual redundant network ports and fault-tolerant mass storage via iSCSI RAID5.

Dual Streaming

The VIP X1600 uses Dual Streaming to generate two independent IP video streams per channel. This allows viewing and recording at two different quality levels to save disk space and bandwidth. On alarm, it may send out email with JPEG images attached.

Increased intelligence

The VIP X1600 supports increased intelligence at the edge that includes detection of:

- video loss
- masking
- hooding
- defocusing
- diverted camera

These detection features provide tamper detection for various unified picture causes. More advanced video content analysis (VCA) applications are offered with Bosch's Intelligent Video Motion Detection (IVMD) as additional licensable option, giving VCA directly at the video input.

These powerful and flexible multi-channel devices with iSCSI recording represent the cutting edge of high performance Video over IP for CCTV today.

Certifications and Approvals

Complies with	CE: IEC 60950
	UL 1950
	AS/NZS 3548
	EN 55103-1, -2
	EN 50130-4
	EN 55022
	EN 55024
	EN 61000-3-2; EN 61000-3-3
	FCC 47 CFR Ch.1 Part 15

Installation/Configuration Notes

Frame Rate Combinations

	4 CH per Module	2 CH per Module
Camera inputs	4	2
4CIF/D1 frame rate	15 ips *	30 ips *
2/3 D1 frame rate	30 ips *	30 ips *
2CIF frame rate	30 ips *	30 ips *
Dual Streaming	Yes	Yes

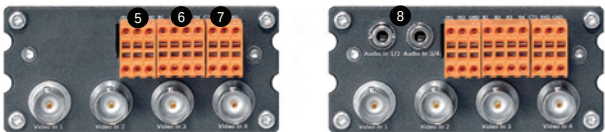
* depending on picture content and movement



Front view

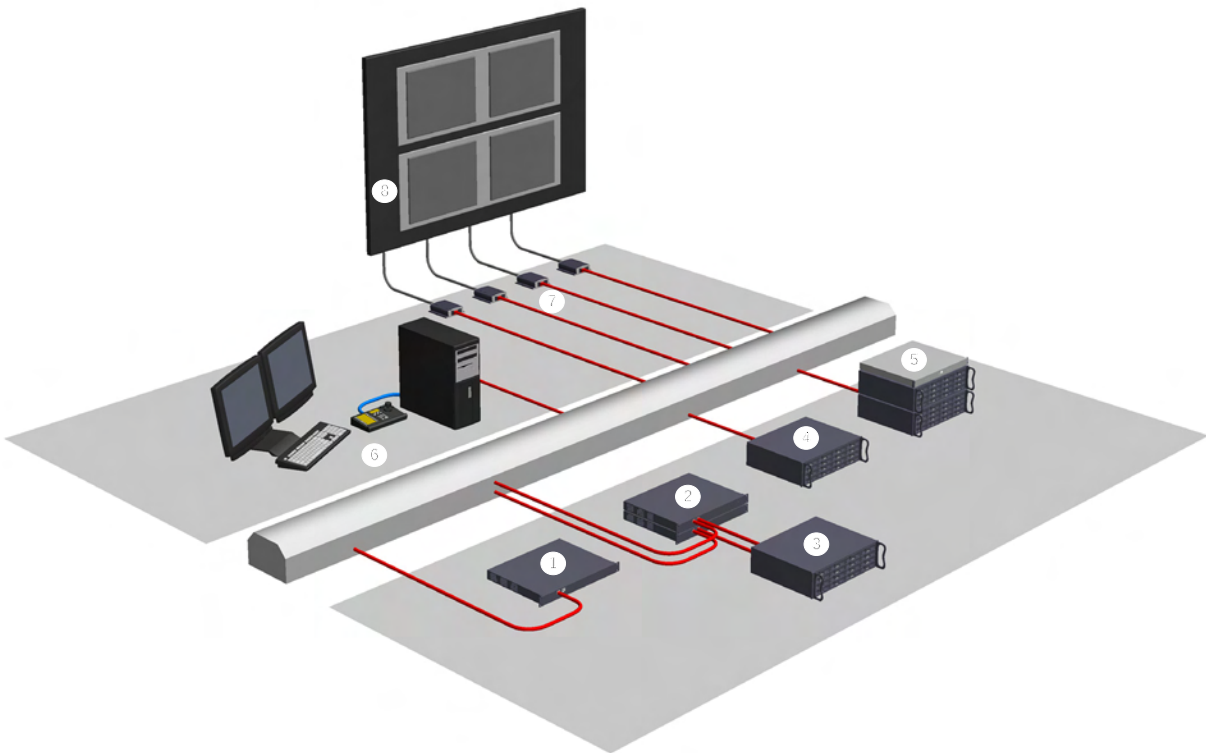


Rear view with 4x video-audio modules



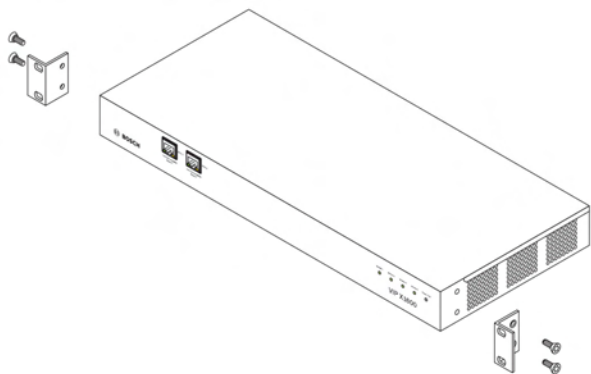
Modules

- 1. 2x redundant 10/100/1000 Base-T Gigabit Ethernet
- 2. 5 status LEDs
- 3. 4 modules, each with 4x video-audio in
- 4. Redundant power supply inputs
- 5. 4x alarm in per module
- 6. 4x relay out per module
- 7. COM port (RS232/485) per module
- 8. Line-level stereo audio jack per 2 channels (video-audio module only)

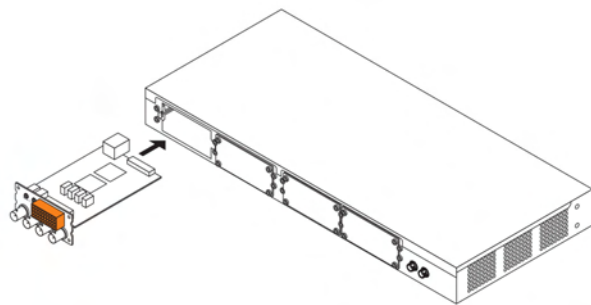


- 1 - 16 analog Cameras. Network-attached iSCSI storage or Local RAM Recording or Streaming only
- 2 - 2x 16 analog Cameras
- 3 - Direct-attached iSCSI RAID5
- 4 - Network-attached iSCSI RAID5

- 5 - NVR Server with SCSI connection to very large RAID5 Disk Arrays > 12 TByte
- 6 - Management Station with IntuiKey
- 7 - Decoders
- 8 - Monitors



VIP X1600 rack mounting accessories



VIP X1600 module assembly

Parts Included

VIP X1600 Base

Quantity	Component
1	VIP X1600 Base System
1	Quick Installation Guide
1	CD ROM with software and documentation
	Mounting material
	Modules and power supply not included, must be ordered separately

VIP X1600 Module

Quantity	Component
1	VIP X1600 Module
1	Quick Installation Guide
	Mounting material

VIP X1600 stand-alone Power Supply

Quantity	Component
1	Power supply for VIP X1600, includes cables, country versions EU/US, UK and AUS available

Technical Specifications

Electrical

Video Compression Standards	MPEG-4; JPEG
Video Data Rate	9.6 kbps - 6 Mbps per channel
Video Resolution	704 x 576/480 (4CIF/D1: 12,5/15 ips) 704 x 288/240 (2CIF: 25/30 ips) 464 x 576/480 (2/3 D1: 25/30 ips) 352 x 576/480 (1/2 D1: 25/30 ips) 352 x 288/240 (CIF: 25/30 ips) 176 x 144/120 (QCIF: 25/30 ips)
GOP Structure	I, IP
Overall Delay	120 ms
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V2, IGMP V3, ICMP, ARP, SNMP (V1/V2c/V3 MIB-II)
RAM Recording	32MB total, 8MB per channel
Software Update	Flash ROM, remote programmable
Configuration	Configuration Manager or web browser
Ethernet	Dual port 10/100/1000 Base-T, auto-sensing, half/full duplex, RJ45

Module Interfaces

Video In	4x analog composite: NTSC/PAL; BNC connector 75 Ohm switchable, 0.7 - 1.2 Vp-p
Alarm In	4x (non-isolated closure contact type), max. activation resistance 10 Ohm, 6 position spring clamp contacts
Relay Out	4x, 30 Vp-p, 2 A, 8 position spring clamp contacts
COM Port	1x RS232/422/485, 6 position spring clamp contacts
Audio Modules	
Audio Standard	G.711; 300 Hz - 3.4 kHz
Audio Data Rate	80 kbps
Audio Sampling Rate	8 kHz
Line In	Stereo jack 3.5 mm, 9 kOhm typ., 5.5 Vp-p max.

Mechanical

Dimensions (H*L*W)	44*210*440 mm (17.32*1.73*8,27 in)
Weight	Approx. 4.0 kg (8.4 lb) with 4 modules

Environmental

Input Voltage	12 VDC, redundant (dual inputs)
Power Consumption	Approx. 60 VA, fully equipped
Heat output	205 BTU/h
Operating Temperature	0 °C - +50 °C (+32 °F - +122 °F) ambient temperature
Humidity	20 - 80%, atmospheric humidity (not cond.)

Ordering Information

VIPX1600 Base	VIPX1600
VIP X1600 Base System with 4 module slots FastEthernet backplane, dual power inputs	
VIPX1600M4S	VIPX1600M4S
VIP X1600 4-channel video module, serial I/O, 4 alarm in, 4 relays	
VIPX1600M4SA	VIPX1600M4SA
VIP X1600 4-channel video-audio module, serial I/O, 4 alarm in, 4 relays, 4 audio in	
Accessories	
VIPX1600PS	VIPX1600PS
VIP X1600 stand-alone power supply for EU and USA	
VIPX1600PS-UK	VIPX1600PS-UK
VIP X1600 stand-alone power supply for UK	
Software Options	
VIP-X1600-FS1	VIPX1600FS1
VIP X1600 IVMD 1.0 VCA License per module, valid for all 4 channels	

NWC-0455 Dinion IP Cameras



Features

- ▶ Advanced Color CCD Network Camera
- ▶ DVD-quality up to 25/30 IPS at 4CIF
- ▶ Storage efficient tri-streaming: Dual MPEG-4 and JPEG simultaneously
- ▶ Power over Ethernet (IEEE 802.3af compliant)
- ▶ Hybrid IP camera with analog and Ethernet outputs
- ▶ NightSense for lowlight situations
- ▶ Ultra-compact size

The NWC-0455 Dinion IP is a 1/3-inch CCD digital color network camera, designed to ensure the highest possible image quality at all times. This ultra-compact camera provides DVD-like quality MPEG-4 video at up to 25 and 30 images per second (for PAL and NTSC respectively). Dinion IP is a true hybrid camera with both Ethernet and BNC connections capable of providing direct network connection while simultaneously supporting existing analog equipment. Network video signals are sent over IP networks and can be received and displayed on a PC web browser, using the DiBos or VIDOS video management systems, or via a BOSCH Video over IP (BVIP) decoder for viewing on a CVBS or VGA monitor. The BNC connection provides direct input to a conventional analog matrix switcher or DVR, which further enhances Dinion IP's flexible viewing and recording options.

Dinion IP uses MPEG-4 compression, bandwidth throttling, and multicasting capabilities to efficiently manage bandwidth and storage requirements while delivering the best quality image quality and resolution. On-screen Displays (OSD) simplify back focus adjustment and network configuration, leading to lower installation and support costs. Power over Ethernet (PoE) makes installation easier and more cost-effective because cameras can now be installed where there is no AC power outlet.

Functions

MPEG4 video encoding

The Dinion MPEG-4 encoder creates high-quality streaming video at low bit rates, minimizing bandwidth and storage requirements, which further reduces costs. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.

Tri-streaming Video

Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs. For example, BOSCH Video over IP Systems (BVIP) can be configured to record video at one quality setting (e.g. 3.75IPS at 2CIF), while simultaneously providing live images at the best possible image quality (e.g. 30IPS at 4CIF). Alternatively, the system can be configured to deliver a high bandwidth MPEG-4 stream to a local LAN user, while simultaneously streaming a low bandwidth MPEG-4 stream to a remote user over a WAN connection and at the same time using the JPEG stream for remote viewing, for instance, on a PDA.

Power Options

Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0455. Utilizing PoE makes installation easier and more cost-effective since cameras do not require a local AC power source. Additionally, they can use an uninterruptible power supply (UPS), which will allow for continuous operation even when there's a power failure e.g. in emergencies.

OSD-based network set-up

Network parameters and basic camera set-up (e.g. lens set-up and back focus) are quickly and easily performed using the On-screen Displays (OSD) and BNC composite video output. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

NightSense

NightSense is used to further extend the excellent sensitivity by a factor of 3 in monochrome operation. This mode can be automatically activated under low light conditions.

