

PHILIPS
CCTV
SYSTEMS



DATABOOK

ISSUE 2002 / 1



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CCD Cameras, Color

Unity Prepackaged Cameras

Network-Cameras

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MiniLine Cameras, Indoor/Outdoor

e-dome™ Systems, Indoor

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CCD Cameras, Monochrome

LTC 0330/xI Series Monochrome Cameras

- **1/3-inch Format CCD Imager**
- **High Sensitivity**
- **Standard Resolution**
- **Backlight Compensation**
- **Electronic Shutter**
- **Video and DC Iris Control**
- **Line Lock With External Phase Adjustment**
- **Models for mains supply and AC/DC low voltage**



The LTC 0330 Series are compact, rugged, 1/3-inch image format monochrome CCD cameras. Their high sensitivity and reliability provide optimal performance in all environments.

Both the CCIR and EIA RS-170 versions are available for direct mains voltage supply and ac/dc low voltage supply. Each offering wide power supply voltage range allowing flexible installation. These cameras are provided with a standard CS-mount

for use with a wide variety of lenses. They can be used with fixed iris lenses, manual iris lenses, DC-iris lenses, and video-iris lenses.

Their excellent scene reproduction is supported by back-light compensation. With user selectable backlight compensation, the camera responds to the average content of the entire video signal, or can be activated to establish a central area for automatic light control. If an object falls within this area, the camera will automatically

adjust to set optimum contrast. This is particularly useful in applications having bright light such as doorways, loading docks, windows, and ATMs (automatic teller machines).

Enhanced picture quality and outstanding reliability make them an excellent choice for professional, commercial, and industrial surveillance systems in both indoor and outdoor applications.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
CCIR Model		
LTC 0330/11	24 VAC, 50 Hz 12 VDC	12 to 24 VAC 10.8 to 33 VDC
LTC 0330/51	230 VAC, 50 Hz	85 to 264 VAC
EIA RS-170 Model		
LTC 0330/21	24 VAC, 60 Hz 12 VDC	12 to 28 VAC 10.8 to 39 VDC
LTC 0330/61	120 VAC	85 to 132 VAC

Power dissipation: ≤ 2.5 W for all models.
All /11 and /21 models operate on AC or DC.

Imager: Interline transfer CCD; 1/3-inch image format.

Active Picture Elements:

CCIR Models: 512 H x 582 V

EIA RS-170 Models: 512 H x 492 V.

Horizontal Resolution: 380 TVL.

Sensitivity (3200 K):

		Usable Picture (50IRE)	Full Video
Scene illumination ¹	fc	0.015	0.05
	lx	0.15	0.5
Imager illumination	fc	0.002	0.007
	lx	0.02	0.07

1. For f/1.2 lens, 75% scene reflectance.

Signal-to-Noise: ≥ 50 dB minimum.

Electronic Shutter: Automatic, 1/60 to 1/100000.

AGC: 30 dB.

Backlight Compensation: Center window weighting for AGC, electronic shutter and DC-iris.

Contouring: Horizontal.

Video Output: 1.0 Vp-p, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Free Running, when powered by DC.

Controls:

Phase Adjust Range: 300° (when powered by AC).

Backlight Compensation: On/Off.

Back-Focus: External adjustment.

Iris: DC/Video.

DC Iris Level: Low/High.

Automatic Electronic Shutter: On/Off.

Connectors:

Video Out: BNC.

Iris: 4-pin connector.

Power:

/11 and /21: Screw terminals, power supply input terminals are isolated from video output terminals.

/51: Mains lead with 2-pin EURO connector

/61: Mains lead with 2-pin USA type connector.

Mechanical

Lens Mount: CS.

Camera Mounts: 1/4"-20 UNC, top and bottom.

Finish/Case: Mushroom/metal housing.

Dimensions:

Housing size: 121 L x 68 W x 49 H mm (4.76 x 2.68 x 1.93 in).

Including connectors and mounting block: 130 L x 68 W x 59 H mm (5.12 x 2.68 x 2.32 in)

Weight: 0.49 kg (1.1 lb).

Environmental

Operating Temperature: -20 °C to +55 °C (-4 °F to +131 °F).

Electromagnetic Compatibility

EMC Requirements:

CCIR Models: 89/336/EEC.

Immunity: EN50130-4.

Emission: EN50081-1 Class B.

EIA RS-170 Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

CCIR Models: CE.

EIA RS-170 Models: UL & cUL.

Accessories

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA



LTC 0350/xI Series Monochrome Cameras

- **1/3-inch Format CCD Imager**
- **High Sensitivity**
- **High Resolution**
- **Backlight Compensation**
- **Electronic Shutter**
- **Video and DC Iris Control**
- **Line Lock With External Phase Adjustment**
- **Models for Mains Supply and AC/DC Low Voltage**



The LTC 0350 Series are compact, rugged, 1/3-inch image format monochrome CCD cameras. Their high sensitivity and reliability provide optimal performance in all environments.

Both the CCIR and EIA RS-170 versions are available for direct mains voltage supply and ac/dc low voltage supply. Each offering wide power supply voltage range allowing flexible installation. These cameras are provided with a standard CS-mount for use with a wide variety of lenses.

They can be used with fixed iris lenses, manual iris lenses, DC-iris lenses, and video-iris lenses.

Their excellent scene reproduction is supported by automatic black level, symmetrical contour enhancement and back-light compensation. The automatic black level feature enhances contrast by removing veiling glare from the picture. With user selectable backlight compensation, the camera responds to the average content of the entire video signal, or can be activated to establish a central area for

automatic light control. If an object falls within this area, the camera will automatically adjust to set optimum contrast. This is particularly useful in applications having bright light such as doorways, loading docks, windows, and ATMs (automatic teller machines).

Enhanced picture quality and outstanding reliability make them an excellent choice for professional, commercial, and industrial surveillance systems in both indoor and outdoor applications.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
CCIR Model		
LTC 0350/11	24 VAC, 50 Hz 12 VDC	12 to 24 VAC 10.8 to 33 VDC
LTC 0350/51	230 VAC, 50 Hz	85 to 264 VAC
EIA RS-170 Model		
LTC 0350/21	24 VAC, 60 Hz 12 VDC	12 to 28 VAC 10.8 to 39 VDC
LTC 0350/61	120 VAC	85 to 132 VAC

Power dissipation: ≤ 2.5 W for all models.
All /11 and /21 models operate on AC or DC.

Imager: Interline transfer CCD; 1/3-inch image format.

Active Picture Elements:

CCIR Models: 752 H x 582 V

EIA RS-170 Models: 768 H x 492 V.

Horizontal Resolution: 570 TVL.

Sensitivity (3200 K):

		Usable Picture (50IRE)	Full Video
Scene illumination ¹	fc	0.01	0.04
	lx	0.1	0.4
Imager illumination	fc	0.0014	0.0055
	lx	0.014	0.055

1. For f/1.2 lens, 75% scene reflectance.

Signal-to-Noise: ≥ 50 dB minimum.

Electronic Shutter: Automatic, 1/60 to 1/100000.

AGC: 30 dB.

Backlight Compensation: Center window weighting for AGC, electronic shutter and DC-iris.

Contouring: Horizontal.

Video Output: 1.0 Vp-p, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Free Running, when powered by DC.

Controls:

Phase Adjust Range: 300° (when powered by AC).

Backlight Compensation: On/Off.

Back-Focus: External adjustment.

Iris: DC/Video.

DC Iris Level: Low/High.

Automatic Electronic Shutter: On/Off.

Connectors:

Video Out: BNC.

Iris: 4-pin connector.

Power:

/11 and /21: Screw terminals, power supply input terminals are isolated from video output terminals.

/51: Mains lead with 2-pin EURO connector

/61: Mains lead with 2-pin USA type connector.

Mechanical

Lens Mount: CS.

Camera Mounts: 1/4"-20 UNC, top and bottom.

Finish/Case: Mushroom/metal housing.

Dimensions:

Housing size: 121 L x 68 W x 49 H mm (4.76 x 2.68 x 1.93 in).

Including connectors and mounting block: 130 L x 68 W x 59 H mm (5.12 x 2.68 x 2.32 in)

Weight: 0.49 kg (1.1 lb).

Environmental

Operating Temperature: -20 °C to +55 °C (-4 °F to +131 °F).

Electromagnetic Compatibility

EMC Requirements:

CCIR Models: 89/336/EEC.

Immunity: EN50130-4.

Emission: EN50081-1 Class B.

EIA RS-170 Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

CCIR Models: CE.

EIA RS-170 Models: UL & cUL.

Accessories

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA



LTC 0351/x1 and LTC 0352/x1 Series Monochrome Cameras

- n **1/3-inch Format CCD Imager with IR cut filter**
- n **High Sensitivity**
- n **High Resolution**
- n **Backlight Compensation**
- n **Electronic Shutter**
- n **Video and DC Iris Control**
- n **Line Lock With External Phase Adjustment**



The LTC 0351 and LTC 0352 Series are compact, rugged, 1/3-inch image format monochrome CCD cameras. Their high sensitivity and reliability combined with the IR cut filter on the sensor provide optimal performance in traffic applications. The LTC0352/x1 series offers a noiseless picture under all circumstances due to eliminating amplifier noise by having the AGC fixed at 0dB gain.

Both the CCIR and EIA RS-170 versions are available ac/dc low voltage supply. Each offering wide power supply voltage range allowing flexible installation. These cameras are provided with a standard CS-mount for use with a wide variety of lenses.

They can be used with fixed iris lenses, manual iris lenses, DC-iris lenses, and video-iris lenses.

Their excellent scene reproduction is supported by automatic black level (LTC0351/x1 only), symmetrical contour enhancement and back-light compensation. The automatic black level feature enhances contrast by removing veiling glare from the picture (LTC0351/x1 only). With user selectable backlight compensation, the camera responds to the average content of the entire video signal, or can be activated to establish a central area for automatic light control. If an object falls within this area, the camera will automatically adjust to set optimum contrast. Enhanced picture quality and outstanding reliability make them an excellent choice for automated traffic detection applications.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
CCIR Model		
LTC 035x/11	24 VAC, 50 Hz 12 VDC	12 to 24 VAC 10.8 to 33 VDC
EIA RS-170 Model		
LTC 035x/21	24 VAC, 60 Hz 12 VDC	12 to 28 VAC 10.8 to 39 VDC

Power dissipation: ≤ 2.5 W for all models.
All models operate on AC or DC

Imager: Interline transfer CCD; 1/3-inch image format with IR cut filter.

Active Picture Elements:

CCIR Models: 752 H x 582 V

EIA RS-170 Models: 768 H x 492 V.

Horizontal Resolution: 570 TVL.

Sensitivity (3200 K):

	Usable Picture (50IRE)	Full Video
Scene illumination l fc	0.03	0.10
lx	0.3	1.0
Imager illumination fc	0.004	0.016
lx	0.04	0.16

1. For f/1.2 lens, 75% scene reflectance.

Signal-to-Noise: ≥ 50 dB minimum.

Electronic Shutter: Automatic, 1/50 (1/60) to 1/100000

AGC:

30 dB max LTC0351/x1

0 dB LTC0352/x1.

Backlight Compensation: Center window weighting for AGC, electronic shutter and DC-iris.

Contouring: Horizontal.

Video Output: 1.0 Vp-p, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Free Running, when powered by DC.

Controls:

Phase Adjust Range: 300° (when powered by AC).

Backlight Compensation: On/Off.

Back-Focus: External adjustment.

Iris: DC/Video.

DC Iris Level: Low/High.

Automatic Electronic Shutter: On/Off.

Connectors:

Video Out: BNC.

Iris: 4-pin connector.

Power:

/11 and /21: Screw terminals, power supply input terminals are isolated from video output terminals.

Mechanical

Lens Mount: CS.

Camera Mounts: 1/4"-20 UNC, top and bottom.

Finish/Case: Mushroom/metal housing.

Dimensions:

Housing size: 121 L x 68 W x 49 H mm (4.76 x 2.68 x 1.93 in).

Including connectors and mounting block: 130 L x 68 W x 59 H mm (5.12 x 2.68 x 2.32 in)

Weight: 0.49 kg (1.1 lb).

Environmental

Operating Temperature: -20 °C to +55 °C (-4 °F to +131 °F).

Electromagnetic Compatibility

EMC Requirements:

CCIR Models: 89/336/EEC.

Immunity: EN50130-4.

Emission: EN50081-1 Class B.

EIA RS-170 Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

CCIR Models: CE.

EIA RS-170 Models: UL & cUL.

Accessories

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA



LTC 0500 Series Digital Monochrome Cameras

- 1/2-inch Format CCD Imager
- High Resolution
- High sensitivity and dynamic range
- Digital Signal Processor
- Backlight compensation
- Automatic picture enhancement
- Auto detection of fitted lens type



The LTC 0500 Series of High Performance Digital CCD Monochrome Cameras are designed to provide the best possible image under the most difficult light conditions.

Together with its superb sensitivity and dynamic range, the many automatic functions and system options guarantee an unsurpassable result in the majority of applications with minimum installation effort.

Where adjustments are necessary, dedicated push buttons on the side of the camera are used for the most common functions with feedback information displayed on the monitor screen.

For the set-up of more complicated parameters, the camera can be configured from a PC and accessed remotely through the remote control system. These settings are stored in the camera in non-volatile memory.

Up to three different configuration possibilities can be saved and recalled by the operator or by an automatic switch function.

Remote set up gives the ultimate comfort and result as the multi-camera system can be optimized from the actual control room.

To ensure that the camera gives the best possible image under the most difficult of conditions, special features include:

- **Video:** The picture produced by the camera is dynamically optimized in relation to the contents of the scene. This is achieved by the smart application of the following interrelated automatic functions:

automatic contouring: The camera monitors the sharpness of the picture. If the picture would become fuzzy e.g. due to a fully opened lens iris, the camera enhances the sharpness automatically.

automatic black-level: The camera monitors the levels of black in the image. If the image would become shrouded by fog or lens glare, picture contrast will be enhanced by the camera automatically.

smart backlight compensation:

Backlight compensation is programmable to operate over various areas of the picture. Combined with the very high dynamic range of the camera it provides the best possible pictures in back lit situations.

automatic light control: Automatic light control is centrally monitored in the camera. The camera automatically selects one of the automatic controls (Gain, Iris or Shutter) to produce the best possible picture, e.g. if the lens iris is at its minimum aperture and the light level from the scene still would be too high the camera compensates with additional shutter control.

■ **Text In Picture:** A 24-character text can be added in the picture. A total of three character strings can be stored, one for each mode. The character set includes many international symbols.

■ **Programmable modes:** The camera can store three different set-up preferences. These include most video functions and the text information in the picture. Programming is possible via the RS232 input on the camera. A software program is available for programming of the camera direct from a PC or via the remote control system.

The three programming modes can be called-up by the operator through the remote control system. Alternatively the camera can switch over to another mode by closing an input contact on the camera.

■ **Lenses:** A lens detection wizard automatically sets the camera up for the installed lens type; manual iris, dc-iris or video-iris. The camera provides an indicator for the proper adjustment of video iris lenses. Backfocus adjustment covers the whole range of CS and C mounts.