Certifications and Approvals

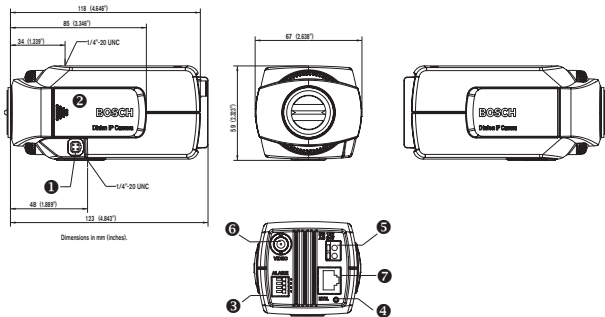
Electro Magnetic Compatibility

Emission EU	EN55022 class B
	EN 61000-3-2, EN 61000-3-3
Emission USA	FCC CFR 47 part 15 class B
Immunity EU	EN50130-4 Alarm Systems
EMC Australian	AS/NZS CISPR 22 (equal to CISPR 22)
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-6

Safety

EU	EN60950-1
USA + Canada	UL60950-1, CAN/CSA E60950-1

Installation/Configuration Notes



Dimensions

1	Lens connector	5	Power supply input
2	Control buttons	6	BNC Video output
3	Alarm in, Relay out	7	10/100 Base-T Fast Ethernet
4	LED (power, link, traffic)		

Parts Included

Quantity	Components
1	Dinion IP camera
1	Spare lens connector
1	Quick installation guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	MPEG-4; M-JPEG
Video Data Rate	9.6 Kbps - 6 Mbps Constant & variable
Image Resolution	752x582 (PAL) 768x494 (NTSC)

Electrical

Video Resolution	704 x 576/480 (4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay (IP)	MPEG-4: 100 ms
Select. Frame Rate	1-25/30 IPS (PAL/NTSC); Field / frame based coding
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP
Software Update	Flash ROM, remote programmable
Configuration	Via web browser, built-in web server interfaces
Video Out	1x Analog composite: NTSC or PAL; BNC connector 75 Ohm
Sensitivity ¹	0.65 lux (0.065 fc) (color) 0.26 lux (0.026 fc) (NightSense)
Minimum Illumination	0.30 lux (0.03 fc) (color) 0.12 lux (0.012 fc) (NightSense)
Video Signal-to-Noise Ratio	50 dB
Video Signal Gain	21 dB, (max)
Electronic Shutter	Automatic, 1/50 to 1/125000 sec. (PAL), 1/60 to 1/150000 sec. (NTSC)
Aperture Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting
White Balance	Automatic sensing (2500 - 9000 K)
Alarm In	+5 V nominal, +40 VDC max
Relay Out	Max. 30 VAC or +40 VDC, Max 0,5 A continuous, 10 VA
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45

1) 50% video signal amplitude, F1.2, scene reflectivity 89%

Environmental

Input Voltage	VDC: 11-36 V (700 mA) VAC: 12-28 V (700 mA) PoE: IEEE 802.3af compliant
Power Consumption	Max. 8 VA
Weight	Approx. 0.45 kg (0.99 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F)
Humidity	20 - 80%, Relative humidity (not condensing)

Ordering Information

NWC-0455-10P Dinion IP Camera 1/3-inch color network camera, PAL, 24 VAC/ 12 VDC/PoE, 50 Hz	NWC-0455-10P
NWC-0455-20P Dinion IP Camera 1/3-inch color network camera, NTSC, 24 VAC / 12 VDC / PoE, 60 Hz	NWC-0455-20P

Software Options

NWC-04X5-FS1 Dinion IP IVMD 1.0 VCA License	NWC04X5FS1
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NWC-0495 DinionXF Day/Night IP Cameras



Features

- ▶ Advanced Day/Night camera with mechanically switching IR filter
- ▶ 15-bit DSP technology with XF-dynamic extended dynamic range
- ▶ DVD-quality up to 25/30 IPS at 4CIF
- ▶ Storage efficient tri-streaming : Dual MPEG-4 and JPEG simultaneously
- ▶ Power over Ethernet (IEEE 802.3af compliant)
- ▶ Hybrid IP camera with analog and Ethernet outputs
- ▶ Ultra-compact size

The NWC-0495 Dinion IP is a high-performance 1/3-inch CCD Day/Night network camera, designed to ensure the highest possible image quality at all times. This ultra-compact camera provides DVD-like quality MPEG-4 video at up to 25 and 30 images per second (for PAL and NTSC respectively). Dinion IP is a true hybrid camera with both Ethernet and BNC connections capable of providing direct network connection while simultaneously supporting existing analog equipment. Network video signals are sent over IP networks and can be received and displayed on a PC web browser, using the DiBos or VIDOS video management systems, or via a BOSCH Video over IP (BVIP) decoder for viewing on a CVBS or VGA monitor. The BNC connection provides direct input to a conventional analog matrix switcher or DVR, which further enhances Dinion IP's flexible viewing and recording options.

The camera combines 15-bit digital video processing (which enhances sensitivity) and XF-Dynamic (which extends the dynamic range) to provide a sharper, more detailed image with outstanding accuracy in color reproduction. Depending on the available light, the NWC-0495 automatically switches from color to monochrome, enhancing sensitivity for IR illumination to provide high-quality images even in challenging low-light conditions.

Dinion IP uses MPEG-4 compression, bandwidth throttling, and multicasting capabilities to efficiently manage bandwidth and storage requirements while delivering the best image quality and resolution. On-screen Displays (OSD) simplify back focus adjustment and network configuration, leading to lower installation and support costs. Power over Ethernet (PoE) makes installation easier and more cost-effective because cameras can now be installed where there is no AC power outlet.

Functions

Day/Night Mode

In Day/Night Mode, the NWC-0495 provides enhanced night viewing by increasing the IR sensitivity. The IR filter can switch automatically from color to monochrome by either sensing the illumination level or via the alarm input. The filter can be switched manually via the alarm input, or remotely via a web browser. An internal, through-the-lens IR detector enhances monochrome mode stability by preventing the camera returning to the color mode when IR illumination is dominant.

XF-Dynamic

The highly accurate 15-bit digital signal is automatically processed to reveal every detail of the image in both the high-light and low-light areas of the scene simultaneously.

Video Motion Detection

The built-in video motion detector allows you to select up to four fully programmable areas with individual thresholds. The global scene change detector minimizes false alarms caused by sudden changes in lighting conditions, such as switching on or off the security lighting.

MPEG-4 Video Encoding

The Dinion MPEG-4 encoder creates high-quality streaming video at low bit rates, minimizing bandwidth and storage requirements, which further reduces costs. Each Dinion IP camera can deliver up to 25 and 30 images per second (PAL and NTSC) at true 4CIF video resolution.

Tri-streaming Video

Dinion IP cameras can generate two separate MPEG-4 video streams and one JPEG stream simultaneously. This advanced tri-streaming capability, not typically found in other IP CCTV systems, enables the user to tune live viewing and recording requirements to meet specific site and enterprise needs. For example, BOSCH Video over IP Systems (BVIP) can be configured to record video at one quality setting (e.g. 3.75IPS at 2CIF), while simultaneously providing live images at the best possible image quality (e.g. 30IPS at 4CIF). Alternatively, the system can be configured to deliver a high bandwidth MPEG-4 stream to a local LAN user, while simultaneously streaming a low bandwidth MPEG-4 stream to a remote user over a WAN connection and at the same time using the JPEG stream for remote viewing, for instance, on a PDA.

Power Options

Three power options, PoE, 24 VAC and 12 VDC, are available on the NWC-0495. Utilizing PoE makes installation easier and more cost-effective since cameras do not require a local AC power source. Additionally, they can use an uninterruptible power supply (UPS), which will allow for continuous operation even when there’s a power failure e.g. in emergencies.

OSD-based Network Set-up

Network parameters and basic camera set-up (e.g. lens set-up and back focus) are quickly and easily performed using the On-screen Displays (OSD) and BNC composite video output. Unlike other IP cameras, no network connection, PC configuration utilities or other tools are required to set up Dinion IP.

Lens Wizard

The Lens Wizard automatically detects the lens type and helps focus the lens at the maximum opening to ensure proper focus is maintained throughout the 24-hour cycle. No special tools or filters are required.

Certifications and Approvals

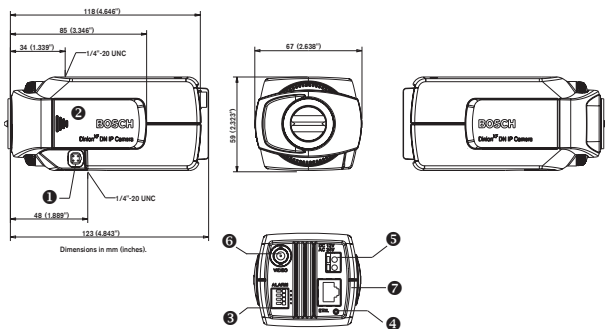
Electro Magnetic Compatibility

Emission EU	EN55022 class B
	EN 61000-3-2, EN 61000-3-3
Emission USA	FCC CFR 47 part 15 class B
Immunity EU	EN50130-4 Alarm Systems
EMC Australian	AS/NZS CISPR 22 (equal to CISPR 22)
Vibration	Camera with 500 gr (1.1 lbs) lens according to IEC60068-2-6

Safety

EU	EN60950-1
USA + Canada	UL60950-1, CAN/CSA E60950-1

Installation/Configuration Notes



Dimensions

1	Lens connector	5	Power supply input
2	Control buttons	6	BNC Video output
3	Alarm in, Relay out	7	10/100 Base-T Fast Ethernet
4	LED (power, link, traffic)		

Parts Included

Quantity	Components
1	Dinion IP camera
1	Spare lens connector
1	Quick installation guide
1	CD-ROM with manual

Technical Specifications

Electrical

Video Standards	MPEG-4; M-JPEG
Video Data Rate	9.6 Kbps - 6 Mbps Constant & variable
Imager resolution	752x582 (PAL) 768x494 (NTSC)
Video resolution	704 x 576/480 (4CIF: 25/30 IPS) 704 x 288/240 (2CIF: 25/30 IPS) 352 x 576/480 (Half D1: 25/30 IPS) 352 x 288/240 (CIF: 25/30 IPS) 176 x 144/120 (QCIF: 25/30 IPS)
GOP Structure	I, IP
Overall Delay (IP)	MPEG-4: 100 ms
Select. Frame Rate	1-25/30 IPS (PAL/NTSC); Field / frame based coding
Network Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMPv2/v3, ICMP
Software Update	Flash ROM, remote programmable
Configuration	Via web browser, built-in web server interfaces
Video out	1x Analog composite: NTSC or PAL; BNC connector 75 Ohm
Sensitivity ¹	0.59 lux (0.059 fc) (color) 0.08 lux (0.008 fc) (Night mode)
Min Illumination	0.24 lux (0.024 fc) (color) 0.038 lux (0.0038 fc) (Night mode)
Min Illumination with SensUp	0.024 lux (0.0024 fc) (color) 0.0038 lux (0.00038 fc) (Night mode)
Shutter	Auto (1/60 (1/50) to 1/500000), fixed, flickerless, default
Sensitivity up	Off, Automatic continuous up to 10x
Auto Black	On, Off selectable
Range	32x dynamic range enhancement
Dynamic Noise Reduction	Auto, Off selectable
Contour	Sharpness enhancement level selectable
BLC	Off, Area and Level selectable
Gain	Auto (maximum level selectable to 28 dB) or fixed level selectable
Lens Mount	CS (max lens protrusion 5 mm, 0.2 inch)
White Balance	ATW (2500 - 10000 K), AWB hold, Manual WB selectable
VMD	4 area, sensitivity selectable
Alarm In	+5 V nominal, +40 VDC max
Relay Out	max. 30 VAC or +40 VDC, Max 0.5 A continuous, 10 VA
Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ-45

1) 50% video signal amplitude, F1.2, scene reflectivity 89%

Environmental

Input Voltage	VDC: 11-36 V (700 mA)
	VAC: 12-28 V (700 mA)
	PoE: IEEE 802.3af compliant
Power Consumption	Max. 8 VA
Weight	Approx. 0.45 kg (0.99 lb)
Operating Temperature	0°C - 40°C (32°F - 104°F)

Ordering Information

NWC-0495-10P DinionXF Day/Night IP Camera 1/3-inch, high performance, 24 VAC / 12 VDC / PoE, 50 Hz	NWC-0495-10P
NWC-0495-20P DinionXF Day/Night IP Camera 1/3-inch, high performance, 24 VAC / 12 VDC/ PoE, 60 Hz	NWC-0495-20P
Software Options	
NWC-04X5-FS1 Dinion IP IVMD 1.0 VCA License	NWC04X5FS1

VIDOS Video Management System



Features

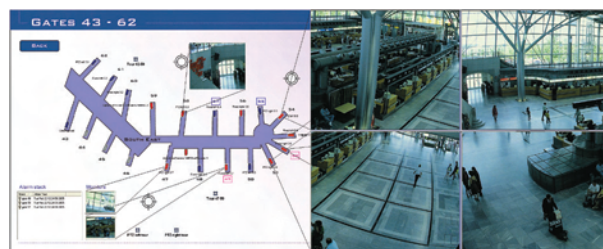
- ▶ All-in-one video management centre solution
- ▶ Analog monitor support
- ▶ Database-driven system management
- ▶ Extensive alarm handling
- ▶ Automated guard tours

VIDOS Installation Package

This installation provides a powerful and fully customizable video management system. It installs VIDOS, the VIDOS Archive Player & Exporter, the Configuration Manager and the necessary software environment as a 30-day trial version. The installation can then be licensed according to the application's requirements and configured to run as a stand-alone workstation or to work as a client for VIDOS Server.

Exporter in VIDOS Archive Player, VIDOS Automation Interface and VIDOS Intuikey Integration require separate licenses.

Together with the other powerful components in the VIDOS Pro Software Suite including VIDOS Lite Viewer and VIDOS Monitor Wall applications, this installation package with VIDOS, VIDOS Archive Player & Exporter and the Configuration Manager is ideally suited to CCTV applications of any scale. Built-in scripting and application programmer's interfaces (APIs), like the Automation Interface to remotely control VIDOS, allow for easy integration with, or the enhancement of existing security solutions.



VIDOS

VIDOS is a unique and powerful video surveillance and alarm management software product that enables security and surveillance professionals to perform sophisticated tasks with ease. Based on the intuitive graphical concept of site-maps, VIDOS puts the operator firmly in control of the world around him.

VIDOS is fully customizable, allowing you to run your CCTV system the way you want to and keeping training down to a minimum. Additionally, CCTV keyboard integration enables the operator to control all devices, alarms and even sitemaps in the same way as controlling a conventional system.

VIDOS integrates with all existing peripheral equipment like dome cameras and analog monitors. With its sophisticated touring and patrolling functions, automatic recording tasks and comprehensive archive features VIDOS offers functionality and performance unprecedented in CCTV applications.

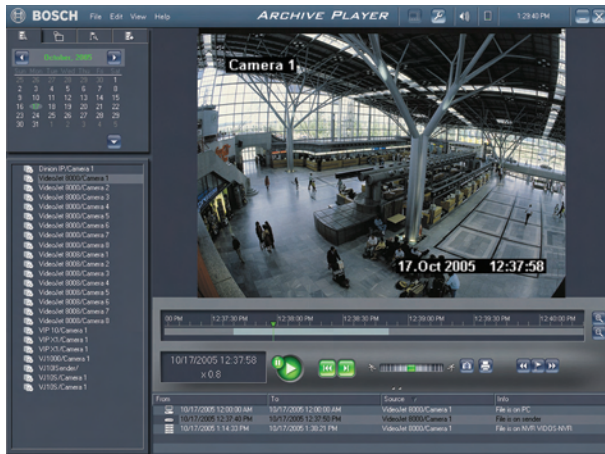
As part of the VIDOS Pro Software Suite, VIDOS may act as a client in combination with VIDOS Server enabling centralized management and control. This enables an administrator to set different authorization levels for groups of users, which in turn controls VIDOS client privileges for live viewing, PTZ, recording and retrieval.

In smaller applications, where only a few users, authorisation levels, privileges and priorities are required, it may act as a full-blown video management system solution in itself, controlling an unlimited number of cameras.

VIDOS is available as software only, supporting 16, 32, 64 or an unlimited number of cameras and monitors. There is also a choice of two pre-configured hardware solutions for easiest and fastest integration.

VIDOS Archive Player & Exporter

VIDOS Archive Player & Exporter, part of the VIDOS Pro Video Management Software Suite, allows operators to very easily search and playback pre-recorded video and events and export them for subsequent use. The software allows operators to replay from any VideoJet, NVR or local hard disc, search for video sequences and bookmarks and simply export sequences



VIDOS Archive Player & Exporter presents a quick and easy to use interface that is designed to accelerate the process of browsing available recordings and uses intuitive time and calendar features to home in on specific events and bookmarks. By instantaneously switching between replay and export screens the search time is further minimized. All search results are tracked in concise lists that can easily be processed for export to other storage media. With the integrated Direct-Burn function, the export files can be directly written to CD (assuming a CD-RW drive is attached).

As part of the VIDOS Pro Software Suite, VIDEOS Archive Player & Exporter can be used in combination with VIDOS Server which offers centralized management and control. This enables an administrator to set user privileges, and their right to access cameras and recordings via VIDEOS Archive Player & Exporter.

VIDOS Automation Interface

The VIDOS Automation Interface provides remote control and supervision via a socket interface. It resembles a „programmer's style“ ASCII string command interface for video and audio switching, to control digital I/O and alarms, to control workspace and for event subscription and delivery. The VIDOS Automation Interface provides two basic mechanisms: one for issuing synchronous commands and one for receiving event information. To ensure authenticity the external controller needs to login with username and password.

Access to the automation interface must be explicitly enabled and is password protectable.



1 External controller

VIDOS IntuiKey Integration

Use the ergonomic advances of the Bosch IntuiKey CCTV keyboard for full control of networked surveillance. Almost all VIDOS functions are accessible without the need for mouse or PC keyboard access of the operator, bringing the traditional matrix input device to a new level of experience.

Ease the migration from the analogue to the digital world by switching cameras and monitors via the keypad. Control the pan, tilt and zoom positions via the joystick and use the camera menu for accessing all auxiliary AutoDome functions. Direct keys are available for recalling camera presets and acknowledging alarms. Four direct menu keys provide quick access to functions for user authentication, recording and snapshots, sitemap navigation, camera menus and replay control.

The Bosch IntuiKey unique custom programmable softkey feature enables up to six fully programmable softkeys per sitemap for guided map navigation and device control.



Technical Specifications

Minimum System Requirements

Hardware	Personal Computer or MAC
CPU	Pentium V, 3.0 GHz or better
Hard Disk Interface	IDE or better
RAM	MB
OS	Windows XP Home/XP Professional
Graphic Card	NVIDIA GeForce 6600 NVIDIA Quadro FX 1400 ATI RADEON X600/X800 or better
Ethernet Card	1000 Mb
Sound Card	Yes please
Software	DirectX 8.0c
Free Memory (Installation)	120 MB (.NET environment, VIDOS, VIDOS Archive Player, Configuration Manager)

Software Features

VIDOS

Tree View	User configurable, Explorer style resource tree
Display	Drag and drop connection control User definable video windows Built-in electronic zoom function Simultaneous viewing of several video streams Full screen mode viewing On-screen or in picture PTZ camera control Multiple, user definable workspaces Window snap organizer Addition of multiple external monitors JPEG snapshot overview of all connected devices
Scan Network	Autoscan function over the complete network JPEG snapshot overview of all devices Remote upload of devices via LAN/WAN Scan result copy to a clipboard by one mouse click
Site Map	Built-in site map editor Background bitmap graphics

Software Features

	User definable symbols with programmable functions, e.g. Hyperlinks Fully scalable and movable software monitors External hardware monitor support Automatic camera activation on alarm
Configuration	User groups and privileges Device properties Device COMs for remote camera control Preset camera sequences (Salvos)
Trigger and Alarm	Logical trigger creation Scheduler Alarm stack log Programmable alarm triggered jobs Integrated alarm testing Action plans for alarm handling
Recording	Recording configuration in encoders Simultaneous recording of video, audio and transparent data Scheduled and alarm recording Ring recording function per camera Synchronous playback of multiple cameras JPEG snapshot
NVR (option)	Full Network Video Recording functionality and advanced recording features by implementation of VIDOS-NVR modules (see respective data sheet)

VIDOS Archive Player

Tree View	User configurable resource tree
Replay	From VIP/VideoJet devices, NVR and local hard disc Calendar and time range search function Bookmark setting and search function Built-in digital zoom function Dynamic timeline Trick mode replay Full screen mode JPEG snapshot with direct print function
Export (option)	Simultaneous export of video and audio of multiple recordings Direct burn on CD
Configuration	Through Configuration Manager

Ordering Information

VIDOSPRODEMO VIDOS Pro Demo Package	VIDOSPRODEMO
VIDOS Pro Trial versions inclusive printed documentation and CD	
VIDOS16CH VIDOS 16 Channels	VIDOS16CH
VIDOS stand-alone license for 16 channels	
VIDOS32CH VIDOS 32 channels	VIDOS32CH
VIDOS stand-alone license for 32 channels	
VIDOS64CH VIDOS 64 channels	VIDOS64CH
VIDOS stand-alone license for 64 channels	
VIDOSUNLIM VIDOS unlimited channels	VIDOSUNLIM
VIDOS stand-alone license for unlimited no. of channels	
VIDOS16CH-5P VIDOS 16 chan. 5-pack	VIDOS16CH-5P
VIDOS stand-alone license for 16 channels	

Ordering Information

VIDOS32CH-5P VIDOS 32 chan. 5-pack VIDOS stand-alone license for 32 channels	VIDOS32CH-5P
VIDOS64CH-5P VIDOS 64 chan. 5-pack VIDOS stand-alone license for 64 channels	VIDOS64CH-5P
VIDOSUNLIM-5P VIDOS unlimited 5-pack VIDOS stand-alone license for unlimited no. of channels	VIDOSUNLIM-5P
VIDOS16CH-10P VIDOS 16 chan. 10-pack VIDOS stand-alone for 16 channels	VIDOS16CH-10P
VIDOS32CH-10P VIDOS 32 chan. 10-pack VIDOS stand-alone license for 32 channels	VIDOS32CH-10P
VIDOS64CH-10P VIDOS 64 chan. 10-pack VIDOS stand-alone license for 64 channels	VIDOS64CH-10P
VIDOSUNLIM-10P VIDOS unlimited 10-pack VIDOS stand-alone license for unlimited no. of channels	VIDOSUNLIM-10P
VIDOSCL VIDOS Client License VIDOS Client License per PC w/o cameras	VIDOSCL
VIDOSCL-5P VIDOS Client 5-pack VIDOS Client License per PC w/o cameras 5-pack	VIDOSCL-5P
VIDOSCL-10P VIDOS Client 10-pack VIDOS Client License per PC w/o cameras 10-pack	VIDOSCL-10P
VIDOSAPEXPT VIDOS AP Export Tool VIDOS Archive Player License for Export Tool per PC	VIDOSAPEXPT
VIDOSAPEXPT-5P VIDOS AP Export 5-pack VIDOS Archive Player License for Export Tool per PC 5-pack	VIDOSAPEXPT-5P
VIDOSAPEXPT-10P VIDOS AP Export 10-pack VIDOS Archive Player License for Export Tool per PC 10-pack	VIDOSAPEXPT-10P
VIDOSKBD VIDOS Keyboard License VIDOS IntuiKey Keyboard License per keyboard	VIDOSKBD
VIDOSKBD-5P VIDOS KBD License 5-pack VIDOS IntuiKey Keyboard License per keyboard 5-pack	VIDOSKBD-5P
VIDOSKBD-10P VIDOS KBD License 10-pack VIDOS IntuiKey Keyboard License per keyboard 10-pack	VIDOSKBD-10P
VIDOSAUTO VIDOS Automation IF VIDOS Automation Interface License per VIDOS PC	VIDOSAUTO
VIDOSAUTO-5P VIDOS Autom. IF 5-pack VIDOS Automation Interface License per VIDOS PC 5-pack	VIDOSAUTO-5P
VIDOSAUTO-10P VIDOS Autom. IF 10-pack VIDOS Automation Interface License per VIDOS PC 10-pack	VIDOSAUTO-10P
Accessories	
VIDOS PC2 3506/D Preconfigured VIDOS station – PC workstation (Windows XP) with 128 Mb Graphic card, excluding VIDOS SW	VIDOSPC23506/D
VIDOS PC2 3506/UK Preconfigured VIDOS station - PC workstation (Windows XP) with 128 Mb Graphic card, excluding VIDOS SW	VIDOSPC23506/UK

VIDOS Monitor Wall



Features

- ▶ Employ huge plasma screens in your surveillance center
- ▶ View multiple live cameras on a monitor wall
- ▶ Multi-channel decoder with single or dual-screen
- ▶ Configurable window layout
- ▶ Compatible with VIDOS 3.0
- ▶ Compatible with all VIP and VideoJet encoders
- ▶ Multicasting

The VIDOS Monitor Wall is a part of the VIDOS Pro Software Suite and is the easiest way to view many cameras on state-of-the-art monitor walls. They are the modern-day replacement for the familiar rows of analog CRT CCTV monitors and they bring very specific benefits. Because the VIDOS Monitor Wall is a digital software solution, it is not constrained by analog monitor dimensions. Instead it will easily drive the most massive to the tiniest displays, including flat panel plasma displays that are becoming so popular in both Network and Security Operations Centers. All the video is delivered by the award-winning high performance VIP and VideoJet MPEG-2 and MPEG-4 encoders.

The VIDOS Monitor Wall can be used in combination with VIDOS 3.0 to enhance display capabilities especially for large control centers. Used with VIDOS Server, which allows centralized management and control, an administrator is able to define user groups and associated privileges which is the basis for VIDOS 3.0 client access to live viewing, PTZ control, recording and retrieval, and eventual presentation on the VIDOS Monitor Wall.

Together with the powerful tools of the VIDOS Pro Software Suite like the Configuration Manager, VIDOS 3.0, VIDOS Lite Viewer and VIDOS Archive Player and Exporter applications it is ideally suited for CCTV applications of any scale.