■ **Video outputs:** A Standard b/w video signal is available on a BNC. An additional balanced output is available for video transmission over twisted pair cables.

■ **Power:** The cameras can be supplied in two power versions, one for Low voltage DC/AC supply. The other versions as mains supplied cameras. The input voltage range is very wide, which compensates for voltage drops over long cables.

■ **Synchronization:** The camera can be synchronized from either external CVBS, external V-pulse, line-lock or internal X-tal. The selection is automatically set by the synchronization signals connected to it. Phase adjustment is possible direct on the camera or via remote control.

■ **Mounting:** Easily mounted from top or bottom.

SPECIFICATIONS

ELECTRICAL

Model No.	Rated Voltage	Nominal power	System
LTC 0500/10	11-36 VDC	4 W	CCIR
	12-28 VAC	4 W	CCIR
LTC 0500/20	11-36 VDC	4 W	EIA RS170
	12-28 VAC	4 W	EIA RS170
LTC 0500/50	230 VAC, 50 Hz	4 W	CCIR
LTC 0500/60	120 VAC, 60 Hz	4 W	EIA RS170

Imager: Interline transfer CCD 1/2-inch image format.

Active Picture Elements: EIA RS170 Models: 768 H x 492 V. CCIR Models: 752 H x 582 V.

Sensitivity:

		Usable Picture	Full Video
Scene illumination ¹⁾	fc	0.0037	0.015
	lx	0.037	0.15
Imager illumination	fc	0.0005	0.002
	lx	0.005	0.02

¹⁾ for f/1.2 lens, 89% scene reflectance and 18 dB AGC and 40 dB S/N.

Horizontal Resolution: 570 TVL.

CTF: ≥ 50% at 4 MHz.

Signal-to-Noise: 50 dB at 0.25 lux (0.025 fc) sensor illumination. (Unified weighting filter per CCIR Recommendation 567).

AGC: 18 dB, (24 dB selectable).

Shutter speeds:

Automatic: up to 1/100,000 sec.
Manual: Flickerless, 1/50 or 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000 and 1/10 000.

Contouring: Horizontal and vertical symmetric, selectable: automatic, adjustable and OFF.

Gamma: adjustable 0.25 to 1 in steps of 0.05.

Compression: adjustable and OFF.

Auto black: automatic cancellation of veiling glare up to 30% of the video signal.

Video output:

Output 1 on a BNC, isolated from mechanical earth:

Signal level: 1 Vpp into 75 ohms.

Output 2 on a 4-pole mini DIN, for a balanced.

(symmetrical) video output.

Signal level: 2 Vpp into 150 Ohms.

Unbalance: < -20 dB at 5 MHz.

Synchronization:

Line-Lock (AC supply only): 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.

Crystal-Lock (When DC-supply or L/L off): Internal crystal reference is standard on all models.

V-lock: Synchronizes the camera to an external V drive signal for roll-free vertical interval switching. Vertical phase delay can be externally adjusted.

Gen lock: Synchronizes the camera to an external composite video or synchronization drive signal for the synchronization of the camera's horizontal and vertical frequency and phase.

Serial input/output: RS232.

Speed: 1200, 2400 or 4800 baud.

Connector: Sub D, 9-pole.

User input: Switch to Mode3.

Active low or active high, selectable.

Lens:

DC-iris: Control & Drive 40 mA max.

Video-iris: 9-10 Vdc 50 mA max.

Video level: 1.0 Vpp.

Controls

Push-buttons: Mode selection.
Video level.
Backlight compensation.
Shutter.
Linelock.
Phase (linelock or H phase).
+ & - for selected function.

Automatic functions: AGC.
Electronic shutter.
Contour.
Black level.
Backlight detection.

MECHANICAL

Connectors:

- Video Output: BNC.
- Gen Lock or V-lock: BNC.
- Balanced video output: 4-pin mini DIN.
- RS232 serial input: 9-pin Sub D.
- Video/DC-iris connector: 4-pin EIAJ.

Power:

- LTC -/10 & -/20: Screw terminals.
- LTC -/50: 2-wire power cord with Euro plug.
- LTC -/60: 2-wire power cord with polarized plug.

Power supply input terminals are isolated from video output terminals.

Camera mounting: Top and Bottom, 1/4" 20 UNC.

Lens mounting: C and CS.

Lens weight: 1.5 kg (3.3 lb) bottom mounting, 0.5 kg (1.1 lb) top mounting.

Dimensions: 65 x 70 x 149 mm (HxWxD*) (2.56 x 2.75 x 5.87 inch). *including connectors.

Weight: 0.7 kg (1.54 lb).

ENVIRONMENTAL

Temperature range:

Operating: -10 to 55°C (14 to 131 °F).
Storage: -40 to 70°C (-40 to 158 °F).

Operating Humidity: 5% to 93% non-condensing.

Shock: 880 m/s².

Vibration: 10 m/s².

Free fall: 0.5 meter, 6 attitudes.

Electro Magnetic Compatibility:

Emission: EN 50081-1.
FCC Ch 15 Class B.

Immunity: EN 50130-4.

Safety:

/10 and /50: EN 60950.
/20 and /60: UL 6500 and
cUL CAN/CSA -E65 - 94.

Accessories

LTC 0650/10: Configuration software for Windows 3.x,
Windows 95/NT.

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA

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PHILIPS

Let's make things better.

CCD Cameras, Color

LTC 0430/xI Series Digital Color Cameras

- n **1/3-inch Format CCD Imager**
- n **High Sensitivity**
- n **Standard Resolution**
- n **Auto White Balance**
- n **Backlight Compensation**
- n **Electronic Shutter**
- n **Video and DC Iris Control**
- n **Line-Lock With External Phase Adjustment**
- n **Accepts AC or DC Voltages**



The LTC 0430 Series are compact, rugged, 1/3-inch image format digital color CCD cameras. Their high sensitivity and reliability provide optimal performance in all environments.

Both the PAL and NTSC versions are available for direct mains voltage supply and ac/dc low voltage supply. Each offering wide a power supply voltage range allowing flexible installation. These cameras are provided with a standard CS-mount for use with a wide variety of lenses. They can be used with fixed iris lenses, manual iris lenses, DC-iris lenses, and video-iris lenses.

Their excellent scene reproduction is supported by automatic white balance and back-light compensation.

The wide range of the trough the lens automatic sensing white balance provides true to life color images in indoor and outdoor applications.

With user selectable backlight compensation, the camera responds to the average content of the entire video signal, or can be activated to establish a central area for automatic light control. If an object falls within this area, the camera will automatically adjust to set optimum contrast.

This is particularly useful in applications having bright light such as doorways, loading docks, windows, and ATMs (automatic teller machines).

Enhanced picture quality, true color reproduction, and outstanding reliability makes them an excellent choice for professional, commercial, and industrial surveillance systems in both indoor and outdoor applications.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
PAL Model		
LTC 0430/11	24 VAC, 50 Hz 12 VDC	12 to 24 VAC 10.8 to 33 VDC
LTC 0430/51	230 VAC, 50 Hz	85 to 264 VAC
NTSC Model		
LTC 0430/21	24 VAC, 60 Hz 12 VDC	12 to 28 VAC 10.8 to 39 VDC
LTC 0430/61	120 VAC, 60 Hz	85 to 132 VAC

Power consumption: ≤ 5 W for all models.
All /11 and /21 models operate on AC or DC.

Imager: Interline transfer CCD; 1/3-inch image format.

Active Picture Elements:

PAL B Models: 512 H x 582 V.

NTSC Models: 512 H x 492 V.

Horizontal Resolution: 330 TVL.

Sensitivity (3200 K):

		Usable Picture (50IRE)	Full Video
Scene illumination ¹	fc	0.15	0.45
	lx	1.5	4.5
Imager illumination	fc	0.02	0.06
	lx	0.2	0.6

1. For f1.2 lens and 75% scene reflectance.

Signal-to-Noise: ≥ 50 dB minimum.

Electronic Shutter: Automatic 1/60 to 1/100000 sec.

AGC: 33 dB.

Contouring: Horizontal and vertical.

Backlight Compensation: Center window weighting for AGC, electronic shutter and DC iris.

White Balance: Automatic Sensing (Thru the lens):
(\cup 2500 K to 8000 K).

Video Output: 1.0 V_{p-p}, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Crystal-Lock (When powered by DC): Internal crystal reference is standard on all models.

Controls:

Phase Adjust range: 300° (when powered by AC).

Backlight Compensation: On/Off.

Back-Focus: External adjustment.

Iris: DC/Video.

DC Iris Level: Low/High.

Automatic Electronic Shutter: On/Off.

Connectors:

Video Out: BNC.

Iris: 4-pin connector.

Power:

/11 and /21: Screw terminals, power supply input terminals are isolated from video output terminals.

/51: Mains lead with 2-pin EURO connector

/61: Mains lead with 2-pin USA type connector.

Mechanical

Camera Mounts: 1/4"-20 UNC, top and bottom.

Finish/Case: Mushroom/metal housing.

Dimensions:

Housing size: 121 L x 68 W x 49 H mm (4.76 x 2.68 x 1.93 in).

Including connectors and mounting block: 130 L x 68 W x 59 H mm (5.12 x 2.68 x 2.32 in)

Weight: 0.49 kg (1.1 lb).

Environmental

Operating Temperature: -20 °C to +50 °C (-4 °F to +122 °F).

Electromagnetic Compatibility

EMC Requirements:

PAL Models: CE, 89/336/EEC.

Immunity: EN50130-4.

Emission: EN50081-1 Class B.

NTSC Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

PAL Models: CE.

NTSC Models: UL & cUL.

Accessories

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA



LTC 0450/xI Series Digital Color Cameras

- n **1/3-inch Format CCD Imager**
- n **High Sensitivity**
- n **High Resolution**
- n **Auto White Balance**
- n **Backlight Compensation**
- n **Electronic Shutter**
- n **Video and DC Iris Control**
- n **Line-Lock With External Phase Adjustment**
- n **Models for Mains Supply and AC/DC Voltages**



The LTC 0450 Series are compact, rugged, 1/3-inch image format digital color CCD cameras. Their high sensitivity and reliability provide optimal performance in all environments.

Both the PAL and NTSC versions are available for direct mains voltage supply and ac/dc low voltage supply. Each offering wide a power supply voltage range allowing flexible installation. These cameras are provided with a standard CS-mount for use with a wide variety of lenses. They can be used with fixed iris lenses, manual iris lenses, DC-iris lenses, and video-iris lenses.

Their excellent scene reproduction is supported by automatic white balance and back-light compensation

The wide range of the through the lens automatic sensing white balance provides true to life color images in indoor and outdoor applications. A Y/C video output is provided in addition to the standard composite video.

With user selectable backlight compensation, the camera responds to the average content of the entire video signal, or can be activated to establish a central area for automatic light control. If an object falls within this area, the camera

will automatically adjust to set optimum contrast. This is particularly useful in applications having bright light such as doorways, loading docks, windows, and ATMs (automatic teller machines).

Enhanced picture quality, true color reproduction, and outstanding reliability make them an excellent choice for professional, commercial, and industrial surveillance systems in both indoor and outdoor applications.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
PAL Model		
LTC 0450/11	24 VAC, 50 Hz 12 VDC	12 to 24 VAC 10.8 to 33 VDC
LTC 0450/51	230 VAC, 50 Hz	85 to 264 VAC
NTSC Model		
LTC 0450/21	24 VAC, 60 Hz 12 VDC	12 to 28 VAC 10.8 to 39 VDC
LTC 0450/61	120 VAC, 60 Hz	85 to 132 VAC

Power consumption: ≤ 5 W for all models.
All /11 and /21 models operate on AC or DC.

Imager: Interline transfer CCD; 1/3-inch image format.
Active Picture Elements:

PAL B Models: 752 H x 582 V.
NTSC Models: 768 H x 492 V.

Horizontal Resolution: 460 TVL.

Sensitivity (3200 K):

		Usable Picture (50IRE)	Full Video
Scene illumination ¹	fc	0.15	0.45
	lx	1.5	4.5
Imager illumination	fc	0.02	0.06
	lx	0.2	0.6

1. For f1.2 lens and 75% scene reflectance.

Signal-to-Noise: ≥ 50 dB minimum.

Electronic Shutter: Automatic 1/60 to 1/100000 sec.

AGC: 33 dB.

Contouring: Horizontal and vertical.

Backlight Compensation: Center window weighting for AGC, electronic shutter and DC iris.

White Balance: Automatic Sensing (Thru the lens):
(\cup 2500 K to 8000 K).

Video Output:

Composite Video: 1.0 Vp-p, 75 ohm.

Y/C Output:

Y-Level: : 1.0 Vp-p.

C-Level: : 0.3 Vp-p burst.

Impedance: 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Crystal-Lock (When powered by DC): Internal crystal reference is standard on all models.

Controls:

Phase Adjust range: 300° (when powered by AC).

Backlight Compensation: On/Off.

Back-Focus: External adjustment.

Iris: DC/Video.

DC Iris Level: Low/High.

Automatic Electronic Shutter: On/Off.

Connectors:

Video Out: BNC.

Y/C Video Out: 4-pin S-video.

Iris: 4-pin connector.

Power:

/11 and /21: Screw terminals, power supply input terminals are isolated from video output terminals.

/51: Mains lead with 2-pin EURO connector

/61: Mains lead with 2-pin USA type connector.

Mechanical

Camera Mounts: 1/4"-20 UNC, top and bottom.

Finish/Case: Mushroom/metal housing.

Dimensions:

Housing size: 121 L x 68 W x 49 H mm (4.76 x 2.68 x 1.93 in).

Including connectors and mounting block: 130 L x 68 W x 59 H mm (5.12 x 2.68 x 2.32 in)

Weight: 0.49 kg (1.1 lb).

Environmental

Operating Temperature: -20 °C to +50 °C (-4 °F to +122 °F).

Electromagnetic Compatibility

EMC Requirements:

PAL Models: CE, 89/336/EEC.

Immunity: EN50130-4.

Emission: EN50081-1 Class B.

NTSC Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

PAL Models: CE.

NTSC Models: UL & cUL.

Accessories

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA



LTC 0600 Series Digital Color Cameras

- 1/2-inch Format CCD Imager
- High Resolution
- High sensitivity and dynamic range
- Digital Signal Processor
- Backlight compensation
- Automatic picture enhancement
- Auto detection of fitted lens type



The LTC 0600 Series of High Performance Digital CCD Color Cameras are designed to provide the best possible image under the most difficult light conditions.

Together with its superb sensitivity and dynamic range, the many automatic functions and system options guarantee an unsurpassable result in the majority of applications with minimum installation effort.

Where adjustments are necessary, dedicated push buttons on the side of the camera are used for the most common functions with feedback information displayed on the monitor screen.

For the set-up of more complicated parameters, the camera can be configured from a PC and accessed remotely through the remote control system. These settings are stored in the camera in non-volatile memory.

Up to three different configuration possibilities can be saved and recalled by the operator or by an automatic switch function.

Remote set up gives the ultimate comfort and result as the multi-camera system can be optimized from the actual control room.

To ensure that the camera gives the best possible image under the most difficult of conditions, special features include:

- **Video:** The picture produced by the camera is dynamically optimized in relation to the contents of the scene. This is achieved by the smart application of the following interrelated automatic functions:

automatic contouring: The camera monitors the sharpness of the picture. If the picture would become fuzzy e.g. due to a fully opened lens iris, the camera enhances the sharpness automatically.

automatic black-level: The camera monitors the levels of black in the image. If the image would become shrouded by fog or lens glare, picture contrast will be enhanced by the camera automatically.

smart backlight compensation:

Backlight compensation is programmable to operate over various areas of the picture. Combined with the very high dynamic range of the camera it provides the best possible pictures in back lit situations.

automatic light control: Automatic light control is centrally monitored in the camera. The camera automatically selects one of the automatic controls (Gain, Iris or Shutter) to produce the best possible picture, e.g. if the lens iris is at its minimum aperture and the light level from the scene still would be too high the camera compensates with additional shutter control.

automatic white balance: Extensive color analysis and a sophisticated set of fuzzy logic provide the best possible control of the camera's automatic white balance.

- **Text In Picture:** A 24-character text can be added in the picture. A total of three character strings can be stored, one for each mode. The character set includes many international symbols.

- **Programmable modes:** The camera can store three different set-up preferences. These include most video functions and the text information in the picture. Programming is possible via the RS232 input on the camera. A software program is available for programming of the camera direct from a PC or via the remote control system.

The three programming modes can be called-up by the operator through the remote control system. Alternatively the camera can switch over to another mode by closing an input contact on the camera.

- **Lenses:** A lens detection wizard automatically sets the camera up for the installed lens type; manual iris, dc-iris or video-iris. The camera provides an indicator for the proper adjustment of video iris lenses. Backfocus adjustment covers the whole range of CS and C mounts.

- **Video outputs:** A Standard b/w video signal is available on a BNC. An additional balanced output is available, balanced video or Y/C video output.
- **Power:** The cameras can be supplied in two power versions, one for Low voltage DC/AC supply. The other versions as mains supplied cameras. The input voltage range is very wide, which compensates for voltage drops over long cables.
- **Synchronization:** The camera can be synchronized from either external CVBS, external V-pulse, linelock or internal X-tal. The selection is automatically set by the synchronization signals connected to it. Phase adjustment is possible direct on the camera or via remote control.
- **Mounting:** Easily mounted from top or bottom.

SPECIFICATIONS

ELECTRICAL

Model No.	Rated Voltage	Nominal power	Color system
LTC 0600/10	11-36 VDC 12-28 VAC	4 W 4 W	PAL PAL
LTC 0600/20	11-36 VDC 12-28 VAC	4 W 4 W	NTSC NTSC
LTC 0600/50	230 VAC, 50 Hz	4 W	PAL
LTC 0600/60	120 VAC, 60 Hz	4 W	NTSC

Imager: Interline transfer CCD 1/2-inch image format.

Active Picture Elements: NTSC Models: 768 H x 492 V.
PAL B Models: 752 H x 582 V.

Sensitivity:

		Usable Picture	Full Video
Scene illumination ¹⁾	fc	0.037	0.15
	lx	0.37	1.5
Imager illumination	fc	0.005	0.02
	lx	0.05	0.2

¹⁾ for f/1.2 lens, 89% scene reflectance and 18 dB AGC and 40 dB signal to noise ratio.

Horizontal Resolution: 480 TVL.

CTF: ≥ 50% at 4 MHz.

Signal-to-Noise: 50 dB at 2.5 lux (0.25 fc) sensor illumination. (Unified weighting filter per CCIR Recommendation 567).

AGC: 18 dB, (24 dB selectable).

Shutter speeds:

Automatic: up to 1/100,000 sec.

Manual: Flickerless, 1/50 or 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000 and 1/10 000.

White Balance: Auto sensing (Thru the lens):

Auto tracking: 2700 K to 10,000 K.

Auto store: 2700 K to 10,000 K.

Correction: Red-Blue and Green-Magenta.

Contouring: Horizontal and vertical symmetric, selectable: automatic, manual adjust and OFF.

Gamma: adjustable 0.25 to 1 in steps of 0.05.

Auto Black: automatic cancellation of veiling glare up to 30% of the video signal.

Compression: adjustable and OFF.

Video output:

Output 1 on a BNC, isolated from mechanical earth:

Signal level: 1 Vpp into 75 ohms.

Output 2 on a 4-pole mini DIN, for a balanced (symmetrical) video output or Y/C output

Balanced video output:

Signal level: 2 Vpp into 150 Ohms.

Unbalance: < -20 dB at 5 MHz.

S-Video output:

Y-Level: 1 Vpp.

C-Level: 300 mVpp burst.

Impedance: 75 ohms.

Synchronization:

Line-Lock (AC supply only): 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.

Crystal-Lock (When DC-supply or L/L off): Internal crystal reference is standard on all models.

V-lock: Synchronizes the camera to an external V drive signal for roll-free vertical interval switching. Vertical phase delay can be externally adjusted.

Gen lock: Synchronizes the camera to an external composite video or synchronization drive signal for the synchronization of the camera's horizontal and vertical frequency and phase (no subcarrier lock).

Serial input/output: RS232.

Speed: 1200, 2400 or 4800 baud.

Connector: Sub D, 9-pole.

User input: Switch to Mode3.

Active low or active high, selectable.

Lens:

DC-iris: Control & Drive 40 mA max.

Video-iris: 9-10Vdc 50 mA max.

Video level: 1.0Vpp.

Controls

Push-buttons: Mode selection.
Video level.
Backlight compensation.
White balance.
Linelock.
Phase (linelock or H phase).
+ & - for selected function.

Automatic functions: AGC.
Electronic shutter.
Contour.
Black level.
Backlight detection.
White balance.

MECHANICAL

Connectors:

- Video Output: BNC.
- Gen Lock or V-lock: BNC.
- Balanced video output: 4-pin mini DIN.
- RS232 serial input: 9-pin Sub D.
- Video/DC-iris connector: 4-pin EIAJ.

Power:

LTC -/10 & -/20: Screw terminals.

LTC -/50: 2-wire power cord with Euro plug.

LTC -/60: 2-wire power cord with polarized plug.

Power supply input terminals are isolated from video output terminals.

Camera mounting: Top and Bottom, 1/4" 20 UNC.

Lens mounting: C and CS.

Lens weight: 1.5 kg (3.3 lb) bottom mounting, 0.5 kg (1.1 lb) top mounting.

Dimensions: 65 x 70 x 149 mm (HxWxD*) (2.56 x 2.75 x 5.87 inch). *including connectors.

Weight: 0.6 kg (1.32 lb).

ENVIRONMENTAL

Temperature range:

Operating: -10 to 55°C (14 to 131 °F).

Storage: -40 to 70°C (-40 to 158 °F).

Operating Humidity: 5% to 93% non-condensing.

Shock: 880 m/s²

Vibration: 10 m/s²

Free fall: 0.5 meter, 6 attitudes.

Electro Magnetic Compatibility:

Emission: EN 50081-1.

FCC Ch 15 Class B.

Immunity: EN 50130-4.

Safety:

/10 and /50: EN 60950.

/20 and /60: UL 6500 and

cUL CAN/CSA -E65 - 94.

Accessories

LTC 0650/00: Configuration software for Windows 3.x, Windows 95/NT.

Power Transformers and Power Supplies:

Model No.	Rated Input	Rated Output
TC1323	120 VAC, 60 Hz	24 VAC, 10 VA
TC1334	120 VAC, 60 Hz	24 VAC, 30 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, 20 VA
LDH 4466/11	230 VAC, 50 Hz	18 VAC, 10 VA

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PHILIPS

Let's make things better.

Unity Prepackaged Cameras

LTC 0033/30 - LTC 0045/30 Series Indoor Camera Kits

- n **Preassembled Units with Camera, Lens, Power Supply, and Bracket Included**
- n **Range of Color and Monochrome Units**
- n **Choice of High Performance Cameras**
- n **Vari-focal Lenses Allow Field-of-view To Be Selected On-site**
- n **Includes Mounting Accessories for Easy Installation**



Combinations of cameras, lenses, and power supplies are normally used when installing indoor CCTV surveillance systems. In order to simplify and reduce the installation process time, Philips has made available a complete kit which is comprised of a matched camera and lens, together with a mounting bracket and the necessary power supply. This means that installation is simple. You only have to fit the lens, connect the supply and video cables, and set the focus and the unit is ready for use.

The indoor cameras are based on the proven LTC 0330, LTC0350, LTC 0430, and LTC 0450 series of cameras. These cameras are available in

standard and high resolution versions and color and monochrome and are for use in CCIR and PAL areas.

The Vari-focal lens supplied is the manual-iris lens LTC 3361/20. This lens is chosen because it covers most applications. By including the lens, the stock holding for the installer is reduced. Also, because a Vari-focal lens is used, the Field-of-view can be selected on site, allowing optimum area coverage.

The assembly can be used in a large variety of places such as shops, offices, petrol stations, and industrial environments, in fact any general indoor use.

SPECIFICATIONS

Range

Model No.	Camera Type	Description
LTC 0033/30	LTC 0330/51	B/W, CCIR Standard resolution
LTC 0035/30	LTC 0350/51	B/W, CCIR High resolution
LTC 0043/30	LTC 0430/51	Color, PAL Standard resolution
LTC 0045/30	LTC 0450/51	Color, PAL High resolution

Voltage: 85 - 264 VAC 50 Hz.

Power Dissipation: 3 W.

Sensor: 1/3-inch.

Resolution:

LTC 0033 - 380 TVL.

LTC 0035 - 570 TVL.

LTC 0043 - 330 TVL.

LTC 0045 - 460 TVL.

Sensitivity (F1.2, -6dB):

LTC 0033 - 0.15 lux.

LTC 0035 - 0.1 lux.

LTC 0043 - 1.5 lux.

LTC 0045 - 1.5 lux.

Lens: LTC 3361/20.

Focal Length: 2.8 - 6 mm.

Field-of-view: 89° x 69° - 44° x 34°.

Iris Control Range: F1.2 - close.

Iris Control: Manual-iris.

Connections:

Video Out: BNC internal on the camera

Power: Power lead with 2-pin Euro connector.

Mechanical

Camera Dimensions: 121 (L) x 68 (W) x 49 (H) mm
(4.76 x 2.68 x 1.93 in).

Weight: 0.49 kg (1.1 lb).

Mounting Bracket: LDH 6372/00.

Environmental

Operating Temperature: -20 to +50 °C (-4 to +122 °F).

Storage Temperature: -40 to +70 °C (-40 to +158 °F).

Electromagnetic Compatibility

EMC Requirements:

CE, Immunity and Emission.

Safety: CE.

Delivery:

The Standard Delivery Includes:

CCTV camera.

Lens mounted and adjusted.

Mounting bracket.



LTC 0033 - LTC 0045 Series Outdoor Cameras

- n **Preassembled Units with Housing, Camera, Lens, and Bracket Included**
- n **Range of Color and Monochrome Units**
- n **Standard & High Resolution Models Available**
- n **Varifocal Lenses Allow Field-of-view To Be Selected On-site**
- n **Modern Compact Design**
- n **Includes Mounting Bracket and Sunshield**



Housing, camera, and lens combinations are frequently used where protection against the environment is required. In order to simplify and reduce the installation process time, the Philips Unity Packages can be used. They are supplied fully assembled with a housing, a camera, and a varifocal lens, which allows the final field-of-view to be selected on-site. This means that installation is simple. You only have to connect the supply and video cables and set the focus, and the unit is ready for use. A wall bracket is also included in the package to enable mounting of the unit.

The Outdoor Cameras are based on the proven LTC 0330, LTC 0350, LTC 0430, and LTC 0450 Series of cameras. These cameras are available in standard or high resolution models and color or monochrome versions and are for use in CCIR and PAL areas.

For lens options, the Unity Package offers a choice of the 3.5–8 mm LTC 3364/31 and the 5–50 mm LTC 3374/21. Because a varifocal lens is used, the field-of-view can be selected on-site, allowing optimum area coverage.

The modern compact housing is of 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 shops, offices, petrol stations, industrial environments, and travel and transport areas, in fact any general indoor and outdoor use.

SPECIFICATIONS

Models

Model No.	Included in Package
Monochrome	
LTC 0033/51	LTC 0330/51 Camera, LTC 3364/31 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0033/56	LTC 0330/51 Camera, LTC 3374/20 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0035/51	LTC 0350/51 Camera, LTC 3364/31 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0035/56	LTC 0350/51 Camera, LTC 3374/20 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
Color	
LTC 0043/51	LTC 0430/51 Camera, LTC 3364/31 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0043/56	LTC 0430/51 Camera, LTC 3374/20 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0045/51	LTC 0450/51 Camera, LTC 3364/31 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount
LTC 0045/56	LTC 0450/51 Camera, LTC 3374/20 Lens, LTC 9483/50C Housing, LTC 9083/00 Sunshield, LTC 9215/00 Mount

Electrical

Model No.	Rated Voltage	Power at Rated Voltage
Monochrome	230 VAC, 50 Hz	27.5 W
Color	230 VAC, 50 Hz	30 W

Imager Format: Interline transfer CCD; 1/3-inch format.

Horizontal Resolution:

LTC 0033 Series: 380 TVL LTC 0035 Series: 570 TVL
LTC 0043 Series: 330 TVL LTC 0045 Series: 460 TVL

Sensitivity (3200 K):

		Usable Picture	Full Video
Scene Illumination ¹	LTC 0033: fc	0.027	0.09
		lx	0.27
	LTC 0043: fc	0.27	0.8
		lx	2.7
	LTC 0035: fc	0.018	0.072
		lx	0.18
	LTC 0045: fc	0.27	0.8
		lx	2.7

¹ f/1.4 lens, 75% scene reflectance.

Signal-to-noise (Min. AGC): 50 dB minimum.

White Balance (Color Models): Automatic Sensing (through the lens): 2500 K to 8000 K.

Video Output: 1.0 Vp-p, 75 Ohm.

Synchronization:

Line-lock (With AC Supply Only):

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.

Crystal-lock (DC Supply or L/L OFF):

Internal crystal reference is standard on all models.

Controls:

Phase Adjust: 0° to 300° (AC supply only).

Backlight Compensation: On/Off.

Back-focus: External adjustment.

DC Iris Level: Adjustable.

Connectors:

Video Out: Prewired female BNC connector.

Power¹: Connector plug, 4-pin female Amphenol 16T3109-001.

¹ Power supply input terminals are isolated from video output terminals.

/51 Models

Focal Length: 3.5–8 mm.

Iris Range: F1.4–200.

Focus Range: 0.3 m (1 ft) to infinity.

Iris Control: Automatic; adjustable from camera.

Focus Control: Manual.

Zoom Control: Manual.

/56 Models

Focal Length: 5–50 mm.

Iris Range: F1.4–185.

Focus Range: 1 m (3.3 ft) to infinity.

Iris Control: Automatic; adjustable from camera.