Depending on the performance of the PC and its graphic adapter, the VIDOS Monitor Wall can run a single or dual screen with different screen layouts, reaching from full screen to 5x5 view on both screens. With VIDOS and scripts using the Automation Interface, the screen layout can even be switched if e.g. an alarm scenario requires a different view.



The VIDOS Monitor Wall is available as software only to be installed on any high-performance PC of your choice, but for added convenience there is also a choice of pre-configured hardware solutions.

Technical Specifications

System Requirements

Hardware	Personal Computer
CPU	Pentium IV, 1.8 GHz or better
Hard Disk Interface	IDE or better
RAM	256 MB
OS	Windows XP Home/XP Professional
Graphic Card	NVIDIA GeForce FX 5700 Ultra, FX 5900 Ultra or FX 5950 Ultra, Matrox Parhelia, ATI RADEON 8500, 9500, 9800 or similar (needs to be selected carefully to meet the application's demand)
Ethernet Card	100 Mb
Sound Card	Recommended
Software	DirectX 9.0
Free Memory (Inst.)	45 MB (.NET environment, MPEG ActiveX, VIDOS Monitor Wall, Configuration Manager)

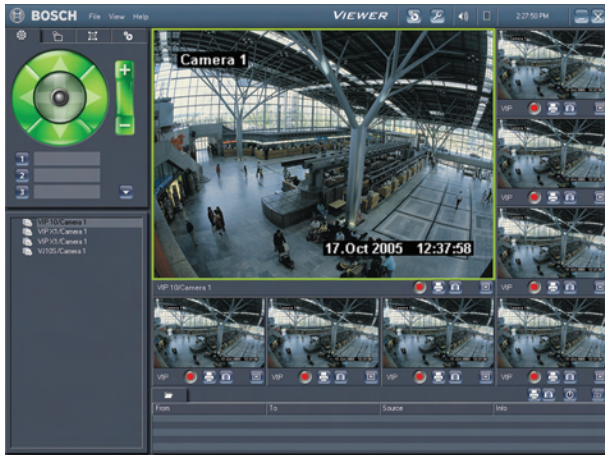
Software Features

Display	Single or Dual Screen
	Configurable windows
	Simultaneous viewing of multiple video streams (Performance will vary according to the video compression settings of each stream and the nature of the scene.)
Configuration	Through Configuration Manager
	Automatically through VIDOS

Ordering Information

VIDOSMW VIDOS Monitor Wall License	VIDOSMW
to view many cameras on state-of-the-art monitor screens	
VIDOSMW-5P VIDOS Monitor Wall License	VIDOSMW-5P
5-pack	
VIDOSMW-10P VIDOS Monitor Wall License	VIDOSMW-10P
10-pack	

VIDOS Lite Installation Package



Features

- ▶ Live viewing of multiple cameras
- ▶ Local recording and snapshots
- ▶ PTZ, lens and MUX control
- ▶ Digital Zoom
- ▶ Automated guard tours (Salvos)
- ▶ Instant replay from VideoJet local recording
- ▶ Playback from VideoJet, NVR and local hard disc
- ▶ Camera and event search
- ▶ Trick mode playback
- ▶ Digital Zoom
- ▶ Export from VideoJet, NVR and local hard disc
- ▶ Direct burn of CD with status and progress display
- ▶ Multicasting
- ▶ Available with preconfigured hardware

VIDOS Lite Installation Package

This installation package provides an easy and intuitively to use video management workstation. It installs VIDOS Lite Viewer, the VIDOS Archive Player & Exporter, the Configuration Manager and the necessary software environment. The installation can then be licensed according to the application's requirements and configured to run as a stand-alone workstation or to work as a client for VIDOS Server.

Together with the other powerful components in the VIDOS Pro Software Suite including VIDOS, VIDOS Server and VIDOS Monitor Wall applications, this installation package with VIDOS Lite, VIDOS Archive Player & Exporter and the Configuration Manager is ideally suited to CCTV applications of small to medium scale.

VIDOS Lite Viewer

VIDOS Lite Viewer is an easy-to-handle, entry-level application that enables an operator to control professional security and surveillance systems with the ease of a mouse click. With its intuitive graphical user interface, controlling cameras is as simple as drag and drop. For instant use, the video window layout can be selected from pre-defined settings and quickly changed on-the-fly according to the situation's need.

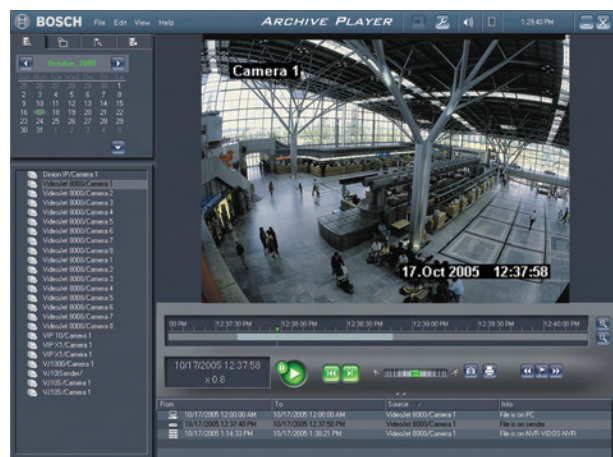
VIDOS Lite Viewer integrates with all existing peripheral equipment like dome cameras and multiplexers. With its sophisticated touring and patrolling functions, recording and archive features VIDOS Lite Viewer is offering far more than simple viewing.

Every camera can be recorded locally on the PC hard drive for later replay with the VIDOS Archive Player which is seamlessly integrated. Also snapshots can be stored from any camera at any time.

In remote viewing applications, VIDOS Lite Viewer provides easy access through its built-in ISDN support. Regardless of where the camera resides, viewing it is as simple as a mouse click.

VIDOS Archive Player & Exporter

VIDOS Archive Player & Exporter enable operators to very easily search and playback pre-recorded video and events and export them for subsequent use. The software allows operators to replay from any VideoJet, NVR or local hard disc, search for video sequences, bookmarks and simply export sequences.



VIDOS Archive Player & Exporter present a quick and easy to use interface that is designed to accelerate the process of browsing available recordings and uses intuitive time and calendar features to home in on specific events and bookmarks. By instantaneously switching between replay and export screens the search time is further minimized. All search results are tracked in concise lists that can easily be processed for export to other storage media. With the integrated Direct-Burn function, the export files can be directly written to CD (assuming a CD-RW drive is attached).

As part of the VIDOS Pro Software Suite, a VIDOS Lite installation, including VIDOS Lite Viewer and VIDOS Archive Player & Exporter, can serve as a lite viewing client in combination with VIDOS Server which allows centralized management and control. This enables an administrator to set different authorization levels for users, cameras, monitors and alarms that are the basis for VIDOS Lite Viewer client and VIDOS Archive Player access to live viewing, PTZ control, recording and retrieval.

VIDOS Lite Viewer is available as software only, supporting 8, 16, 32 or 64 cameras. VIDOS Archive Player does not need a license except for its Exporter function. Optionally for added convenience there is also a choice of two pre-configured hardware solutions.

Technical Specifications

System Requirements

Hardware	Personal Computer
CPU	Pentium IV, 1.8 GHz or better
Hard Disk Interface	IDE or better
RAM	256 MB
OS	Windows XP Home/XP Professional
Graphic Card	NVIDIA GeForce FX 5700 Ultra, FX 5900 Ultra or FX 5950 Ultra, Matrox Parhelia, ATI RADEON 8500, 9500, 9800 or similar
Ethernet Card	100 Mb
Sound Card	Recommended
Software	DirectX 9.0
Free Memory (Inst.)	45 MB (.net environment, MPEG ActiveX, Lite Viewer, without Archive Player and Configuration Manager)

Software Features

VIDOS Lite Viewer

Tree View	User configurable resource tree
Display	Connection control by drag & drop
	User selectable video windows
	Built-in digital zoom function
	Simultaneous viewing of several video streams
	Full screen mode viewing
	On-screen or in picture p/t camera control dialog
Configuration	Through Configuration Manager
	Up to 3 levels of camera groups

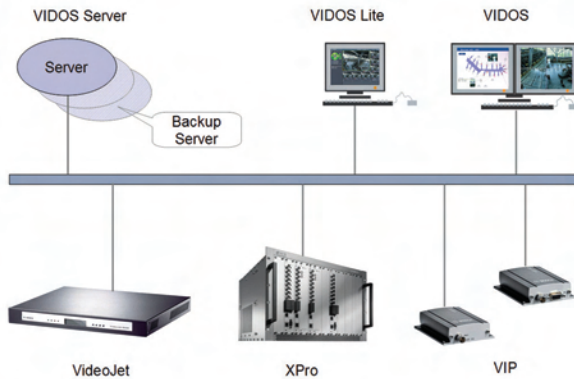
Software Features

	Settings of devices
	Programming of preset camera sequences (Salvos)
Recording	JPEG snapshots
	Simultaneous recording of video and audio of multiple cameras
VIDOS Archive Player	
Tree View	User configurable resource tree
Replay	From VIP/VideoJet devices, NVR and local hard disc
	Calendar and time range search function
	Bookmark setting and search function
	Built-in digital zoom function
	Dynamic timeline
	Trick mode replay
	Full screen mode
	JPEG snapshot with direct print function
Export	Simultaneous export of video and audio of multiple recordings
	Direct burn on CD
Configuration	Through Configuration Manager

Ordering Information

VIDOSLV8CAM VIDOS Lite Viewer 8 cam	VIDOSLV8CAM
VIDOS Lite Viewer with license for 8 cameras	
VIDOSLV16CAM VIDOS Lite Viewer 16 cam	VIDOSLV16CAM
VIDOS Lite Viewer with license for 16 cameras	
VIDOSLV32CAM VIDOS Lite Viewer 32 cam	VIDOSLV32CAM
VIDOS Lite Viewer with license for 32 cameras	
VIDOSLV64CAM VIDOS Lite Viewer 64 cam	VIDOSLV64CAM
VIDOS Lite Viewer with license for 64 cameras	
VIDOSLVCL VIDOS LV Client License	VIDOSLVCL
VIDOS Lite Viewer with Client License per PC w/o cameras	
VIDOSLVCL-5P VIDOS LV Client 5-pack	VIDOSLVCL-5P
VIDOS Lite Viewer with Client License per PC w/o cameras 5-pack	
VIDOSLVCL-10P VIDOS LV Client 10-pack	VIDOSLVCL-10P
VIDOS Lite Viewer with Client License per PC w/o cameras 10-pack	
VIDOSAPEXPT VIDOS AP Export Tool	VIDOSAPEXPT
VIDOS Archive Player License for Export Tool per PC	
VIDOSAPEXPT-5P VIDOS AP Export 5-pack	VIDOSAPEXPT-5P
VIDOS Archive Player License for Export Tool per PC 5-pack	
VIDOSAPEXPT-10P VIDOS AP Export 10-pack	VIDOSAPEXPT-10P
VIDOS Archive Player License for Export Tool per PC 10-pack	

VIDOS Server

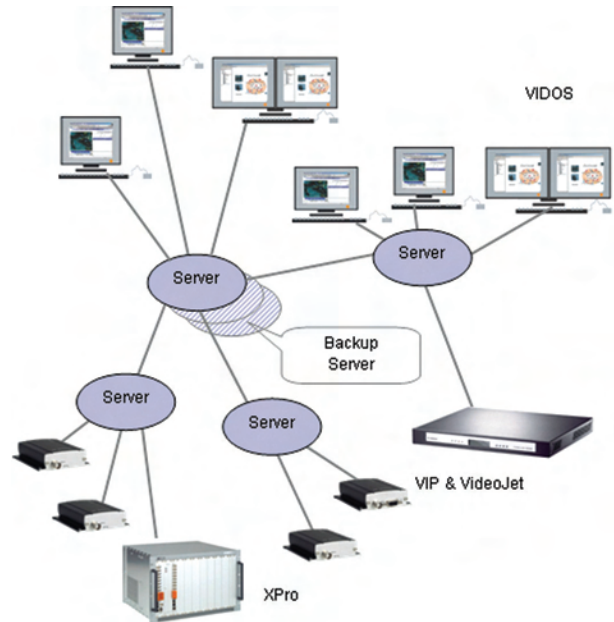


Features

- ▶ Unlimited number of users
- ▶ User management with 32 user groups
- ▶ Device Access Control
 - Privileges (static)
 - Priorities (dynamic)
- ▶ Hierarchical server structure
- ▶ Up to two backup servers per server
- ▶ Standard database access
- ▶ Event logging and management

VIDOS Server is the powerful heart for professional IP security, video surveillance and alarm management solutions. In combination with VIDOS clients, it enables users to manage and operate complex client/server applications. VIDOS Server ensures that these mission critical applications use full server redundancy to maintain extremely high levels of reliability.

As part of the VIDOS Pro Software Suite, VIDOS Server allows centralized management and control in a hierarchical structure. This enables an administrator to set different authorisation levels or privileges for user groups that are the basis for all VIDOS clients and users for access to configuration, live viewing, PTZ control, recording and retrieval.