Focus Control: Manual.

Zoom Control: Manual.

Mechanical

Housing Window: 3 mm (0.12 in) thick UV-stabilized polycarbonate.

Mounting: Four (4) 8 mm (5/16 in) diameter fasteners (not included) are required for mounting.

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

Housing Finish: Dark Mushroom.

Housing Dimensions: See Drawings.

Weight (Approx.): 2.97 kg (6.5 lb).

Mount

Max Load: 9 kg (20 lb).

Size: 30 cm (12 in).

Weight (Approx.): 0.4 kg (0.9 lb).

Environmental

Housing Temperature (Outdoor Models):

At external temperature of –40°C to +50°C (–40°F to +122°F), maintains internal temperatures between –20°C to +55°C (–4°F to +131°F).

Humidity: 0% to 93% relative, noncondensing.

Salt Atmosphere: MIL-STD-810E, Method 509, Procedure I.

Housing Enclosure Protection: IP-65.

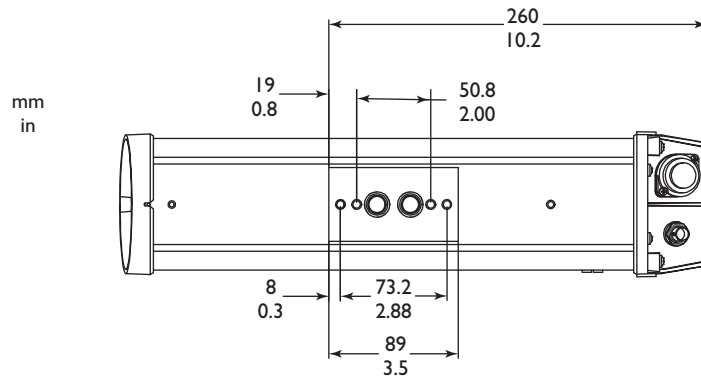
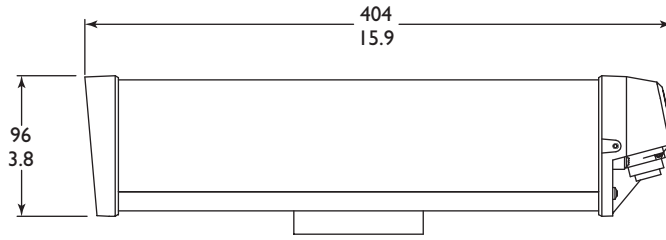
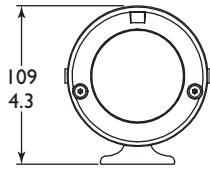
Electromagnetic Compatibility

EMC Requirements: FCC Class B.

Safety: UL, cUL, CE, TUV.

Accessories

LTC 9080/00 Tamper Resistant Kit: Includes ten screws and insertion tool to permit tamper resistance for five housings.



Outdoor Models

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Let's make things better.

Unity™ Dome Prepackaged Fixed Camera Line

- **Integrated Fixed Camera/Lens Module**
- **Innovative 3-pivot Camera Adjustment System for a Full 180° of Movement**
- **Prewired for Quick and Easy Installation**
- **Variety of Options Available:**
 - **Color & Monochrome**
 - **Standard & High Resolution**
 - **2.6–6 mm, 3.5–8 mm, & 5–50 mm Varifocal Lenses**
 - **Indoor & Outdoor**
 - **In-ceiling & Pendant**
- **Concealed Camera w/ Minimal f-stop Loss**



The Philips UnityDome Line features G3 AutoDome®-look dome housings that include an integrated fixed camera/lens module. All versions are prewired to the top of the housing, making installation a breeze. The UnityDomes come in three basic varieties: an indoor, in-ceiling dome; an indoor pendant dome; and an outdoor pendant version. These versions offer a multitude of options including monochrome & color, standard & high resolution, & indoor and outdoor. All units include a masked dome with a viewing window that conceals the camera/lens with minimal reduction to the light required to optimize camera performance.

The in-ceiling version (see next page for model numbers) can be easily mounted

in both sheet rock and standard drop ceilings using a quick-latch mechanism. The backbox is constructed from durable aluminum with conduit access and accommodations for safety cables making it ideal for use in plenum ceiling applications. All pendant versions can be mounted from a wall or ceiling with the appropriate accessories. The outdoor versions come with a sunshield and integrated heater & blower.

These units look identical to the Philips G3 AutoDome, providing for a uniform look in applications where both fixed and pan/tilt/zoom cameras are desired. Additionally, because these units are completely prewired to a connector identical to that which is used in the G3 AutoDome, they can be easily rotated with other PTZ units in the field.

SPECIFICATIONS

Electrical (Monochrome Cameras)¹

Models	Voltage Range	Systems	Power	
Horizontal				
Resolution				
LTC 9349/10MS	12 to 28 VAC, 50 Hz or 11 to 36 VDC	CCIR	3 W	380 TVL
LTC 9349/20MS	12 to 28 VAC, 60 Hz or 11 to 32 VDC	EIA	3 W	380 TVL
LTC 9449/10MS	12 to 28 VAC, 50 Hz or 11 to 36 VDC	CCIR	3 W	380 TVL
LTC 9449/20MS	12 to 28 VAC, 60 Hz or 11 to 32 VDC	EIA	3 W	380 TVL
LTC 9450/10MS	12 to 28 VAC, 50 Hz	CCIR	35 W	380 TVL
LTC 9450/20MS	12 to 28 VAC, 60 Hz	EIA	35 W	380 TVL

Electrical (Color Cameras)¹

Models	Voltage Range	Systems	Power	
Horizontal				
Resolution				
LTC 9349/10CS	12 to 28 VAC, 50 Hz or 11 to 36 VDC	PAL	3 W	330 TVL
LTC 9349/20CS	12 to 28 VAC, 60 Hz or 11 to 32 VDC	NTSC	3 W	330 TVL
LTC 9449/10CS	12 to 28 VAC, 50 Hz or 11 to 36 VDC	PAL	3 W	330 TVL
LTC 9449/20CS	12 to 28 VAC, 60 Hz or 11 to 32 VDC	NTSC	3 W	330 TVL
LTC 9450/10CS	12 to 28 VAC, 50 Hz	PAL	35 W	330 TVL
LTC 9450/20CS	12 to 28 VAC, 60 Hz	NTSC	35 W	330 TVL
LTC 9349/10CH	21 to 27 VAC, 50 Hz or 11 to 13 VDC	PAL	3 W	480 TVL
LTC 9349/20CH	21 to 27 VAC, 60 Hz or 11 to 13 VDC	NTSC	3 W	480 TVL
LTC 9449/10CH	21 to 27 VAC, 50 Hz or 11 to 13 VDC	PAL	3 W	480 TVL
LTC 9449/20CH	21 to 27 VAC, 60 Hz or 11 to 13 VDC	NTSC	3 W	480 TVL
LTC 9450/10CH	21 to 27 VAC, 50 Hz	PAL	35 W	480 TVL
LTC 9450/20CH	21 to 27 VAC, 60 Hz	NTSC	35 W	480 TVL

1. Standard Resolution Models: Add **38** for 3.5–8 mm (F1.4–200).
Add **55** for 5–50 mm (F1.4–185).

High Resolution Models: Add **26** for 2.6–6 mm (F1.6–200).

For Pendant Models: Add **W** for integrated Wall Mount.
Add **P** for integrated Pipe Mount.

Example: **LTC 9449/20CS-38W** = Color, standard resolution camera in a pendant housing with a 3.5–8 mm lens and wall mount included.

Lens Format: 1/3-inch.

Imager: 1/4-inch format, Interline Transfer CCD.

Sensitivity (3200K) / Signal-to-noise¹:

Models	Minimum Scene Illumination	Signal-to-noise Ratio
LTC 9349/x0MS Series, LTC 9449/x0MS Series, LTC 9450/x0MS Series	fc lx 0.018 0.18	48 dB
LTC 9349/x0CS Series, LTC 9449/x0CS Series, LTC 9450/x0CS Series	fc lx 0.18 1.8	50 dB
LTC 9349/x0CH Series, LTC 9449/x0CH Series, LTC 9450/x0CH Series	fc lx 0.28 2.8	48 dB

- Sensitivity & signal-to-noise apply to both 50 Hz & 60 Hz models.
- f/1.2 lens, 75% reflection, 50I RE.
- f/1.6 lens, 89% reflection, 50I RE.

White Balance (Color Models Only): Automatic sensing through the lens (TTL system).

LTC 9349/20CS Series, U2700 K to 900 K
LTC 9449/20CS Series,
LTC 9450/20CS Series

LTC 9449/20CH Series, Continuous or hold
LTC 9450/20CH Series

Video Output: 1.0Vp-p, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Crystal-lock (When DC Supplied): Internal crystal reference is standard on all models.

Controls:

For LTC 9449/20CH Series & LTC 9450/20CH Series Only:
Automatic Gain Control (AGC): On/off.
Gamma: 0.6/1.0.
Automatic White Balance (AWB): Continuous/hold.

For All Models:
Backlight Compensation (BLC): On/off.

Connector: Power.

Video Connector: BNC.

Mechanical

Dimensions: See drawings.

Weight:

LTC 9349 Series: 1.7 kg (3.8 lb).

LTC 9449 Series: 2.0 kg (4.4 lb).

LTC 9450 Series: 2.3 kg (5.0 lb).

Construction/Finish: Aluminum housing, acrylic dome. Plastic sunshield (outdoor models only). The lower capsule has a silk-screened window with a clear viewing window.

Environmental

LTC 9349 & LTC 9449 Indoor Models: Rated for indoor use.

LTC 9450 Outdoor Units:

Temperature: At external temperatures of –40 °C to 50° C (–40 °F to 122 °F), maintains internal temperatures between –20 °C and 50 °C (–4 °F to 122 °F).

Salt Atmosphere: MIL-STD-8819E, Method 509, Procedure I.

Enclosure Protection: IP 65, and designed for Nema 4.

Electromagnetic Compatibility

EMC Requirements: FCC Class A.

Safety: UL, CE.

Mounting Accessories

Model	Mount Type
LTC 9540/00	Wall arm
LTC 9540/24	Wall arm with empty transformer box
LTC 9541/00	Pendant pole (mast) mount
LTC 9542/00	Pendant corner mount
LTC 9543/00	Pipe mount
LTC 9230/00	Parapet mount (must combine with LTC 9543/00 pipe mount)
LTC 9544/00	Support bracket with standoffs
LTC 9316/00P	16 ft mounting pole

Recommended Power Supply:

RT2440SL: 120 VAC, 60 Hz input; 24 VAC, 60 Hz, 40 VA Output.

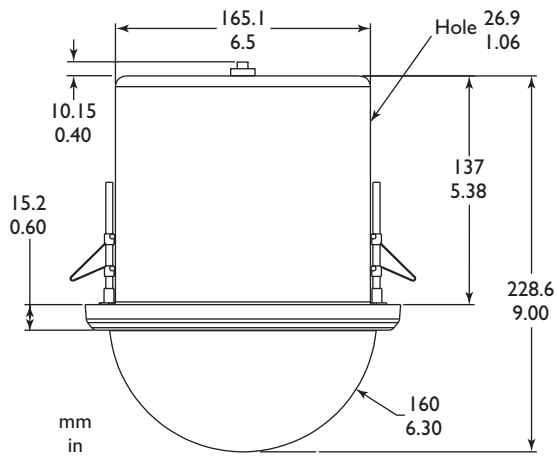


Fig 1 LTC 9349 Series Suspended Ceiling Models

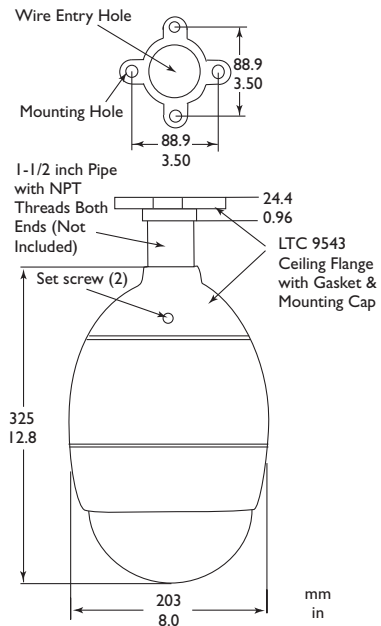


Fig 2 LTC 9449 Series
Shown with Included Pipe Mount

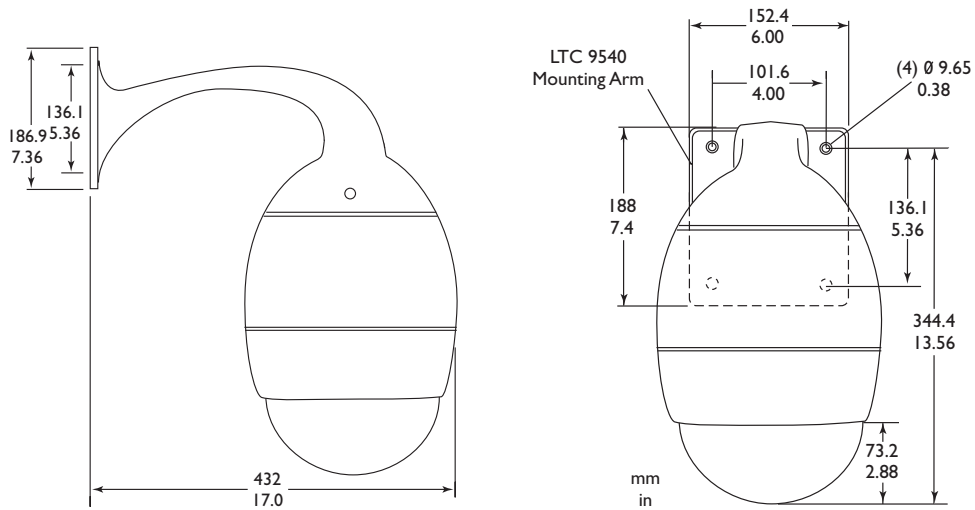


Fig 3 LTC 9449 Series
Shown with Included Wall Arm

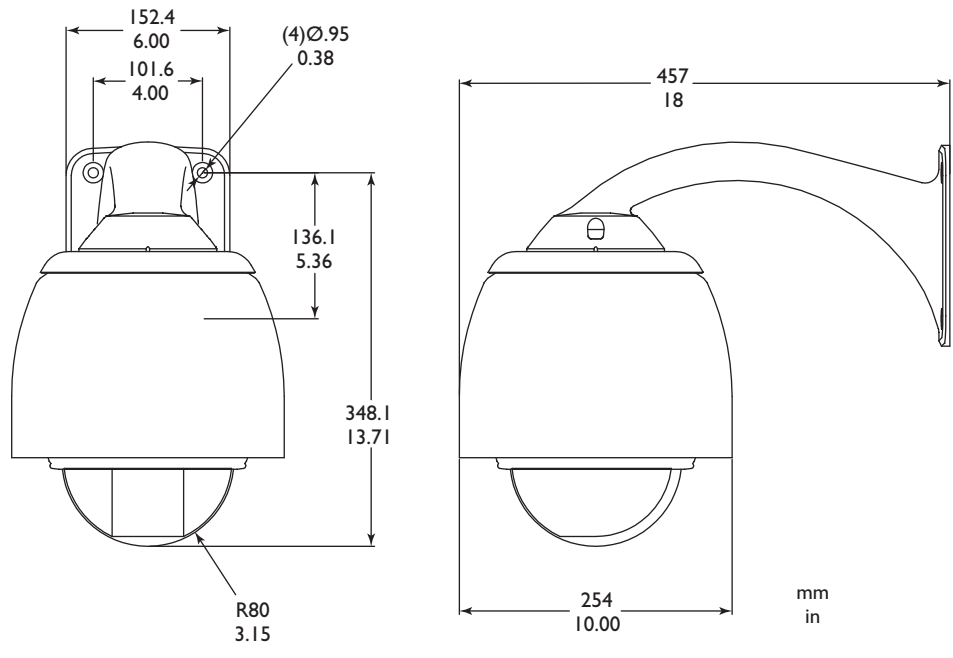


Fig 4 LTC 9450 Series
Shown with Included Wall Arm

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NetCameras

NetCam-4 Series Digital Network Cameras

- n **1/3-inch Format CCD color camera**
- n **Up to 720x486 resolution**
- n **Wavelet compression**
- n **TCP/IP protocols for communication on intranets and the internet**
- n **10BaseT Ethernet output**
- n **Integrated server for 3 additional cameras**
- n **Internal HTML pages for viewing and administration**
- n **Real time viewing in single or quad display**
- n **Video motion detection and alarm contacts**



Philips introduces the NetCam-4 series of self-contained network cameras that comprise a high-resolution color camera, wavelet video compression, video motion detection and a network server for up to 100 simultaneous video streams. The NetCam-4 has inputs for three additional standard analog color cameras. Acting as a server for these additional cameras, the NetCam-4 will transmit the images of the 4 channels individually or in quad mode.

The network interface is compliant with 10baseT Ethernet and supports the TCP/IP set of communication protocols allowing communication on private networks, Intranets and the Internet.

Alarms can be triggered by the software video motion detector, or the 2 contact closure inputs. Once an alarm is generated, the camera will send alarm pictures to a predefined email address or upload the pictures to a file on a network server using FTP. The alarm also triggers an

internal relay which can be used for switching external devices via the connections on the back of the camera.

The cameras have outputs for a video iris lens and serial outputs for control of Pan and Tilt units and Zoom lenses.

Security options include password access protection, IP address filtering and image encryption.

A PC with standard Internet Explorer or Netscape browser is used for viewing of the network camera images.

The user control functions enable the selection of individual images or a quad screen. The picture update rate, image resolution and image size are adjustable from the viewing location.

In order to enhance the picture update rate, a quality box can be defined for the area of interest. This part of the picture is transmitted at the selected picture quality, while the remainder of the picture is transmitted at reduced quality.

SPECIFICATIONS

ELECTRICAL

Model No.	Nominal voltage/power	Color system
NetCam-4 NTSC	12Vdc/8 W	NTSC
LTC 0204/10	12Vdc/8 W	PAL

Internal camera and video specification:

Imager: Interline transfer CCD 1/3-inch image format.

Active Picture Elements:

NTSC Models: 768 H x 492 V.
PAL B Models: 752 H x 582 V.

Sensitivity: 3 lux (0.3 fc)

1) for f/1.2 lens, 89% scene reflectance

Horizontal Resolution: 460 TVL.

Signal-to-Noise:

46 dB.(Unified weighting filter per CCIR Recommendation 567).

AGC: 18 dB.

Shutter speeds: Automatic; up to 1/100,000 sec.

White Balance: Auto tracking; 2500 K to 8,000 K.

Contouring: Horizontal and vertical symmetric,

Gamma: 0.45

Video output: Output 1 on a BNC; 1 Vpp into 75 ohms.

Video inputs:

Input 1, selected by switch (int/ext) on BNC 1

Input 2 – 4, on BNC 2 – 4:

1 Vpp, selectable 75Ω or high impedance

Lens:

C/CS-mount.

Video-iris: 12 Vdc 40 mA max.

Video level: 1.0 Vpp

Network

32bit RISC Embedded Processor

Flash memory: 8MB

RAM: 16MB

Operating System: Embedded Linux

Video Channel (Input / Output):

4 inputs, one internal camera one control output.

Selection internal/external camera and terminating/non-terminating inputs

Network protocols: TPC/IP, HTTP, ARP, RARP, ICMP, DHCP, FTP, SMTP

Network Line: 10 base-T Ethernet LAN

Compatible Browsers:

MS internet Explorer Ver 4.0 or later

Netscape Ver 4.5 or later

Java applet

Operating system: Windows 98/NT4 (Winsock2 required)

Image Resolution: 720X486, 720X243, 360X243, 180X121, 90X60

Image Compression:

Compression: Wavelet, Progressive mode

Compression Ratio: 10:1 ~200:1 (typical 30:1)

Frame Rate: Max 30 frame/sec

Performance:

Transfer Rate: Max 120fps,

Decoding Rate: 2~15fps,

Management and Software Update:

Remote system-configuration

Flash memory allows new version software updates through TCP/IP network

Security:

Password protection

IP Address Filtering

Alarms and I/O:

Motion detection (Activity detection)

Automatic e-mail and file transfer

Software-controlled relay output & 2 alarm inputs

Miscellaneous functions:

High quality image area setting

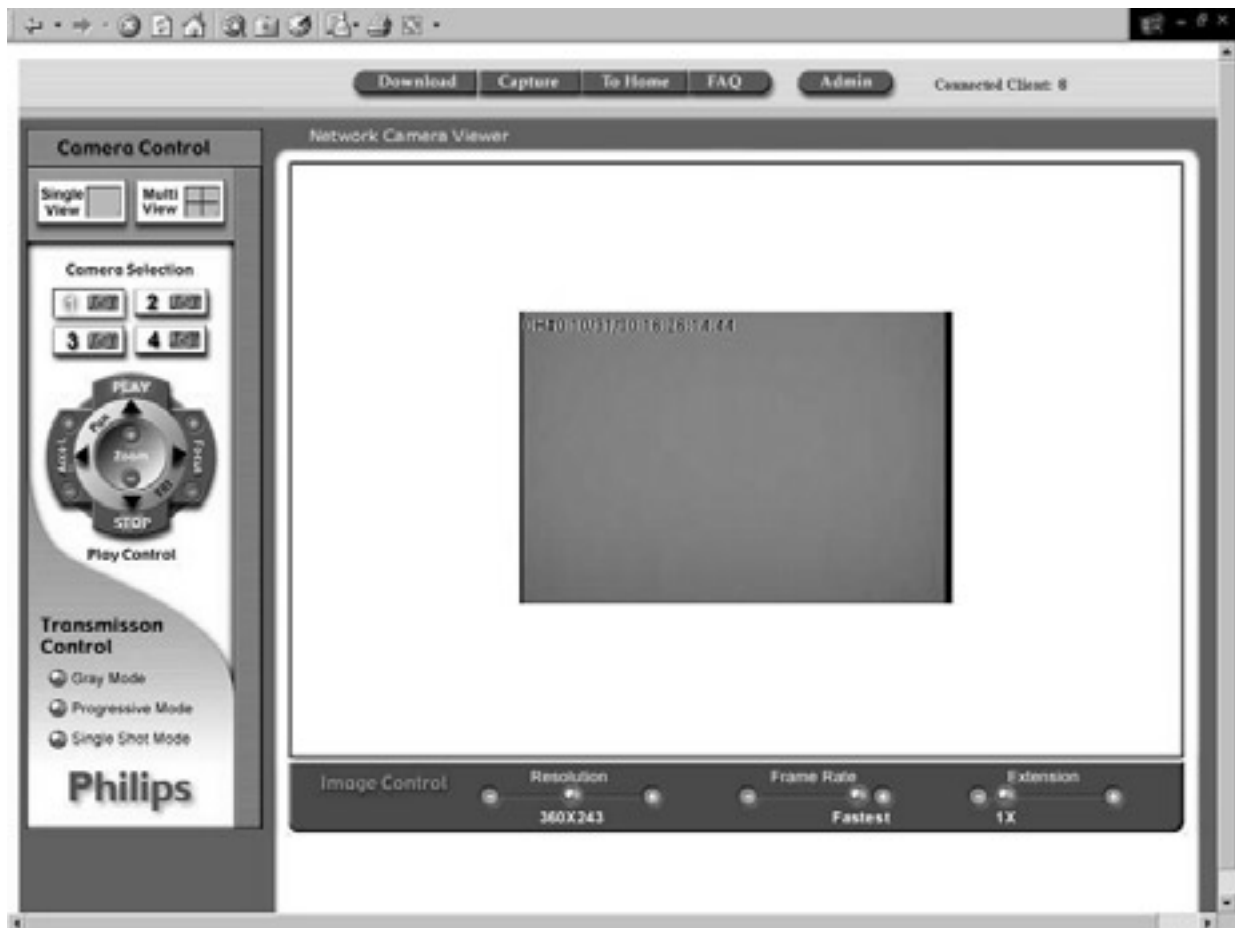
Image quality control (10 levels of compression)

Periodical image transfers through E-mail and uploads to a server using FTP

Grey/Progressive/Single-shot Mode

Pan/Tilt/Zoom Control: RS-232 or RS-485 (DB-15 connector)

External power supply: 12Vdc/1A; 100 – 240Vac; Power supply unit included



NetCam-4 Home Page

MECHANICAL

Connectors:

- 4x BNC, video.
- RJ-45 Ethernet.
- General Interface. 15-pin D-Sub connector
 - RS232
 - RS485
 - Video iris
 - Input-Output Interface.
- Power 5mm circular, center positive

Camera mounting: Top and Bottom; 1/4" 20 UNC

Lens mounting: C and CS

Dimensions: 75 x 105 x 200 mm (HxWxD*)

*including connectors

Weight: 0.8 kg

ENVIRONMENTAL

Camera:

Temperature range:

Operating: -5 to 45°C (23 to 113°F)

Storage: -40 to 70°C (-40 to 158°F)

Operating Humidity: 5% to 93% non-condensing

General Standard according to EN50130-5 Class I

Electro Magnetic Compatibility:

Emission:

PAL model: EN 55022, Class B;

NTSC model: FCC part 15, Class B

Immunity: EN 55024 for ITE equipment

Certification: CE, ULI950 & FCC

Power Supply Unit:

Temperature range:

Operating: -5 to 45°C (23 to 113°F)

Storage: -40 to 70°C (-40 to 158°F)

Operating Humidity: 5% to 95% non-condensing

General Standard according to EN50130-5 Class 2

Electro Magnetic Compatibility:

Immunity: Meets FCC part 15, Class B

CE: Compliant, class B

Delivered accessories

Set-up software for Windows 98/NT4

Cross-wire network cable

DB 15 connector

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NetCam-DVR Series Digital Network Cameras

- n **1/3-inch Format CCD color camera**
- n **Up to 720x486 resolution**
- n **Wavelet compression**
- n **TCP/IP protocols for communication on intranets and the internet**
- n **10BaseT Ethernet output**
- n **Integrated server for 3 additional cameras**
- n **Internal multiplexing DVR with 6GB HDD**
- n **Real time viewing and playback of single or quad images**
- n **Video motion detection and alarm contacts**



Philips introduces the NetCam-DVR series of self-contained network cameras that comprise a high-resolution color camera, wavelet video compression, 6GB digital video recorder, video motion detection and a network server. The NetCam-DVR has inputs for three additional standard analog color cameras. Acting as a server for these additional cameras, the NetCam-DVR will provide transmission of the 4 images sequentially, while the DVR will provide multiplexed recording. Playback of the recorded images can be done in quad mode or for individual camera channels. Recording, play-back and live video can function at the time.

The NetCam-DVR is ideally suited for local recording and play-back of the recorded images via a network. The live images give additional real time information.

The network interface is compliant with 10baseT Ethernet and supports the TCP/IP set of communication protocols allowing communication on private networks, Intranets and the Internet.

The viewer software supplied with the NetCam-DVR enables viewing of live and recorded images, and provides the control settings for the time lapse recording, the alarm recording and HDD management functions. Alarm recording can be triggered by the software video motion detector or the 2 contact closure inputs.

Furthermore, the DVR has time date search and alarm play-back functions.

The cameras have outputs for a video iris lens and serial outputs for control of Pan and Tilt units and Zoom lenses.

Security options include password access protection and IP address filtering..

A PC on which the dedicated NetCam-DVR viewer is installed, is needed for control and viewing of the NetCam-DVR.

The user control functions enable playback selection of individual images or a quad screen. The viewer screen also provides the standard DVR control buttons, e.g. Start, Stop, Reverse. Upto 4 realtime images can be positioned on the monitor screen.

In order to enhance the picture update rate, a quality box can be defined for the area of interest. This part of the picture is transmitted at the selected picture quality, while the remainder of the picture is transmitted at reduced quality.

SPECIFICATIONS

ELECTRICAL

Model No.	Nominal voltage/power	Color system
NetCam-DVR NTSC LTC 0208/10	12Vdc/11 W 12Vdc/11 W	NTSC PAL

Internal camera and video specification:

Imager: Interline transfer CCD; 1/3-inch image format.

Active Picture Elements:

NTSC Models: 768 H x 492 V.

PAL B Models: 752 H x 582 V.

Sensitivity: 3 lux (0.3 fc)

1) for f/1.2 lens, 89% scene reflectance

Horizontal Resolution: 460 TVL.

Signal-to-Noise: 46 dB.(Unified weighting filter per CCIR Recommendation 567).

AGC: 18dB.

Shutter speeds: Automatic; up to 1/100,000 sec.

White Balance: Auto tracking; 2500 K to 8,000 K.

Contouring: Horizontal and vertical symmetric,

Gamma: 0.45

Video output: Output 1 on a BNC; 1 Vpp into 75 ohms.

Video inputs:

Input 1, selected by switch (int/ext) on BNC 1

Input 2 – 4, on BNC 2 – 4:

1 Vpp, selectable 75Ω or high impedance

Lens:

C/CS mount

Video-iris: 12Vdc 40 mA max.

Video level: 1.0Vpp

Digital Video Recorder

Hard disk size: 6 GB, 2.5" HDD

Max recording rate: 15 frames per second

Time lapse range: 15 fps ~ 1 frame per 60sec

Alarm rec. range: 15 fps ~ 1 frame per 60sec

Network

32bit RISC Embedded Processor

Flash memory: 8MB

RAM: 16MB

Operating System: Embedded Linux

Video Channel (Input / Output):

4 inputs, one internal camera one control output.