A VIDOS Server can be configured to be master server and/or user server, which has the purpose to provide a single central location for all users and user groups. Both configuration types may be backed-up by other servers configured as backup servers.

A VIDOS Server can also have connections to other master servers, thus enabling CCTV system designers to create complex, far-reaching and redundant surveillance networks with still a unique configuration throughout the system.

Together with the other powerful components in the VIDOS Pro Software Suite, including the Configuration Manager, VIDOS, VIDOS Lite Viewer, Archive Player and Exporter and VIDOS Monitor Wall applications, it is ideally suited for CCTV applications of any scale.

VIDOS Server is available as software that can be licensed to support a virtually unlimited number of users. It can be installed on a VIDOS client workstation and, depending on the performance required, run in the background of VIDOS client, or on a stand-alone server. For added convenience there is also a choice of pre-configured hardware solutions.

Technical Specifications

System Requirements

Hardware	Personal Computer
CPU	Pentium IV, 1.8 GHz or better
Hard Disk Interface	IDE or better
RAM	256 MB
OS	Windows XP Home/XP Professional Windows 2000 SP3 Windows 2003

System Requirements

Ethernet Card	100 Mb
Free Memory (Inst.)	75 MB (VIDOS Server, Configuration Manager, .NET environment, MPEG ActiveX)

Software Features

User Management	32 user groups Unlimited numbers of users Priorities of each user group (dynamic access rights)
Device Management	List of devices that belong to this server Privileges per camera for each user group (static access rights) User Group privileges can be set to Live viewing View and PTZ control Override No Access
Structure	Hierarchical structure with connections to multiple other master servers Central user server to get user groups and users from Up to 2 backup servers per master or user server
Configuration	Through Configuration Manager

Ordering Information

VIDOSPRODEMO VIDOS Pro Demo Package VIDOS Pro Trial versions inclusive printed documentation and CD	VIDOSPRODEMO
VIDOSSRV10CAM VIDOS Server Base Pack VIDOS Server Base Pack with 10 Cameras License	VIDOSSRV10CAM
VIDOSSRV-5P VIDOS Server Base Pack 5-pack VIDOS Server License Base Pack with 10 Cameras License 5-pack	VIDOSSRV-5P
VIDOSSRV-10P VIDOS Server Base Pack 10-pack VIDOS Server License Base Pack with 10 Cameras License 10-pack	VIDOSSRV-10P
VIDOSSRVBK VIDOS Backup Server VIDOS Backup Server License	VIDOSSRVBK
VIDOSSRVBK-5P VIDOS Backup SRV 5-pack VIDOS Backup Server License 5-pack	VIDOSSRVBK-5P
VIDOSSRVBK-10P VIDOS Backup SRV 10-pack VIDOS Backup Server License 10-pack	VIDOSSRVBK-10P
VIDOS SRV 16 CAM UPGR VIDOS Server Upgrade License by 16 Cameras	VIDOS SRV 16 CAM UPGR
VIDOS SRV 50 CAM UPGR VIDOS Server Upgrade License by 50 Cameras	VIDOSSRV50CAM
VIDOS SRV 100 CAM UPGR VIDOS Server Upgrade License by 100 Cameras	VIDOSSRVCAML100
VIDOS SRV 250 CAM UPGR VIDOS Server Upgrade License by 250 Cameras	VIDOSSRVCAML250
VIDOS SRV 500 CAM UPGR VIDOS Server Upgrade License by 500 Cameras	VIDOSSRVCAML500

VIDOS-NVR Server S



Features

- ▶ Supports latest Intel® Xeon™ chipset with 1 MB cache, Hyper-Threading Technology and Intel® Extended Memory 64 Technology (EM64T)
- ▶ Intel® High Performance Chipset with 800 MHz FSB
- ▶ 1GB ECC DDR2 SDRAM with 400 MHz
- ▶ Expandability through additional PCI slots
- ▶ Single embedded Intel® Gigabit Ethernet
- ▶ 650 Watts power supply
- ▶ independent system hard drive
- ▶ up to 1 TB of internal storage (based on 4x 250GB hard drives)

The VIDOS-NVR Server S is a pre-configured server system optimized for small applications where redundant storage and data safety are not a high priority. Designed as the entry-level server platform for the VIDOS-NVR software, the Server S provides data throughput performance equivalent to the large rack-mount VIDOS-NVR server. And because its licensing mechanism is the same as other VIDOS-NVR servers, the Server S can record up to 64 channels on up to 4 hard drives to provide a maximum storage capacity of 1 TeraByte.

The VIDOS-NVR Server S uses the latest Intel® Xeon™ processors and an Intel chipset to provide processing speeds of up to 800MHz. It offers 1 GB of memory for reliable application performance, and its DDR-2 memory ensures high-quality data transmissions and future expandability. Plus, the VIDOS-NVR Server S PCI architecture delivers next generation I/O throughput to handle future high throughput peripherals.

The VIDOS-NVR Server S provides a wide range of configuration options. It features an embedded Network Interface Controller and single channel SCSI for further configuration flexibility. It can be managed remotely from any SNMP management system. And the tool-less chassis along with rear access to power supplies makes the VIDOS-NVR Server S easy to service, which lowers maintenance costs and ensures less downtime.

Designed for budget-friendly performance, the VIDOS-NVR Server S helps reduce Total Cost of Ownership.

Installation/Configuration Notes



VIDOS NVR-Server Small rear view

	NVRPCL	NVRPCS
Max cameras	64	64
External Storage	Yes	No
Internal Storage	No	Yes
RAID 5 Capability	Yes	No
Chassis Type	Rack	Tower

Parts Included

Quantity	Component
1	VIDOS-NVR Server S tower system
1	Microsoft® Windows® Server 2003 Web Edition
1	DVD-ROM drive inside
1	localized power supply cord
1	localized standard Windows® Keyboard
1	USB mouse

Technical Specifications

Electrical

Processor	3.0GHz , 800MHz front side bus, 1MB L2 cache
-----------	--

Electrical

Front Side Bus	800MHz
Chipset	Intel E7520
Memory	DDR-2 400 SDRAM
I/O Channels	Six total: two PCI Express™ slots (1 x 8 lane and 1 x 4 lane); two PCI-X® slots (64-bit/100MHz); one PCI (32-bit/33MHz, 5v) one PCI (64-bit/66MHz)
RAID Controller	CERC SATA 6ch
Internal Disks	40GB S-ATA HDD for OS
Internal Storage	250/500/750/1000 GB disks for video storage
Power	675 W hot-plug redundant power supply
Video	Embedded ATI Radeon 7000-M with 16 MB SDRAM
Operating Systems	Microsoft® Windows® Server 2003 Web Edition
Network Interface Card	Single embedded Intel 10/100/1000 Gigabit

Mechanical

Dimensions	
Form Factor	5U Tower
Tower with Bezel and feet extended	45.0 x 32.9 x 57.41 cm (17.7 x 12.9 x 22.6 inch)
Rack with Bezel	21.8 x 48.02 cm (8.6 x 18.9 inch) with rack mounts or 43.5 x 57.41 cm (17.1 x 22.6 inch) without rack mounts
Weight	34.5 kg (76 lb), maximum configuration
Complies With	FCC (U.S. only) Class B ICES (Canada) Class B CE Mark (EN 55022 Class B, EN55024, EN61000-3-2, EN61000-3-3) VCCI (Japan) Class B BSMI (Taiwan) Class A C-Tick (Australia/New Zealand) Class B SABS (South Africa) Class B CCC (China) Class B MIC (Korea) Class B UL 60950 CAN/CSA C22.2 No. 60950 EN 60950 IEC 60950
Operating Temperature	10° C to 35° C (50° F to 95° F)
Storage Temperature	-40° C to 65° C (-40° F to 149° F)

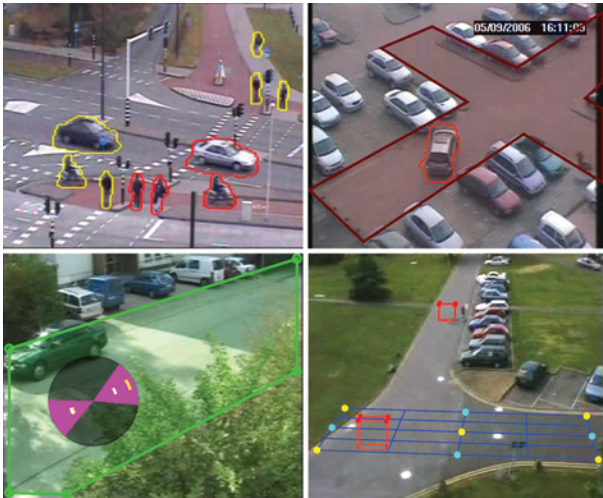
Ordering Information

NVRPCS 3520/DE	NVRPCS3520/DE
NVR SERVER S 250GB DE, Tower version, German OS	
NVRPCS 3521/DE	NVRPCS3521/DE
NVR SERVER S 500GB DE, Tower version, German OS	
NVRPCS 3522/DE	NVRPCS3522/DE
NVR SERVER S 750GB DE, Tower version, German OS	

Ordering Information

NVRPCS 3523/DE	NVRPCS3523/DE
NVR SERVER S 1000GB DE, Tower version, German OS	
NVRPCS 3530/UK	NVRPCS3530/UK
NVR SERVER S 250GB UK, Tower version, English OS	
NVRPCS 3531/UK	NVRPCS3531/UK
NVR SERVER S 500GB UK, Tower version, English OS	
NVRPCS 3532/UK	NVRPCS3532/UK
NVR SERVER S 750GB UK, Tower version, English OS	
NVRPCS 3533/UK	NVRPCS3533/UK
NVR SERVER S 1000GB UK, Tower version, English OS	
NVRPCS 3540/US	NVRPCS3540/US
NVR SERVER S 250GB US, Tower version, English OS	
NVRPCS 3541/US	NVRPCS3541/US
NVR SERVER S 500GB US, Tower version, English OS	
NVRPCS 3542/US	NVRPCS3542/US
NVR SERVER S 750GB US, Tower version, English OS	
NVRPCS 3543/US	NVRPCS3543/US
NVR SERVER S 1000GB US, Tower version, English OS	

IVMD 1.0 Intelligent Video Motion Detection



Features

- ▶ Intelligent digital video motion detector
- ▶ Detects, tracks and stores motion objects
- ▶ Automatic self-adaptation to changing environmental conditions
- ▶ Maximizes detection rate and reduces unwanted alarms
- ▶ Intuitive graphical interface for fast, effective set up
- ▶ Licensable option for Dinion IP cameras, VIP X1 / X2 and VIP X1600

Whenever you need reliable video motion detection for indoor or outdoor use, the Bosch IVMD 1.0, incorporated in Bosch IP Network Video products, is the system of choice.

IVMD 1.0 is an intelligent digital video motion detector that uses advanced video content analysis to reliably detect moving objects, while suppressing unwanted alarms from spurious sources in the image. The algorithm intelligently adapts to changing lighting and environmental conditions such as rain, snow and leaves blowing in the wind.

IVMD 1.0 can easily be configured to select the required sensitive areas of the image, the minimum object size and the motion direction that triggers an alarm, so that it only detects the important moving objects in a scene. Configuration is done by the Configuration Manager with its intuitive plug-in that provides all the necessary tools, including a 3-D grid for camera calibration. A graphical display allows the sensitive area, size, speed and perspective for objects, and movement direction to be simply superimposed on the image.

Once movement has been detected, the object is outlined in yellow on the display and motion is tracked on the monitor. If an object and its motion match the conditions defined for one of the 16 detector fields, it creates an alarm and switches the outlines to red.

The alarm condition can be signaled by means of a standard relay output on the unit or created by an alarm connection to stream video to a receiver. Alarms can also be transmitted to a video management system, like VIDOS, to start extended alarm scenarios.

Functions

- Licensable option for advanced VCA feature for all VIP X units and Dinion IP cameras
- Robust motion detection
- Background learning algorithm from Bosch's own research group
- Up to 16 independent detector fields for alarm generation
- Detects objects entering or leaving an area (detector field) or loitering within an area
- Object size, speed and direction filters used to create specific detection rules
- Built-in tamper monitoring detects camera hooding/masking, blinding, defocusing and repositioning

Configuration

- Simple and intuitive via the graphical user interface
- Flexible selection of sensitive areas
- Single or multiple detector fields
- Perspective correction using 3-D grid set up
- Camera calibration for more accurate metric or imperial measures
- Size and speed filter
- Two-way motion direction filter
- Statistics for fine tuning object filters

Installation/Configuration Notes

The software functionality of IVMD 1.0 is part of the firmware release 2.0 and above for the products that IVMD 1.0 is available for. It only needs to be licensed to make it operational.

Set-up of IVMD 1.0 is achieved using the Configuration Manager that is included on the product's CD. It is also available for download via the Bosch website.

The Configuration Manager can be installed as often as required on any PC that shall be used for configuration of the IVMD 1.0 and the products themselves.

Video content analysis may require up to 40% of the available calculation power, which reduces video encoding performance. Proper encoder settings, however, should compensate for any performance reductions.