Selection internal/external camera and terminating/non-terminating inputs

Network protocols: TPC/IP,ARP, RARP,ICMP

Network Line: 10 base-T Ethernet LAN

Viewer software: supplied with the NetCam-DVR

Operating system: Windows 98/NT4 (Winsock2 required)

Image Resolution: 720X486, 720X243, 360X243, 180X121, 90X60

Image Compression:

Compression: Wavelet, Progressive mode

Compression Ratio: 10:1 ~200:1 (typical 30:1)

Frame Rate: Max 30 frame/sec

Performance:

Transfer Rate: Max 15fps,

Decoding Rate: 2~15fps,

Management and Software Update:

Remote system-configuration

Flash memory allows new version software updates through TCP/IP network

Security:

Password protection

IP Address Filtering

Alarms and I/O:

Motion detection (Activity detection)

Software-controlled relay output & 2 alarm inputs

Miscellaneous functions:

High quality image area setting

Image quality control (10 levels of compression)

Pan/Tilt/Zoom Control: RS-232 or RS-485 (DB-15 connector)

External power supply:

12Vdc/1A

100 – 240Vac

Power supply unit included

MECHANICAL

Connectors:

- 4x BNC, video.
- RJ-45 Ethernet.
- General Interface. 15-pin D-Sub connector
 - RS232
 - RS485
 - Video iris
 - Input-Output Interface.
- Power 5mm circular, center positive

Camera mounting: Top and Bottom; 1/4" 20 UNC

Lens mounting: C and CS

Dimensions: 75 x 105 x 200 mm (HxWxD*)

*including connectors

Weight: 0.9 kg

ENVIRONMENTAL

Temperature range:

- Operating: -5 to 45°C (23 to 113°F)
- Storage: -40 to 70°C (-40 to 158°F)

Operating Humidity: 5% to 93% non-condensing

General Standard according to EN50130-5 Class I

Harddisk drive specification:

- Operating vibration: 9.8 m/s² (IG), 5-400 Hz
- Operating shock: 150 G/2.0 msec

Electro Magnetic Compatibility:

Emission:

- PAL model: EN 55022, Class B;
- NTSC model: FCC part 15, Class B

Immunity: EN 55024 for ITE equipment

Certification: CE, UL & FCC

Delivered accessories:

Viewer software for Windows 98/NT4

Cross-wire network cable

DB-15 connector



NetCam-DVR Viewer page

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Lenses

Philips' Range of Fixed Focal-length Lenses

- n **High quality optics**
- n **Fixed-iris, manual-iris, DC-iris and video-iris types**
- n **Reliable, robust auto-iris mechanism**
- n **1/3" and 1/2" formats**
- n **Standard C and CS-mount**
- n **Standard 4-pole 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 Philips range of Fixed Focal-length Lenses meet these tough requirements by providing long and reliable operation with no maintenance. Comprising fixed-iris, manual-iris, dc-iris and video-iris types, the lens range from wide-angle to tele-photo to cover virtually all applications in CCTV observation systems.

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.

Fixed-iris lenses are available for cameras with 1/3" image sensors, where the lighting conditions are very stable and there is no need to adjust either the focus or the iris.

For cameras with 1/3" and 1/2" image sensors and automatic sensitivity control, the manual-iris lens range includes wide-angle, standard and telephoto focal length versions. They all feature manual adjustment of iris and focus.

DC-iris and video-iris lenses include all the features of the manual-iris types but are used in applications with widely varying lighting conditions. These lenses are available with a standard 4-pole connector.

Features - Fixed-iris

	LTC 3320/20	LTC 3340/20
USA model	TC9783	TC9788
Image format	1/3"	1/3"
Focal length	3.6 mm	8 mm
Iris range	F2.0 - fixed	F2.0 - fixed
Weight	20 g (0.044 lb)	18 g (0.04 lb)
Dimensions		
lens (A)	30 mm (1.18")	30 mm (1.18")
width (B)	30 mm (1.18")	30 mm (1.18")
length (C)	30 mm (1.18")	30 mm (1.18")
focal point (D)	12.5 mm	12.5 mm
C-mount (E)	5.2 mm (0.2")	5.2 mm (0.2")
Lens mount	CS	C-mount
Angle of view	72° X 54°	31° X 24°
Iris control	none	none
Focus control	none	none

Features - Manual-iris

	LTC 3211/20	LTC 3231/20	LTC 3241/20	LTC 3311/21	LTC 3331/21	LTC 3341/21
USA model	TC9703	TC9706	TC9712			
Image format	1/2"	1/2"	1/2"	1/3"	1/3"	1/3"
Focal length	3.7 mm	6 mm	12 mm	2.8 mm	4 mm	8 mm
Iris range	F1.6 - close	F1.4 - close	F1.4 - close	F1.2 - close	F1.2 - close	F1.2 - close
Min. Object Distance	0.2m (0.65ft)	0.3m (1ft)	0.8m (2.6ft)	0.3m (1ft)	0.3m (1ft)	0.3m (1ft)
Weight	34 g (0.074 lb)	32 g (0.07 lb)	26 g (0.056 lb)	35 g (0.076 lb)	32 g (0.07 lb)	26 g (0.056 lb)
Dimensions						
lens (A)	32 mm (1.25")	32 mm (1.25")	32 mm (1.25")	36.6 mm (1.44")	36.6 mm (1.44")	36.6 mm (1.44")
width (B)	32 mm (1.25")	32 mm (1.25")	32 mm (1.25")	36.6 mm (1.44")	36.6 mm (1.44")	36.6 mm (1.44")
length (C)	35.7 mm (1.4")	35.7 mm (1.4")	35.7 mm (1.4")	36.3 mm (1.42")	33.8 mm (1.33")	33.8 mm (1.33")
focal point (D)	12.5 mm	12.5 mm	12.5 mm	12.5 mm	12.5 mm	12.5 mm
CS-mount (E)	5.1 mm (0.2")	5.1 mm (0.2")	5.1 mm (0.2")	5.6 mm (0.22")	5.6 mm (0.22")	5.6 mm (0.22")
Lens mount	CS-mount	CS-mount	CS-mount	CS-mount	CS-mount	CS-mount
Angle of view (1/2")	95° X 73°	58° X 45°	30° X 23°	N/A	N/A	N/A
Angle of view (1/3")	73° X 54°	45° X 34°	23° X 17°	94° X 72°	64° X 49°	33° X 25°
Iris control	manual	manual	manual	manual	manual	manual
Focus control	manual	manual	manual	manual	manual	manual

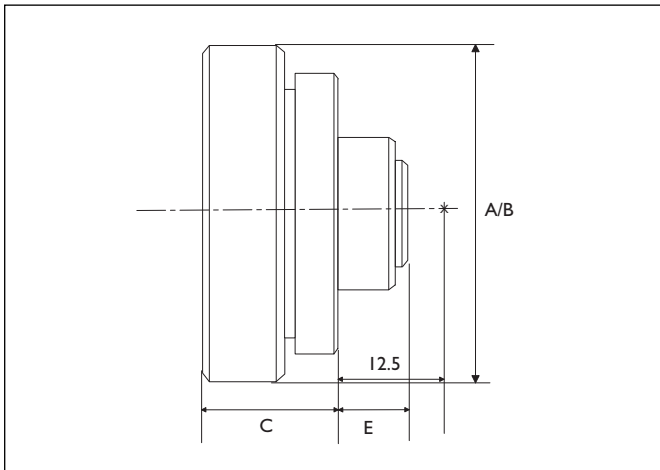
Features - DC-iris

	LTC 3214/20	LTC 3234/20	LTC 3244/20	LTC 3314/21	LTC 3334/21	LTC 3344/21
Image format	1/2"	1/2"	1/2"	1/3"	1/3"	1/3"
Focal length	3.7 mm	6 mm	12 mm	2.8 mm	4 mm	8 mm
Iris range	F1.6 - 300	F1.4 - 300	F1.4 - 300	F1.2 - 200	F1.2 - 200	F1.2 - 200
Min. Object Distance	0.2m (0.65ft)	0.2m (0.65ft)	0.3m (1ft)	0.3m (1ft)	0.3m (1ft)	0.3m (1ft)
Weight	57 g (0.12 lb)	60 g (0.13 lb)	46 g (0.1 lb)	52 g (0.115 lb)	49 g (1.08 lb)	44 g (0.097 lb)
Dimensions						
lens (A)	42.8 mm (1.68")	42.8 mm (1.68")	42.8 mm (1.68")	36.8 mm (1.45")	36.8 mm (1.45")	36.8 mm (1.45")
width (B)	47.1 mm (1.85")	47.1 mm (1.85")	47.1 mm (1.85")	43.5 mm (1.71")	43.5 mm (1.71")	43.5 mm (1.71")
length (C)	36.5 mm (1.43")	36.5 mm (1.43")	36.5 mm (1.43")	36.3 mm (1.42")	33.8 mm (1.33")	33.8 mm (1.33")
focal point (D)	12.5 mm	12.5 mm	12.5 mm	12.5 mm	12.5 mm	12.5 mm
CS-mount (E)	4.4 mm (0.17")	4.4 mm (0.17")	4.4 mm (0.17")	5.6 mm (0.22")	5.6 mm (0.22")	5.6 mm (0.22")
Lens mount	CS-mount	CS-mount	CS-mount	CS-mount	CS-mount	CS-mount
Angle of view (1/2")	95° X 73°	58° X 45°	30° X 23°	N/A	N/A	N/A
Angle of view (1/3")	73° X 54°	45° X 34°	23° X 17°	94° X 72°	64° X 49°	33° X 25°
Iris control	DC	DC	DC	DC	DC	DC
Focus control	manual	manual	manual	manual	manual	manual
4-pin connector	DC-iris	DC-iris	DC-iris	DC-iris	DC-iris	DC-iris

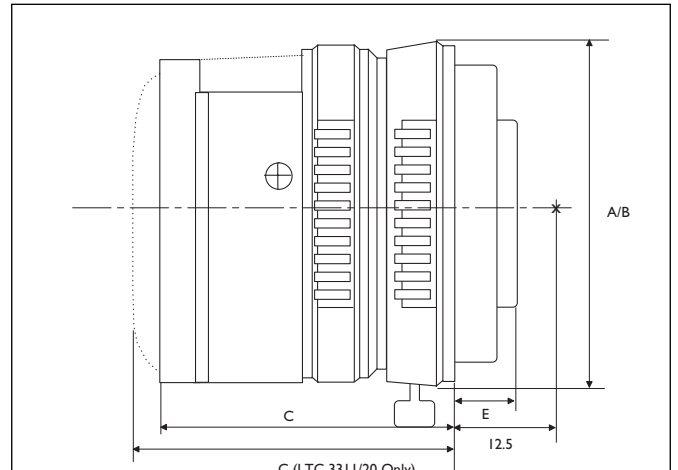
Note: Angle of view = Horizontal x Vertical field angle to the nearest degree.

Features Video Iris

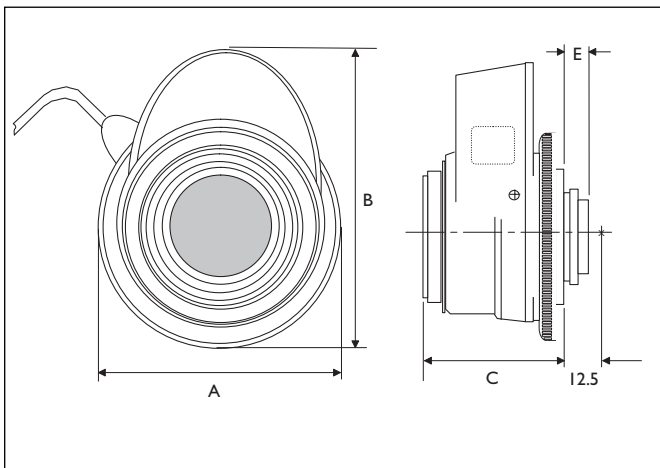
	LTC 3123/40	LTC 3133/40	LTC 3043/40	LTC 3053/40
Image format	2/3"	2/3"	1"	1"
Focal length	8 mm	16 mm	25 mm	50 mm
Iris range	F1.4 - 360	F1.4 - 360	F1.4 - 360	F1.8 -360
Min. Object Distance	0.2m (0.65ft)	0.5m (1.6ft)	0.9m (3ft)	1m (3.3ft)
Weight	140 g (0.31 lb)	110 g (0.24 lb)	140 g (0.31 lb)	230 g (0.51 lb)
Dimensions				
lens (A)	46.5 mm (1.83")	46.5 mm (1.83")	46.5 mm (1.83")	62 mm (2.44")
width (B)	50.5 mm (1.99")	50.5 mm (1.99")	50.5 mm (1.99")	62 mm (2.44")
length (C)	51.1 mm (2.01")	46.7 mm (1.84")	51.8 mm (2.04")	51 mm (2.01")
focal point (D)	17.526 mm	17.526 mm	17.526 mm	17.526 mm
C-mount (E)	3.8 mm (0.15")	4.5 mm (0.18")	3.4 mm (0.13")	3.5 mm (0.14")
Lens mount	C-mount	C-mount	C-mount	C-mount
Angle of view (1/2")	44° X 33°	23° X 17°	15° X 11°	7.3° X 5.5°
Angle of view (1/3")	33° X 25°	17° X 13°	11° X 8.3°	5.5° X 4.1°
Iris control	video	video	video	video
Focus control	manual	manual	manual	manual
4-pin connector	video-iris	video-iris	video-iris	video-iris



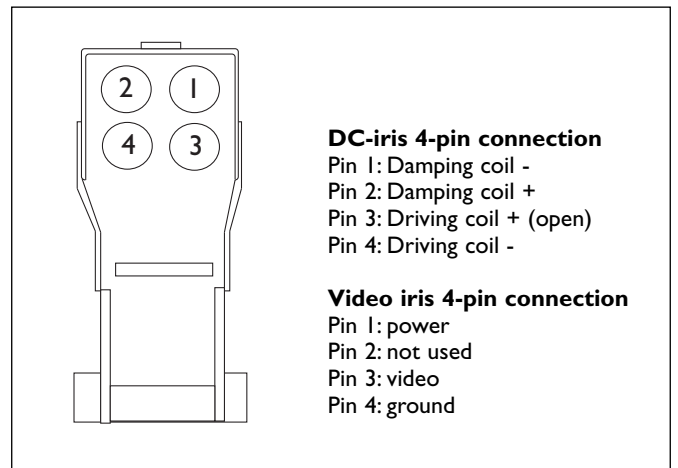
Fixed-iris Lens



Manual-iris Lens



DC-iris and Video Iris Lens



4-pin Connector (Front view)

Choosing the correct lens

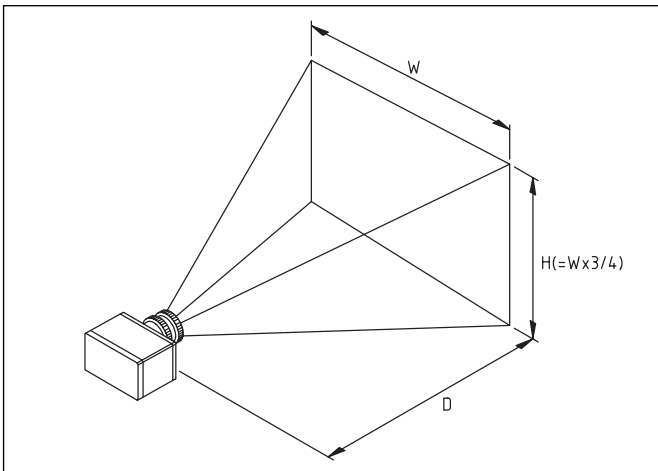
There is a simple relationship between the required field of view and the focal length of the lens to be used (see Field of View figure).