Parts Included

Quantity	Component
1	Configuration Instructions (English)
1	License authorization code

Ordering Information

Software Options

NWC-04X5-FS1 Dinion IP IVMD 1.0 VCA License	NWC04X5FS1
VIP-X2-FS1 VIP X2 IVMD 1.0 VCA License, valid for 2 channels	VIPX2FS1
VIP-X1600-FS1 VIP X1600 IVMD 1.0 VCA License per module, valid for all 4 channels	VIPX1600FS1

Observation Systems

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VSS7390 / VS7390 Series 4-input Color Switcher System



Features

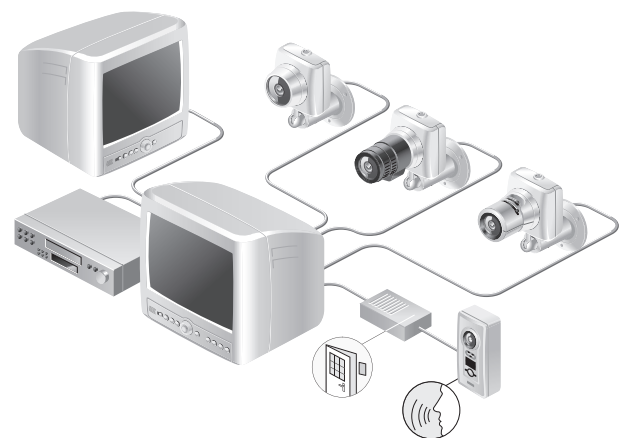
- Color for better recognition and identification
- Full-screen observation with up to four cameras
- Picture in picture for viewing second camera
- Intuitive user interface for trouble free installation and operation

The Eazeo switchers have inputs for up to four cameras and provide an all-in-one solution for observation in small- to medium-sized businesses such as retail stores. The monitor displays sequential full-screen images, and any camera image can be manually selected. The picture in picture feature allows a second camera or sequence to be simultaneously viewed.

The switcher also features alarm handling for which dedicated accessories are available. Alarms triggered by external sensors or built-in video motion detection will automatically pop up the corresponding camera. A system based on the switcher is expandable to include intercom facilities with remote door opening. An optional remote control unit is available to operate the monitor. Eazeo is backed by a three-year warranty and an advanced replacement program. A helpdesk is available for your assistance.

For a full product overview see “Your guide to observation”.

Installation/Configuration Notes



Color Observation System

Technical Specifications

Switcher VSS7390 (PAL) / VS7390 (NTSC)

Picture Tube	14-inch (13-inch viewable)
Resolution	320 TVL (PAL) / 290 TVL (NTSC)
TV Standard	PAL: 625 lines, 50 Hz, 2:1
Supply Voltage	100 - 240 VAC +/-10%, 50 / 60 Hz
Power Consumption	<75 W max. (without cameras)
Camera Power Supply	24 to 32 VDC, short-circuit protected
System Synchronization	Monitor locks to the mains Cameras lock to H and V of the monitor
Camera Inputs	4, system interface
Slave Monitor Output	1, system interface
Audio	1-way, from cameras 2-way with optional intercom unit
Microphone Sensitivity	46 dB SPL @ 1 kHz
Audio Speaker	500 mW rated, 1000 mW max.
Frequency Range	300 Hz - 3 kHz
Alarm Output	Relay, NO/NC contact (4-pole connector block) Contact rating 24 VAC or DC, 2 A
Aux/VCR In/Out	BNC for video (1 Vpp, input impedance 75 Ohm) RCA for audio (0.5 Vpp, input impedance 10 kOhm)
System Cable	4-wire dual twisted pair 1 twist/inch, loop resistances max 16 Ohm at 100 m (300 ft)
Max. Cable Length	200 m (300 m with interface box) 600 m (900 ft. with interface box)
Weight	Approx. 9.5 kg (21 lbs)
Dimensions (H x W x D)	325 x 364 x 368 mm (14.3 x 12.8 x 14.4 inch)
Operating Temperature	+5°C ...+45°C (41°F...113°F)
Storage Temperature	-25°C ...+70°C (-13°F...158°F)

Ordering Information

VSS7390/11T Color Switcher System 14-inch monitor, PAL, 4 input switcher with one camera VCM7C130/00T, 240 VAC, 50 Hz	VSS7390/11T
VSS7390/21T Color Switcher System 14-inch monitor, PAL, 4 input switcher with one camera VCM7C230/00T, 240 VAC, 50 Hz	VSS7390/21T
VSS7390/31T Color Switcher System 14-inch monitor, PAL, 4 input switcher with one camera VCM7C272/00T, 240 VAC, 50 Hz	VSS7390/31T
VSS7390/41T Color Switcher System 14-inch monitor, PAL, 4 input switcher with one minidome camera VCM7D130/00T, 240 VAC, 50Hz	VSS7390/41T
VSS7390/11U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one camera VCM7C130/00T, 240 VAC, 50 Hz	VSS7390/11U
VSS7390/21U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one camera VCM7C230/00T, 240 VAC, 50 Hz	VSS7390/21U
VSS7390/31U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one camera VCM7C272/00T, 240 VAC, 50 Hz	VSS7390/31U
VSS7390/41U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one minidome camera VCM7D130/00T, 240 VAC, 50 Hz	VSS7390/41U
VS7390/11T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C1305T, 120 VAC, 60 Hz	VS7390/11T
VS7390/21T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C2305T, 120 VAC, 60 Hz	VS7390/21T
VS7390/31T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C2725T, 120 VAC, 60 Hz	VS7390/31T
VS7390/41T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one minidome camera VC7D1305T, 120 VAC, 60 Hz	VS7390/41T

Accessories

VCM7C130/00T, Eazeo Digital Color Camera 1/4-inch with 3 mm integrated lens, PAL	VCM7C130/00T
VCM7D130/00T, Eazeo Digital Color Camera 1/4-inch minidome camera with 3 mm integrated lens, PAL	VCM7D130/00T
VCM7C230/00T, Eazeo Digital Color Camera 1/4-inch with 3-6 mm varifocal integrated lens, PAL	VCM7C230/00T
VCM7C272/00T, Eazeo Digital Color Camera 1/4-inch with 2.8-10 mm varifocal, DC-iris, CS-mount lens, PAL	VCM7C272/00T
VCM7C275/00T, Eazeo Digital Color Camera 1/4-inch with 5-50 mm varifocal, DC-iris, CS-mount lens, PAL	VCM7C275/00T
VCM7H272/00T, Eazeo Digital Color Camera 1/4-inch outdoor camera assembly, includes VCM7C272/00T camera and VCM1353/00T housing, PAL	VCM7H272/00T

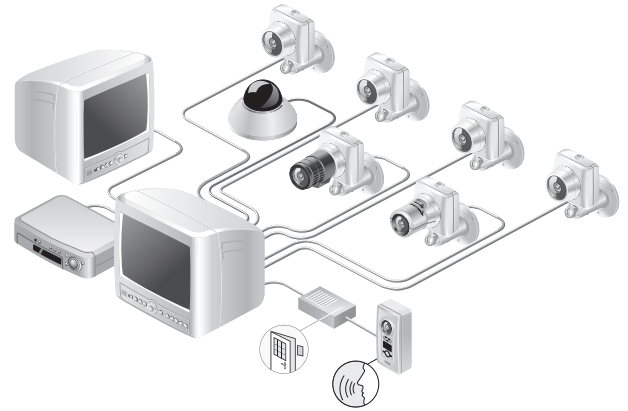
Ordering Information

VCM9736/10T, Eazeo Digital Color Camera Covert color camera in PIR housing, PAL	VCM9736/10T
VCM9736/11T, Eazeo Digital Color Camera Covert color camera in smoke detector housing, PAL	VCM9736/11T
VCM7B272/00T, Eazeo Digital B/W Camera 1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, CCIR (for use with color observation system)	VCM7B272/00T
VSS7902/00T Alarm / Action Box For detectors and door locks, PAL	VSS7902/00T
VSS7915/00T Outdoor Video Intercom unit Signal TP cable, 4-pole RJ11E, 24 VDC, PAL	VSS7915/00T
VC7C1305T, Eazeo Digital Color Camera 1/4-inch with integrated 3 mm fixed lens, NTSC	VC7C1305T
VC7D1305T, Eazeo Digital Color Camera 1/4-inch, minidome with integrated 3 mm fixed lens, NTSC	VC7D1305T
VC7C2305T, Eazeo Digital Color Camera 1/4-inch with 3-6 mm varifocal integrated lens, NTSC	VC7C2305T
VC7C2725T, Eazeo Digital Color Camera 1/4-inch with 2.8-10 mm varifocal, DC-iris CS-mount lens, NTSC	VC7C2725T
VC7C2755T, Eazeo Digital Color Camera 1/4-inch with 5-50 mm varifocal, DC-iris CS-mount lens, NTSC	VC7C2755T
VC7H2725T, Eazeo Digital Color Camera 1/4-inch outdoor camera assembly, includes VC7C2725T camera and VCM1353/00T housing, NTSC	VCM7H2725T
VC973650T, Eazeo Digital Color Camera Covert color camera in PIR housing, NTSC	VC973650T
VC973651T, Eazeo Digital Color Camera Covert color camera in smoke detector housing, NTSC	VC973651T
VC7B2725T, Eazeo Digital B/W Camera 1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, EIA (for use with color observation system)	VC7B2725T
VS79155T Outdoor Video Intercom unit Signal TP cable, 4-pole RJ11E, 24 VDC, NTSC	VS79155T
RC283511/01 IR Remote Control For color observation systems, PAL/NTSC	RC283511/01

VSS8394 / VS8394 Series 8-input Color Multiplexer System



Installation/Configuration Notes



Color Observation System

Features

- ▶ Integrated full-duplex eight camera multiplexer
- ▶ Multi-screen viewing with simultaneous full-screen recording of all cameras
- ▶ Real-time quad mode
- ▶ Motion detection with event replay
- ▶ Intuitive user interface for trouble free installation and operation
- ▶ Optimized for recording applications

The Eazeo multiplexer has inputs for up to eight cameras and is an all-in-one solution for observation in small- to medium-sized businesses such as retail stores. The monitor displays images in various screen formats, including full-screen, four cameras in real-time quad (2x2) and eight cameras in a 3x3 matrix. All eight images can be recorded in full-screen format using an analog or Digital Video Recorder.

The multiplexer also accommodates intercom facilities (with snapshot feature for viewing visitors) and remote door opening plus alarm handling for which dedicated accessories are available. Alarms triggered by external sensors or the built-in video motion detection will automatically pop up the corresponding camera. On an alarm, the event replay will display crucial pre- and post-alarm images. An optional remote control unit is available to operate the monitor. Eazeo is backed by a three-year warranty and an advanced replacement program. A helpdesk is available for your assistance.

For a full product overview see "Your guide to observation".

Technical Specifications

Multiplexer VSS8394/10T (PAL) / VS8394 (NTSC)

Picture Tube	14-inch (13-inch viewable)
Resolution	320 TVL (PAL) / 290 TVL (NTSC)
TV Standard	PAL: 625 lines, 50 Hz, 2:1 NTSC: 525 lines, 60 Hz, 2:1
Supply Voltage	100-240 VAC +/-10%, 50/60 Hz
Power Consumption	<90 W max. (without cameras)
Camera Power Supply	24 to 32 VDC, short-circuit protected
System Synchronization	Monitor locks to the mains Cameras lock to H and V of the monitor
Camera Inputs	8, system interface
Slave Monitor Output	1, system interface
Audio	1-way, from cameras 2-way with optional intercom unit
Microphone Sensitivity	46 dB SPL @ 1 kHz
Audio Speaker	500 mW rated, 1000 mW max.
Frequency Range	300 Hz - 3 kHz
Alarm Output	Relay, NO/NC contact (4-pole connector block) Contact rating 24 VAC or DC, 2 A
Aux/VCR In/Out	BNC for video (1 Vpp, input impedance 75 ohm) RCA for audio (0.5 Vpp, input impedance 10 kOhm) Vext. input (input for camera switch pulse from recorder)
System Cable	4-wire dual twisted pair 1 twist/inch, loop resistances max 16 Ohm at 100 m (300 ft)
Max. Cable Length	200 m (300 m with interface box) 600 m (900 ft. with interface box)
Weight	Approx. 9.5 kg (21 lbs)
Dimensions	325 x 364 x 368 mm (14.3 x 12.8 x 14.4 inch)
Operating Temp.	+5°C ... +45°C (41°F ... 113°F)
Storage Temp.	-25°C ... +70°C (-13°F ... 158°F)
Ambient Humidity	5% to 95% RH

Ordering Information

VSS8394/10T Color Multiplexer System 14-inch monitor, PAL, 8 input Multiplexer, 240 VAC, 50 Hz. (without camera)	VSS8394/10T
VSS8394/14T Color Multiplexer System 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz.	VSS8394/14T
VSS8394/34T Color Multiplexer System 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C272/00T, 240 VAC, 50 Hz.	VSS8394/34T
VSS8394/44T Color Multiplexer System 14-inch monitor, PAL, 8 input multiplexer with four minidome cameras VCM7D130/00T, 240 VAC, 50 Hz.	VSS8394/44T
VSS8394/74D Color Multiplexer System 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz. + Eazeo DVR1B1161	VSS8394/74D
VSS8394/10U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input Multiplexer, 240 VAC, 50 Hz. (without camera)	VSS8394/10U
VSS8394/14U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz.	VSS8394/14U
VSS8394/34U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C272/00T, 240 VAC, 50 Hz	VSS8394/34U
VSS8394/44U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four minidome cameras VCM7D130/00T, 240 VAC, 50 Hz	VSS8394/44U
VSS8394/74U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz. + Eazeo DVR1B1161	VSS8394/74U
VS8394/11T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C1305T, 120 VAC, 60 Hz	VS8394/11T
VS8394/21T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C2305T, 120 VAC, 60 Hz	VS8394/21T
VS8394/31T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C2725T, 120 VAC, 60 Hz	VS8394/31T
VS8394/41T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7D1305T, 120 VAC, 60 Hz	VS8394/41T
VS8394/14T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C1305T, 120 VAC, 60 Hz	VS8394/14T
VS8394/34T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C2725T, 120 VAC, 60 Hz	VS8394/34T
VS8394/44T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7D1305T, 120 VAC, 60 Hz	VS8394/44T
VS8394/74D Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C1305T, 120 VAC, 60 Hz + Eazeo DVR1B1161	VS8394/74D

Ordering Information**Accessories**

VCM7C130/00T, Eazeo Digital Color Camera 1/4-inch with 3 mm integrated lens, PAL	VCM7C130/00T
VCM7D130/00T, Eazeo Digital Color Camera 1/4-inch minidome camera with 3 mm integrated lens, PAL	VCM7D130/00T
VCM7C230/00T, Eazeo Digital Color Camera 1/4-inch with 3-6 mm varifocal integrated lens, PAL	VCM7C230/00T
VCM7C272/00T, Eazeo Digital Color Camera 1/4-inch with 2.8-10 mm varifocal, DC-iris, CS-mount lens, PAL	VCM7C272/00T
VCM7C275/00T, Eazeo Digital Color Camera 1/4-inch with 5-50 mm varifocal, DC-iris, CS-mount lens, PAL	VCM7C275/00T
VCM7H272/00T, Eazeo Digital Color Camera 1/4-inch outdoor camera assembly, includes VCM7C272/00T camera and VCM1353/00T housing, PAL	VCM7H272/00T
VCM9736/10T, Eazeo Digital Color Camera Covert color camera in PIR housing, PAL	VCM9736/10T
VCM9736/11T, Eazeo Digital Color Camera Covert color camera in smoke detector housing, PAL	VCM9736/11T
VCM7B272/00T, Eazeo Digital B/W Camera 1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, CCIR (for use with color observation system)	VCM7B272/00T
VSS7902/00T Alarm / Action Box For detectors and door locks, PAL	VSS7902/00T
VSS7915/00T Outdoor Video Intercom unit Signal TP cable, 4-pole RJ11E, 24 VDC, PAL	VSS7915/00T
VC7C1305T, Eazeo Digital Color Camera 1/4-inch with integrated 3 mm fixed lens, NTSC	VC7C1305T
VC7D1305T, Eazeo Digital Color Camera 1/4-inch, minidome with integrated 3 mm fixed lens, NTSC	VC7D1305T
VC7C2305T, Eazeo Digital Color Camera 1/4-inch with 3-6 mm varifocal integrated lens, NTSC	VC7C2305T
VC7C2725T, Eazeo Digital Color Camera 1/4-inch with 2.8-10 mm varifocal, DC-iris CS-mount lens, NTSC	VC7C2725T
VC7C2755T, Eazeo Digital Color Camera 1/4-inch with 5-50 mm varifocal, DC-iris CS-mount lens, NTSC	VC7C2755T
VC7H2725T, Eazeo Digital Color Camera 1/4-inch outdoor camera assembly, includes VC7C2725T camera and VCM1353/00T housing, NTSC	VCM7H2725T
VC973650T, Eazeo Digital Color Camera Covert color camera in PIR housing, NTSC	VC973650T
VC973651T, Eazeo Digital Color Camera Covert color camera in smoke detector housing, NTSC	VC973651T
VC7B2725T, Eazeo Digital B/W Camera 1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, EIA (for use with color observation system)	VC7B2725T
VS79155T Outdoor Video Intercom unit Signal TP cable, 4-pole RJ11E, 24 VDC, NTSC	VS79155T
RC283511/01 IR Remote Control For color observation systems, PAL/NTSC	RC283511/01

VSS7915/00T and VS79155T

Eazeo Outdoor Video Intercom



Features

- ▶ Color camera and two-way voice communication
- ▶ Doorbell button with microphone activation and backlit nameplate
- ▶ Additional separate alarm/action box to control external devices
- ▶ Surface- or flush-mounting
- ▶ Weatherproof, vandal-resistant, dust- and water-resistant (IP54)
- ▶ Simple, single-cable (dual twisted pair) connection

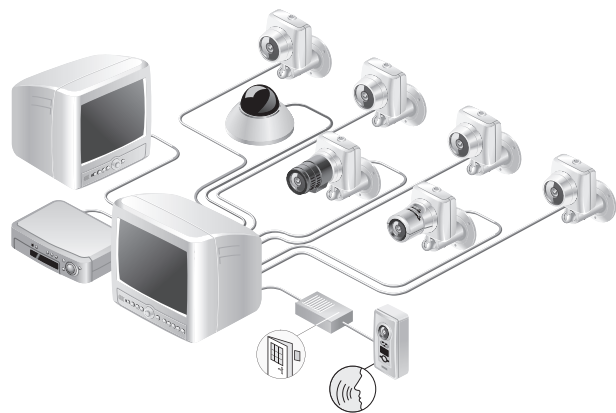
This compact, attractively designed outdoor video intercom unit provides a convenient solution to the need for visual identification of visitors with simultaneous two-way voice communication. Both color camera and microphone/loudspeaker are integrated in a single unit which can be surface- or flush-mounted in a convenient position near to the door or other entry point.

The tri-color LED gives a clear indication of the intercom status: green for stand-by, orange when the doorbell button is pressed and the microphone is activated, and red when the talk button at the monitor side is pressed and the loudspeaker is activated. Additionally available is a separate alarm/action box which allows opening of external units such as doors and barriers or interfacing to an external alarm sensor.

Installation is quick and easy, with a single dual twisted pair cable carrying power, communication and video/audio signals connecting the outdoor video intercom with the Eazeo system monitor.

For a full product overview see “Your guide to observation”.

Installation/Configuration Notes



Color Observation System

Technical Specifications

Electrical	
Power Supply	24 VDC via dual twisted-pair system cable
Power Consumption	<3.5 W
System Connection	Signal TP cable, 4-pole RJ11E (video, audio, power, communication)
Intercom	
Two-Way Audio	Baseband audio 300 Hz - 3 kHz
Loudspeaker	Polycarbonate membrane, impedance 50 Ohm, max. output power 180 mW
Microphone	Integrated with loudspeaker, sensitivity 76 ±2 dB, 0.1 W/m, impedance 50 Ohm
Doorbell	On front of unit. Activates microphone and camera when pressed
Camera	
Sensor	1/4-inch color CCD
Number of Pixels	500 (H) x 582 (V) interlaced (PAL) 510 (H) x 492 (V) interlaced (NTSC)
Horizontal Resolution	320 TVL
Light Sensitivity	<2 lux (50 IRE, 100% scene reflection)
Lens Type	3 mm fixed focus lens, f 2.0
AGC Range	Automatic
Electrical Shutter Range	1/50 to 1/100,000 sec.
Backlight Compensation	Weighting window in center of picture Window size 33 - 40% of picture height
White Balance	Automatic, 2500 to 9000K
Environmental	
Operational Temperature	-20°C ...+50°C (-4°F ...+122°F)
Storage Temperature	-25°C ...+70°C (-13°F ...+158°F)
Operational Humidity	20 to 95%
Storage Humidity	0 to 95%
Dimensions	80 x 163 x 65 mm (3.1 x 6.4 x 2.5 in)
Weight	0.51 kg (1.12 lbs.)

Ordering Information

VSS7915/00T Outdoor Video Intercom unit	VSS7915/00T
Signal TP cable, 4-pole RJ11E, 24 VDC, PAL	
VS79155T Outdoor Video Intercom unit	VS79155T
Signal TP cable, 4-pole RJ11E, 24 VDC, NTSC	

DVR1B1161 Eazeo Digital Video Recorder



Features

- ▶ Superior image and audio quality through digital recording
- ▶ Quick search by date/time, alarm events and recording list
- ▶ Easy jog/shuttle playback control
- ▶ Built-in display
- ▶ Export pictures and clips to Compact Flash cards
- ▶ Uninterrupted recording for one week or longer
- ▶ Remote viewing of recordings and live pictures via Web browser

The Eazeo Digital Video Recorder (DVR1B1161) brings advanced recording and playback technology to the Eazeo color observation system. The DVR allows uninterrupted recording in either continuous or time-lapse modes for as long as a week or more. There are no video tapes to change and store, and frequent, costly VCR maintenance is eliminated.

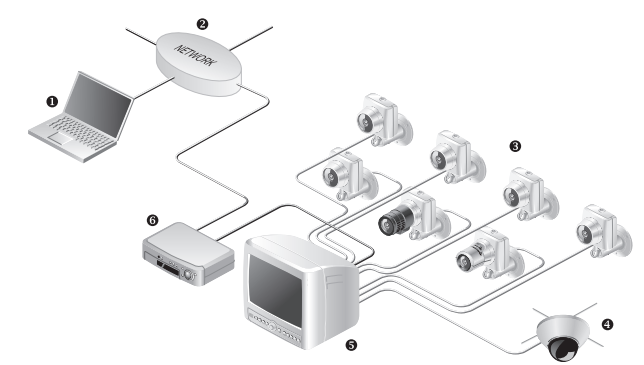
Digital technology allows any desired events to be retrieved and viewed virtually instantly, with a choice of easy-to-use search methods. Pictures and clips can be exported to Compact Flash media using the built-in card slot, allowing convenient storage and viewing on a PC.

Operation is easy and intuitive, with simple VCR-like controls and a clear on-screen menu for setup and timer functions. Specific security features include automatic pre- and post-alarm record modes, alarm input and output connections and multi-level password protection for viewing and setup functions.

Meeting the need for network integration, the Eazeo DVR has TCP/IP connectivity allowing remote, web-based viewing using a standard web browser. Also provided is an RS-232 interface for remote control.

For a full product overview see “Your guide to observation”.

Installation/Configuration Notes



Color observation system

1	PC	4	Autodome
2	LAN	5	Monitor
3	Cameras	6	Digital Video Recorder

Technical Specifications

Electrical

Video Format	PAL / NTSC
Video Input	1 camera input (BNC), 1 Vpp, 75 Ohm
Video Output	1 video output (BNC) for main monitor, 1 Vpp, 75 Ohm
Video	Compression M-JPEG
Video	Resolution 720 x 576 (PAL)
Video Display	Full display for live and playback
Audio Connectors	2 mono (MIC) inputs, 1.6 Vpp
	2 mono (speaker) outputs, 1.6 Vpp
Alarm Input	Yes
Alarm Output	Yes (max. 24 VDC / 2 ADC)
HDD Storage	160 GB
Recording Mode	Continuous, time-lapse, schedule or event recording
Recording Rate	25 images/sec. (PAL)
	30 images/sec. (NTSC)
Playback Rate	25 images/sec. (PAL)
	30 images/sec. (NTSC)
Playback Search	Date/time, recording list or event(alarm)
Video Loss	Detection Yes
Event Log	Yes
User Interface	Menu-driven
Setup	By on-screen display menu
User Input Device	Front panel keypad, remote control (IR with wired receiver)
Image Export	Built-in Compact Flash slot
Security	Password protection
Power Supply	100 - 240 VAC, 50/60 Hz
Power Consumption	< 40 W
Titles	12-character title generator
Timer	Weekly timer, built-in real time clock
Network Connection	TCP/IP via Ethernet, RJ45 connector
Control Connection	RS-232, 9-pin D-Sub connector
Dimensions (W x H x D)	346 x 88 x 269 mm (13.6 x 3.5 x 10.5 inch)

Electrical

Weight	5.2 kg (11.5 lbs)
Operating Temp.	+0°C to +40°C (+32°F to +104°F)

Ordering Information

DVR1B1161 Eazeo Digital Video Recorder	DVR1B1161
1 camera input (BNC), 1 video output (BNC), PAL / NTSC, 100 – 240 VAC, 50/60 Hz	

VCM7 / VC7 Digital Color and B/W Cameras Series



Features

The digital ‘eyes’ of your observation system

- ▶ Digital color and black and white cameras with superb picture quality
- ▶ Automatic cable length compensation
- ▶ Video motion detection
- ▶ Adjustable field of view
- ▶ Backlight compensation
- ▶ Wide range of camera lens and housing combinations

Focused on optimum security

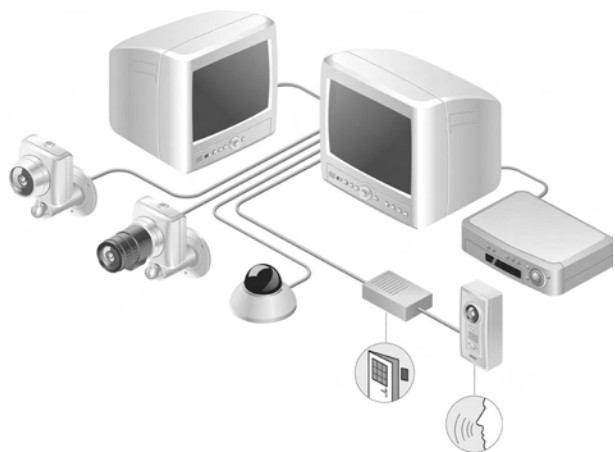
The innovative Eazeo digital color and black and white Cameras deliver superb picture quality thanks to excellent light sensitivity and enhanced color, sharpness and contrast. They are the perfect solution for optimizing identification and recognition in security monitoring.