To determine this:

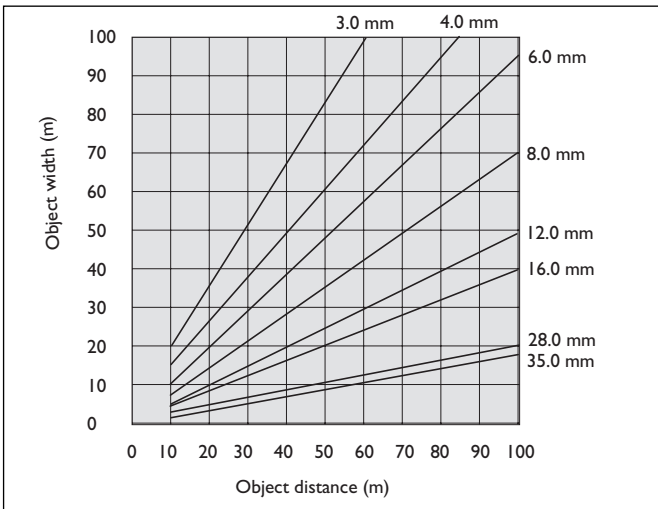
- Estimate or measure the maximum width “W” of the field of view.
- Estimate or measure the distance “D” between the camera and the object to be viewed.

- For 1/2” lens, use Graph 1 and for 1/3” 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.

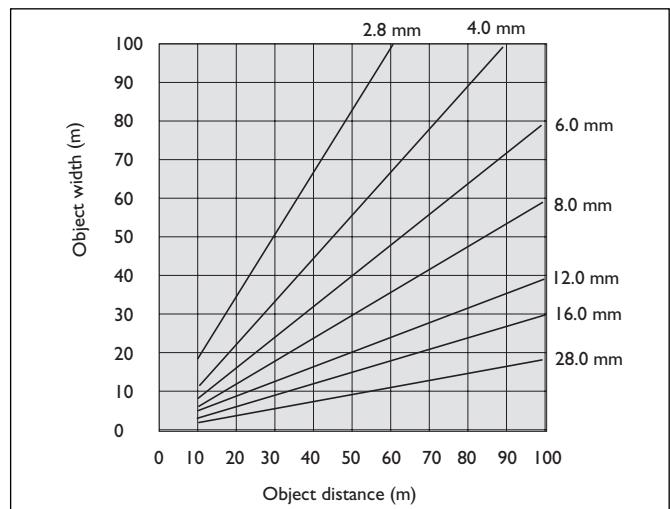
Normally, for optimum coverage of the field of view, 1/3” and 1/2” lens are used with camera heads with 1/3” and 1/2” format sensors respectively. However, 1/2” lens may be used with 1/3” cameras but the outer areas of the field of view of the lens will not be seen by the sensor.



Field of View



Graph 1 - Field of View (1/2” cameras)



Graph 2 - Field of View (1/3” cameras)



Manual and DC Iris Vari-Focal Lenses

- **High-Quality Optics**
- **1/3-inch and 1/2-inch formats**
- **Reliable, Robust Construction**
- **Choice of Focal Length Options**
- **Compact Design**
- **Manual and DC iris Versions**
- **Manual Focus and Zoom Control**



Vari-focal lenses are the most versatile and practical lenses to use when the job calls for optimization of angular field on site. Surveillance effects are maximized since any desired angle of field can be obtained. There is no need to carry several different focal length lenses for an installation job. Installation can be more efficient because the installer can find the desired angles of field without moving the camera set-up. Once installed, even if the field of view requirements change, the system can still be used simply by altering the focal length setting of the lens.

This lens series are compact, rugged, 1/3-inch and 1/2-inch image format manual and DC iris varifocal lenses. Their high sensitivity and reliability provide optimal performance in all environments.

These lenses are provided with a standard CS mount for use with a wide variety of cameras. The connection for the DC iris control are is a 4-pin standard plug that fits directly into the cameras iris output.

Impressive optical quality is a result of combined high standards for resolution, contrast reproduction and lens coating.

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.

SPECIFICATIONS

Features - LTC 32xx Series 1/2" Varifocal lenses

	LTC 3261/30	LTC 3264/30	LTC 3271/40	LTC 3274/40
Image format	1/2"	1/2"	1/2"	1/2"
Focal length	4.5 - 10 mm	4.5 - 10 mm	7.5 - 75 mm	7.5 - 75 mm
Iris range	F1.6 - close	F1.6 - 360	F2.2 - close	F2.2 - 360
Focus range	0.3m (1ft) to infinity	0.3m (1ft) to infinity	0.3m (1ft) to infinity	0.3m (1ft) to infinity
Back focus distance	8.6 mm (0.34 in) in air	8.6 mm (0.34 in) in air	8.5 mm (0.34 in) in air	8.5 mm (0.34 in) in air
Weight	40 g (0.09 lb)	50 g (0.11 lb)	215 g (0.47 lb)	220 g (0.48 lb)
Lens mount	CS	CS	CS	CS
Angle of view:				
Wide (HxV)	81.3° X 60.9°	81.3° X 60.9°	46.2° X 35.5°	46.2° X 35.5°
Tele (HxV)	38.2° X 28.7°	38.2° X 28.7°	4.9° X 3.7°	4.9° X 3.7°
Iris control	Manual	4-pin DC control	Manual	4-pin DC control
Focus control	Manual	Manual	Manual	Manual
Zoom control	Manual	Manual	Manual	Manual

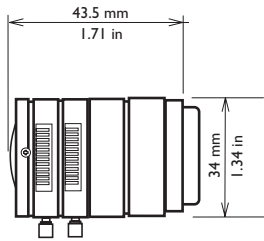
Features - LTC 33xx Series 1/3" Varifocal lenses

	LTC 3361/20	LTC 3364/21	LTC 3361/30	LTC 3364/31
Image format	1/3"	1/3"	1/3"	1/3"
Focal length	2.8 - 6 mm	2.8 - 6 mm	3.5 - 8 mm	3.5 - 8 mm
Iris range	F1.2 - close	F1.4 - 200	F1.4 - close	F1.4 - 200
Focus range	0.3m (1ft) to infinity	0.3m (1ft) to infinity	0.3m (1ft) to infinity	0.35m (1.1ft) to infinity
Back focus distance	8.66 mm (0.34 in) in air	7.54 mm (0.3 in) in air	8.66 mm (0.34 in) in air	7.79 mm (0.31 in) in air
Weight	83 g (0.18 lb)	59 g (0.13 lb)	48 g (0.1 lb)	55 g (0.12 lb)
Lens mount	CS	CS	CS	CS
Angle of view:				
Wide (HxV)	88.7° x 69.2°	96.9° X 72.5°	71.4° X 54.8°	79.8° X 58.8°
Tele (HxV)	44.2° x 34.0°	46.7° X 35.1°	33.0° X 25.2°	35.4° X 26.6°
Iris control	Manual	4-pin DC control	Manual	4-pin DC control
Focus control	Manual	Manual	Manual	Manual
Zoom control	Manual	Manual	Manual	Manual

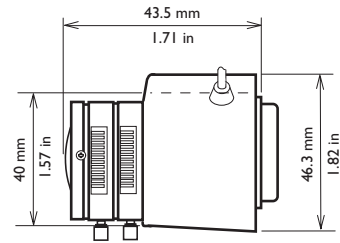
Features - LTC 33xx Series 1/3" Varifocal lenses

	LTC 3361/40	LTC 3364/40	LTC 3371/20	LTC 3374/20
Image format	1/3"	1/3"	1/3"	1/3"
Focal length	2.8 - 12	2.8 - 12	5 - 50 mm	5 - 50 mm
Iris range	F1.4 - close	F1.4 - 360	F1.4 - close	F1.4 - 185
Focus range	0.3 m (1 ft) to infinity	0.3 m (1 ft) to infinity	1 m (3.3 ft) to infinity	1 m (3.3 ft) to infinity
Back focus distance	8.6 mm (0.34 in) in air	8.6 mm (0.34 in) in air	10.05 mm (0.4 in) in air	10.05 mm (0.4 in) in air
Weight	72 g (0.16 lb)	79 g (0.17 lb)	85 g (0.187 lb)	97 g (0.213 lb)
Lens mount	CS	CS	CS	CS
Angle of view:				
Wide (HxV)	97.4° X 72.5°	97.4° X 72.5°	53.4° X 40.1°	53.4° X 40.1°
Tele (HxV)	24.1° X 18.1°	24.1° X 18.1°	5.3° X 4.1°	5.3° X 4.1°
Iris control	Manual	4-pin DC control	Manual	4-pin DC control
Focus control	Manual	Manual	Manual	Manual
Zoom control	Manual	Manual	Manual	Manual

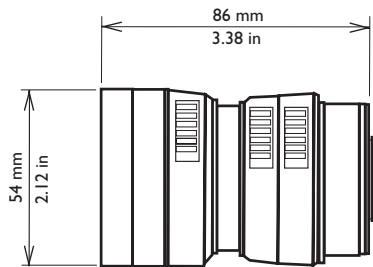
Features - LTC 32xx Series



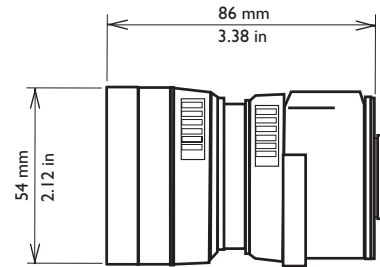
Dimensions LTC 3261/30



Dimensions LTC 3264/30

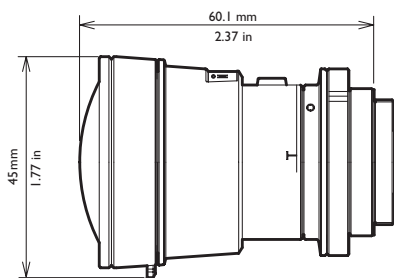


Dimensions LTC 3271/40

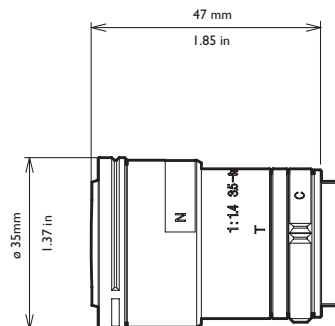


Dimensions LTC 3274/40

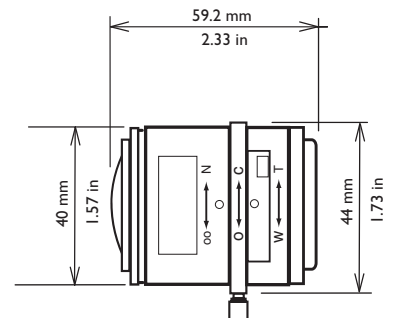
Features - LTC 336I Series



Dimensions LTC 3361/20

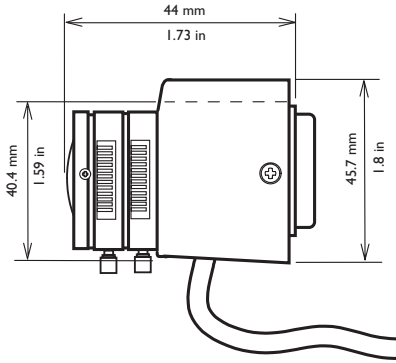


Dimensions LTC 3361/30

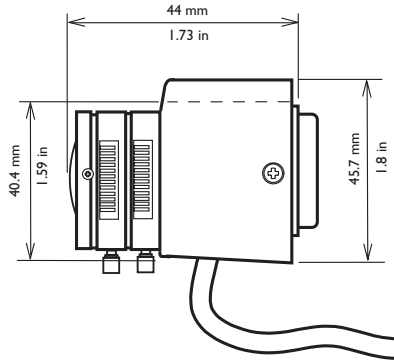


Dimensions LTC 3361/40

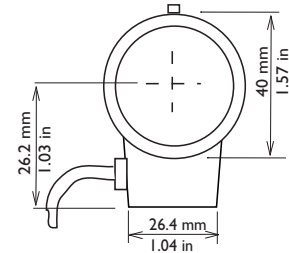
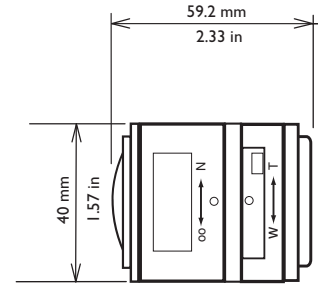
Features - LTC 3364 Series



Dimensions LTC 3364/21

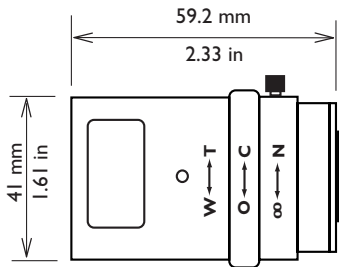


Dimensions LTC 3364/31

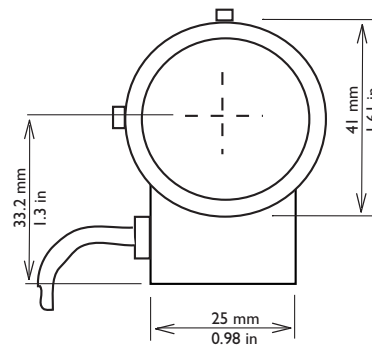
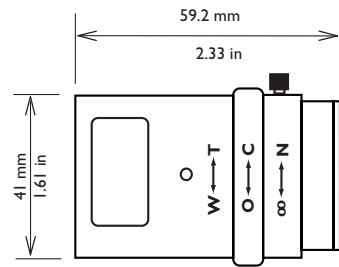


Dimensions LTC 3364/40

Features - LTC 337x Series

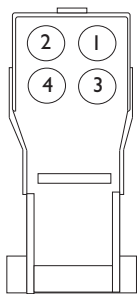


Dimensions LTC 3371/20



Dimensions LTC 3374/20

Features - Connector



4-pin Connector (Front view)

- Passive-iris 4-pin**
 Pin 1: Damping coil -
 Pin 2: Damping coil +
 Pin 3: Driving coil + (open)
 Pin 4: Driving coil -



LTC 3283, LTC 3293, LTC 3384, LTC 3394 Series Auto Iris Motorized Zoom Lenses

- **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**
- **Compact Design**



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.

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 Philips cameras. When used in combination with the new LTC 0500 and LTC 0600 Series, the 1/2-inch Series provide the necessary large F/stop and high quality camera optic features.

Lenses in this series include 6x, 10x, 15x, 16x, 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.