For indoor applications there is a choice of cameras with integrated lens, integrated varifocal lens and minidome. For outdoor use or aiming at a doorway where light levels may vary, cameras with CS-mount and varifocal DC-iris lenses are available. Varifocal lenses allow the field of view to be adjusted on-site.

These cameras also feature advanced functions like video motion detection (with selectable area and sensitivity) and adjustable field of view. They have automatic backlight and cable length compensation. Connections are made using the system cables supplied. Eazeo cameras are backed by a three-year warranty and an advanced replacement program. A helpdesk is available for your assistance.

For a full product overview see “Your guide to observation”.

Installation/Configuration Notes



Digital cameras for color observation system

Technical Specifications

Digital color observation system cameras	
Sensor	1/4-inch color CCD or B/W CCD
Number of Pixels	500 (H) x 582 (V) for PAL – interlaced 510 (H) x 492 (V) for NTSC – interlaced
Horizontal Resolution	Color: 320 TVL B/W: 380 TVL
Light Sensitivity	Color: < 2 lux, B/W: < 0.2 lux, (50 IRE, 100% scene reflection)
Connection TP	4-pole RJ11E (Video, Audio, Power, Comm.)
Input Voltage	24 VDC
Power Consumption	< 2 W
AGC Range	Automatic
Electronic Shutter Range	1/50 sec. to 1/100,000 sec.
Backlight Compensation	Weighting window in center of picture Window size between 33-40% of picture height
Audio Output	Built-in electret microphone 300 Hz–4 kHz
White Balance	Automatic 2500-9000K (only for color cameras)

Lens Type

PAL	NTSC	
VCM7C130/00T	VC7C1305T	3 mm fixed focal lens, f 2.0
VCM7C230/00T	VC7C2305T	3-6 mm varifocal lens, f 1.2
VCM7C272/00T	VC7C2725T	2.8-10 mm CS-mount varifocal DC-iris lens, f 1.4-360
VCM7C275/00T	VC7C2755T	5-50 mm CS-mount varifocal DC-iris lens, f 1.7-360
VCM7D130/00T	VC7D1305T	3 mm fixed focus lens, f 2.0
CCIR	EIA	
VCM7B272/00T	VC7B2725T	2.8-10 mm CS-mount varifocal DC-iris lens, f 1.4-350

Weight

PAL	NTSC	
VCM7C130/00T	VC7C1305T	approx. 0.25 kg (0.55 lbs.)
VCM7C230/00T	VC7C2305T	approx. 0.25 kg (0.55 lbs.)
VCM7C272/00T	VC7C2725T	approx. 0.25 kg (0.55 lbs.)
VCM7C275/00T	VC7C2755T	approx. 0.34 kg (0.75 lbs.)

VCM7D130/00T	VC7D1305T	approx. 0.31 kg (0.68 lbs.)
CCIR	EIA	
VCM7B272/00T	VC7B2725T	approx. 0.25 kg (0.55 lbs.)

Dimensions (HxWxD)

PAL	NTSC	
VCM7C130/00T	VC7C1305T	74x70x65 mm (2.9x2.8x2.6 in)
VCM7C230/00T	VC7C2305T	74x70x85 mm (2.9x2.8x3.3 in)
VCM7C272/00T	VC7C2725T	74x70x105 mm (2.9x2.8x3.7 in)
VCM7C275/00T	VC7C2755T	74x70x115 mm (2.9x2.8x4.5 in)
VCM7D130/00T	VC7D1305T	Ø 115x80 (H) (4.5x3.1 in)
CCIR	EIA	
VCM7B272/00T	VC7B2725T	74x70x105 mm (2.9x2.8x3.7 in)
Operational Temperature	-10°C ...45°C (14°F ...113°F)	
Storage Temperature	-25°C ...70°C (-13°F ...158°F)	
Relative Humidity	0% to 95% RH (Non-condensing)	
Add-ons	Cable 15 m (45 ft.) (4-wire dual twisted pair) Mono-pod	

Ordering Information

VCM7C130/00T, Eazeo Digital Color Camera	VCM7C130/00T
1/4-inch with 3 mm integrated lens, PAL	
VCM7D130/00T, Eazeo Digital Color Camera	VCM7D130/00T
1/4-inch minidome camera with 3 mm integrated lens, PAL	
VCM7C230/00T, Eazeo Digital Color Camera	VCM7C230/00T
1/4-inch with 3-6 mm varifocal integrated lens, PAL	
VCM7C272/00T, Eazeo Digital Color Camera	VCM7C272/00T
1/4-inch with 2.8-10 mm varifocal, DC-iris, CS-mount lens, PAL	
VCM7C275/00T, Eazeo Digital Color Camera	VCM7C275/00T
1/4-inch with 5-50 mm varifocal, DC-iris, CS-mount lens, PAL	
VCM7H272/00T, Eazeo Digital Color Camera	VCM7H272/00T
1/4-inch outdoor camera assembly, includes VCM7C272/00T camera and VCM1353/00T housing, PAL	
VCM9736/10T, Eazeo Digital Color Camera	VCM9736/10T
Covert color camera in PIR housing, PAL	
VCM9736/11T, Eazeo Digital Color Camera	VCM9736/11T
Covert color camera in smoke detector housing, PAL	
VCM7B272/00T, Eazeo Digital B/W Camera	VCM7B272/00T
1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, CCIR (for use with color observation system)	
VC7C1305T, Eazeo Digital Color Camera	VC7C1305T
1/4-inch with integrated 3 mm fixed lens, NTSC	
VC7D1305T, Eazeo Digital Color Camera	VC7D1305T
1/4-inch, minidome with integrated 3 mm fixed lens, NTSC	
VC7C2305T, Eazeo Digital Color Camera	VC7C2305T
1/4-inch with 3-6 mm varifocal integrated lens, NTSC	

Ordering Information

VC7C2725T, Eazeo Digital Color Camera	VC7C2725T
1/4-inch with 2.8-10 mm varifocal, DC-iris CS-mount lens, NTSC	
VC7C2755T, Eazeo Digital Color Camera	VC7C2755T
1/4-inch with 5-50 mm varifocal, DC-iris CS-mount lens, NTSC	
VC7H2725T, Eazeo Digital Color Camera	VCM7H2725T
1/4-inch outdoor camera assembly, includes VC7C2725T camera and VCM1353/00T housing, NTSC	
VC973650T, Eazeo Digital Color Camera	VC973650T
Covert color camera in PIR housing, NTSC	
VC973651T, Eazeo Digital Color Camera	VC973651T
Covert color camera in smoke detector housing, NTSC	
VC7B2725T, Eazeo Digital B/W Camera	VC7B2725T
1/4-inch with 2.8 - 10 mm varifocal, DC-iris CS-mount lens, EIA (for use with color observation system)	

Accessories

VSS7390/11T Color Switcher System	VSS7390/11T
14-inch monitor, PAL, 4 input switcher with one camera VCM7C130/00T, 240 VAC, 50 Hz	
VSS7390/21T Color Switcher System	VSS7390/21T
14-inch monitor, PAL, 4 input switcher with one camera VCM7C230/00T, 240 VAC, 50 Hz	
VSS7390/31T Color Switcher System	VSS7390/31T
14-inch monitor, PAL, 4 input switcher with one camera VCM7C272/00T, 240 VAC, 50 Hz	
VSS7390/41T Color Switcher System	VSS7390/41T
14-inch monitor, PAL, 4 input switcher with one minidome camera VCM7D130/00T, 240 VAC, 50Hz	
VSS8394/10T Color Multiplexer System	VSS8394/10T
14-inch monitor, PAL, 8 input Multiplexer, 240 VAC, 50 Hz. (without camera)	
VSS8394/14T Color Multiplexer System	VSS8394/14T
14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz.	
VSS8394/34T Color Multiplexer System	VSS8394/34T
14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C272/00T, 240 VAC, 50 Hz.	
VSS8394/44T Color Multiplexer System	VSS8394/44T
14-inch monitor, PAL, 8 input multiplexer with four minidome cameras VCM7D130/00T, 240 VAC, 50 Hz.	
VSS8394/74D Color Multiplexer System	VSS8394/74D
14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz. + Eazeo DVR1B1161	
VSS7902/00T Alarm / Action Box	VSS7902/00T
For detectors and door locks, PAL	
VSS7915/00T Outdoor Video Intercom unit	VSS7915/00T
Signal TP cable, 4-pole RJ11E, 24 VDC, PAL	
VSS7390/11U Color Switcher System (UK)	VSS7390/11U
14-inch monitor, PAL, 4 input switcher with one camera VCM7C130/00T, 240 VAC, 50 Hz	

Ordering Information

VSS7390/21U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one camera VCM7C230/00T, 240 VAC, 50 Hz	VSS7390/21U
VSS7390/31U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one camera VCM7C272/00T, 240 VAC, 50 Hz	VSS7390/31U
VSS7390/41U Color Switcher System (UK) 14-inch monitor, PAL, 4 input switcher with one minidome camera VCM7D130/00T, 240 VAC, 50 Hz	VSS7390/41U
VSS8394/10U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input Multiplexer, 240 VAC, 50 Hz. (without camera)	VSS8394/10U
VSS8394/14U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz.	VSS8394/14U
VSS8394/34U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C272/00T, 240 VAC, 50 Hz	VSS8394/34U
VSS8394/44U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four minidome cameras VCM7D130/00T, 240 VAC, 50 Hz	VSS8394/44U
VSS8394/74U Color Multiplexer System (UK) 14-inch monitor, PAL, 8 input multiplexer with four cameras VCM7C130/00T, 240 VAC, 50 Hz. + Eazeo DVR1B1161	VSS8394/74U
VS7390/11T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C1305T, 120 VAC, 60 Hz	VS7390/11T
VS7390/21T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C2305T, 120 VAC, 60 Hz	VS7390/21T
VS7390/31T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one camera VC7C2725T, 120 VAC, 60 Hz	VS7390/31T
VS7390/41T Color Switcher System 14-inch monitor, NTSC, 4 input switcher with one minidome camera VC7D1305T, 120 VAC, 60 Hz	VS7390/41T
VS8394/11T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C1305T, 120 VAC, 60 Hz	VS8394/11T
VS8394/21T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C2305T, 120 VAC, 60 Hz	VS8394/21T
VS8394/31T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7C2725T, 120 VAC, 60 Hz	VS8394/31T
VS8394/41T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with one camera VC7D1305T, 120 VAC, 60 Hz	VS8394/41T
VS8394/14T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C1305T, 120 VAC, 60 Hz	VS8394/14T
VS8394/34T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C2725T, 120 VAC, 60 Hz	VS8394/34T

Ordering Information

VS8394/44T Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7D1305T, 120 VAC, 60 Hz	VS8394/44T
VS8394/74D Color Multiplexer System 14-inch monitor, NTSC, 8 input multiplexer with four cameras VC7C1305T, 120 VAC, 60 Hz + Eazeo DVR1B1161	VS8394/74D
VS79155T Outdoor Video Intercom unit Signal TP cable, 4-pole RJ11E, 24 VDC, NTSC	VS79155T
RC283511/01 IR Remote Control For color observation systems, PAL/NTSC	RC283511/01

Color Observation Systems Accessories



Features

- ▶ Innovative products
- ▶ Plug-and-play
- ▶ Integrated functionality
- ▶ Service and reliability

EAZEO is the latest generation of the successful Bosch Observation Systems for small and medium-sized businesses. These accessories allow you to expand your EAZEO system to meet your security needs.

Ordering Information

VSS7901/00T Intercom Box For color observation systems, PAL	VSS7901/00T
VSS7902/00T Alarm / Action Box For detectors and door locks, PAL	VSS7902/00T
VSS7903/00T Interface Box For interfacing an optional VCR or TV receiver, PAL	VSS7903/00T
VSS7905/00T Alarm / Action Box Including PIR detector, PAL	VSS7905/00T
VSS7914/00T IR Eye Extension Cable for DVR1A, B and C For use with DVR1B1161 or DVR1C1161, 10 m (30 ft), PAL / NTSC	VSS7914/00T
VSS7915/00T Outdoor Video Intercom For color observation systems, PAL	VSS7915/00T
VCM1120/00T Dummy Camera For color observation systems VCM7C130/00T design, PAL / NTSC	VCM1120/00T
VSS7911/00T Audio / Video Cable For use on AUX output of monitor, PAL / NTSC	VSS7911/00T
VSS7912/00T Audio / Video Extension Cable 10m To extent the cable between VCR and monitor, 10 m, PAL / NTSC	VSS7912/00T
RC283511/01 IR Remote Control For color observation systems, PAL/NTSC	RC283511/01

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