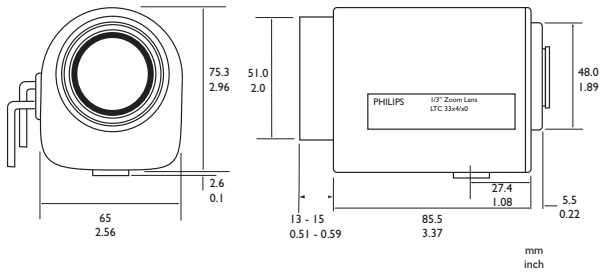
SPECIFICATIONS

1/3-inch Lenses

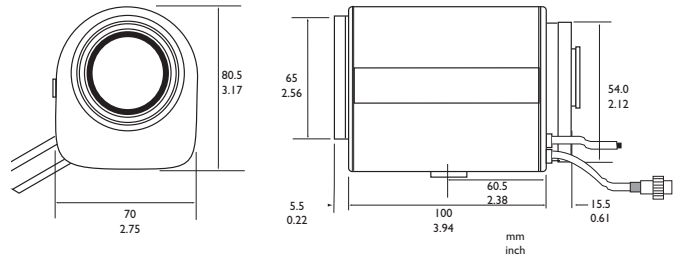
	LTC 3384/20	LTC 3384/50	LTC 3394/20	LTC 3394/50
Image format	1/3-inch	1/3-inch	1/3-inch	1/3-inch
Zoom	10x	10x	16x	16x
Focal length	6-60 mm	6-60 mm	5.5-90 mm	5.5-90 mm
Iris range	F1.4-360	F1.4-360	F1.6-360	F1.6-360
Pre-position function	N/A	Yes	N/A	Yes
Dimensions (W x H x L)	65.0 x 75.3 x 102.5 mm 2.56 x 2.96 x 4.03 inch	65.0 x 75.3 x 102.5 mm 2.56 x 2.96 x 4.03 inch	65.0 x 75.3 x 104 mm 2.56 x 2.96 x 4.09 inch	65.0 x 75.3 x 104 mm 2.56 x 2.96 x 4.09 inch
Weight	480 g 1.06 lb	480 g 1.06 lb	490 g 1.08 lb	490 g 1.08 lb
Lens mount	CS			
Temperature range	-10 to +45°C (+14°F to 113°F)			
Iris characteristics:				
Iris control	4-pin DC control			
Response speed	Approx. 2 s			
Zoom characteristics:				
Zoom control	Motor drive			
Motorized speed	Approx. 3-4 s			
Operating voltage	6-12 VDC			
Operating current	70 mA (max.)			
Focus characteristics:				
Focus control	Motor drive			
Motorized speed	Approx. 3-4 s			
Operating voltage	6-12 VDC			
Operating current	70 mA (max.)			
Angle of view 1/3-inch (Wide - Tele):				
Horizontal	43.6°-4.6°	43.6°-4.6°	52.4°-3.1°	52.4°-3.1°
Vertical	33.8°-3.5°	33.8°-3.5°	40.7°-2.3°	40.7°-2.3°

1/2-inch Lenses

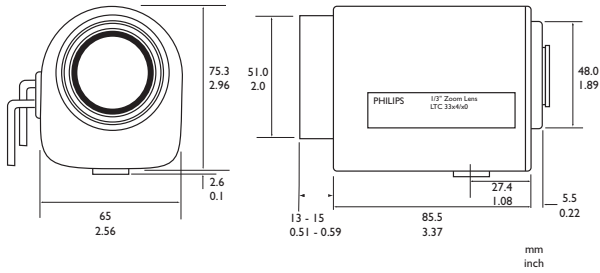
	LTC 3283/20	LTC 3283/40	LTC 3283/50	LTC 3293/20	LTC 3293/30	LTC 3293/40	LTC 3293/50
Image format	1/2-inch	1/2-inch	1/2-inch	1/2-inch	1/2-inch	1/2-inch	1/2-inch
Zoom	6x	10x	10x	15x	15x	20x	20x
Focal length	8-48 mm	7.5-75 mm	7.5-75 mm	8-120 mm	8-120 mm	12-240 mm	12-240 mm
Iris range	F1.4-360	F1.4-360	F1.2-512	F1.6-1000	F1.6-1000	F1.6-720	F1.6-720
Pre-position function	N/A	N/A	Yes	N/A	Yes	N/A	Yes
Manual override	N/A	N/A	N/A	N/A	Yes	N/A	N/A
Lens mount	CS	CS	C	C	C	C	C
Dimensions (mm)	58 x 63.5 x 78	67 x 75 x 112	70 x 80.5 x 121.5	78 x 88.5 x 134	78 x 88.5 x 134	116 x 135 x 216	116 x 135 x 216
(W x H x L) (inch)	2.28 x 2.5 x 3.07	2.64 x 2.95 x 4.4	2.75 x 3.17 x 4.78	3.07 x 3.48 x 5.27	3.07 x 3.48 x 5.27	4.57 x 5.31 x 8.5	4.57 x 5.31 x 8.5
Weight	400 g 0.88 lb	580 g 1.28 lb	740 g 1.63 lb	800 g 1.76 lb	800 g 1.76 lb	2630 g 5.79 lb	2630 g 5.79 lb
Temperature range	-10 to +50°C (+14°F to 122°F)						
Video signal	Composite video 1 Vp-p or video 0.7 Vp-p						
Impedance	10 kΩ						
Iris characteristics:							
Iris control	4-pin video iris						
Operating voltage	8-12 VDC						
Response speed	Approx. 1.5 s						
Operating current	50 mA (max.)						
Input signal	VS or V						
Iris accuracy	+20% at video signal level						
Sensitivity	0.5-1.0 Vp-p at video signal level						
Zoom characteristics:							
Zoom control	Motor drive						
Motorized spd. (app.)	5 sec	5.5 sec	5.5 sec	6 sec	6 sec	10 sec	10 sec
Operating voltage	12 VDC						
Operating current	55 mA (max.)						
Focus characteristics:							
Focus control	Motor drive						
Motorized spd. (app.)	5 sec	6.5 sec	5.5 sec	8 sec	8 sec	10 sec	10 sec
Operating voltage	12 VDC						
Operating current	55 mA (max.)						
Angle of view 1/3-inch camera (Wide - Tele):							
Horizontal	32°42'-5°05'	34°38'-3°46'	34°57'-3°46'	32°56'-2°20'	32°56'-2°20'	23°01'-1°10'	23°01'-1°10'
Vertical	24°40'-4°23'	26°81'-2°50'	26°27'-2°50'	24°49'-1°45'	24°49'-1°45'	17°13'-0°52'	17°13'-0°52'
Angle of view 1/2-inch camera (Wide - Tele):							
Horizontal	42°47'-7°43'	45°11'-4°58'	45°38'-5°00'	43°29'-3°05'	43°29'-3°05'	30°52'-1°33'	30°52'-1°33'
Vertical	32°42'-5°50'	34°38'-3°46'	34°57'-3°46'	32°56'-2°20'	32°56'-2°20'	23°01'-1°10'	23°01'-1°10'



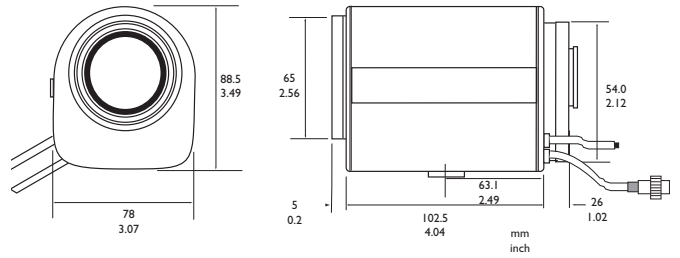
Dimensions LTC 3384/20 & LTC 3384/50



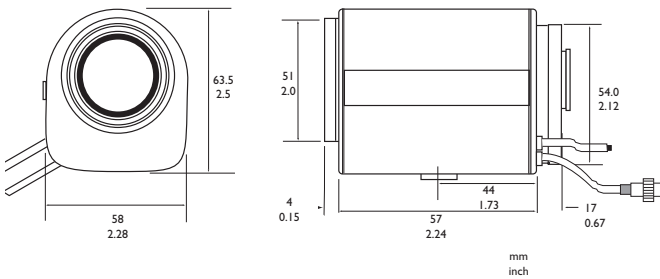
Dimensions LTC 3283/50



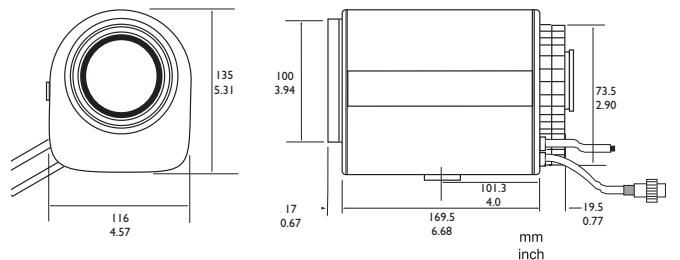
Dimensions LTC 3394/20 & LTC 3394/50



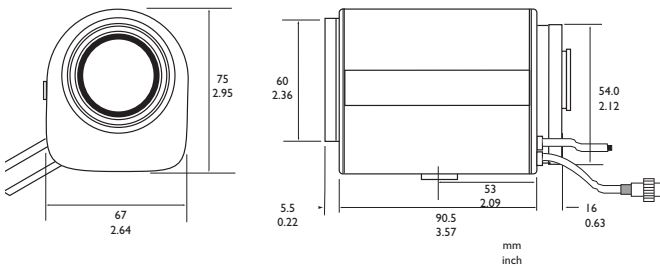
Dimensions LTC 3293/20 & LTC 3293/30



Dimensions LTC 3283/20



Dimensions LTC 3293/40 & LTC 3293/50



Dimensions LTC 3283/40

9498 962 40811 99-45

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PHILIPS

Let's make things better.

Lens Guide for Philips Cameras

- n Complete Line of Lenses
- n Manual, DC-iris and Video-iris Lenses
- n Lenses for Specialized Applications
- n Complete Selection of Zoom Lenses
- n CS-mount or C-mount
- n Lens Accessory Items



This publication lists lenses available for CCTV cameras. A variety of fixed focal length; motorized zoom; and manual or auto-iris types are available for 1/3-, 1/2-, 2/3-, and 1-inch image formats. Pre-position option capability is available on selected lenses.

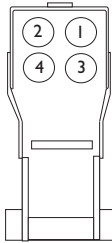
The specialized lenses include 1/3-inch and 1/2-inch varifocal lenses which allow a customized field-of-view when needed. A 1/2-inch manual iris override zoom lens provides dual auto-iris or user controlled iris function. The wide selection offered assures a lens to meet most applications.

The comprehensive lens data is tabulated by format within each lens category for easy reference. Detailed data is given to aid in selecting lenses for various applications and camera housings. The operating temperature range for these lenses is -10°C (14°F) to $+50^{\circ}\text{C}$ ($+122^{\circ}\text{F}$), except as noted. The Field-of-view Guide aids in selecting lenses for different image formats.

SPECIFICATIONS

Model No.	Note	Focal Length mm	Mount Style	Iris Range Max to Min f-Stop	Dimensions (D x l) or (W x H x L) mm (inches)	Lens Weight g (lb)	Iris Conn. Type	Filter Mount Dia x Pitch mm
FIXED FOCAL LENGTH/MANUAL IRIS								
1/3-inch Format								
LTC 3311/21	1, 2	2.8	CS	1.2 to Close	36.6 x 36.3 (1.44 x 1.42)	35 (0.08)	---	---
LTC 3331/21	1, 2	4	CS	1.2 to Close	36.6 x 33.8 (1.44 x 1.33)	32 (0.07)	---	---
LTC 3341/21	1, 2	8	CS	1.2 to Close	36.6 x 33.8 (1.44 x 1.33)	26 (0.06)	---	---
1/2-inch Format								
LTC 3211/20	1, 2	3.7	CS	1.6 to Close	32 x 35.7 (1.25 x 1.4)	34 (0.07)	---	30.5 x 0.50
LTC 3231/20	1, 2	6	CS	1.4 to Close	32 x 35.7 (1.25 x 1.4)	32 (0.07)	---	30.5 x 0.50
LTC 3241/20	1, 2	12	CS	1.4 to Close	32 x 35.7 (1.25 x 1.4)	26 (0.06)	---	30.5 x 0.50
FIXED FOCAL LENGTH/AUTO-IRIS								
1/3-inch Format								
LTC 3314/21	2, 3	2.8	CS	1.2 to 200	36.8 x 43.5 x 36.3 (1.45 x 1.71 x 1.42)	52 (0.12)	4-pin	---
LTC 3334/21	2, 3	4	CS	1.2 to 200	36.8 x 43.5 x 33.8 (1.45 x 1.71 x 1.33)	49 (1.08)	4-pin	---
LTC 3344/21	2, 3	8	CS	1.2 to 200	36.8 x 43.5 x 33.8 (1.45 x 1.71 x 1.33)	44 (0.10)	4-pin	---
1/2-inch Format								
LTC 3214/20	2, 3	3.7	CS	1.6 to 300	42.8 x 47.1 x 36.5 (1.68 x 1.85 x 1.43)	57 (0.12)	4-pin	34 x 0.5
LTC 3234/20	2, 3	6	CS	1.4 to 300	42.8 x 47.1 x 36.5 (1.68 x 1.85 x 1.43)	60 (0.13)	4-pin	34 x 0.5
LTC 3244/20	2, 3	12	CS	1.4 to 300	42.8 x 47.1 x 36.5 (1.68 x 1.85 x 1.43)	52 (0.12)	4-pin	34 x 0.5
2/3-inch Format								
LTC 3123/40	2, 4	8	C	1.4 to 360	46.5 x 50.5 x 51.1 (1.83 x 1.99 x 2.01)	140 (0.31)	4-pin	43 x 0.75
LTC 3133/40	2, 4	16	C	1.4 to 360	46.5 x 50.5 x 46.7 (1.83 x 1.99 x 1.84)	110 (0.24)	4-pin	43 x 0.75
1-inch Format								
LTC 3043/40	2, 4	25	C	1.4 to 360	46.5 x 50.5 x 51.8 (1.83 x 1.99 x 2.04)	140 (0.31)	4-pin	43 x 0.75
LTC 3053/40	2, 4	50	C	1.4 to 360	62 x 62 x 51 (2.44 x 2.44 x 2.01)	230 (0.51)	4-pin	43 x 0.75
VARIFOCAL LENSES/MANUAL IRIS								
1/3-inch Format								
LTC 3361/20	1, 2	2.8–6	CS	1.2 to Close	45 x 64.05 (1.77 x 2.52)	83 (0.18)	---	---
LTC 3361/30	1, 2	3.5–8	CS	1.4 to Close	35 x 51 (1.37 x 2.0)	48 (0.10)	---	---
LTC 3361/40	1, 2	2.8–12	CS	1.4 to Close	44 x 59.2 (1.73 x 2.33)	72 (0.16)	---	---
LTC 3371/20	1, 2	5–50	CS	1.4 to Close	41 x 59.2 (1.61 x 2.33)	85 (0.187)	---	---
1/2-inch Format								
LTC 3261/30	1, 2	4.5–10	CS	1.6 to Close	34 x 43.5 (1.34 x 1.71)	40 (0.09)	---	---
LTC 3271/40	1, 2	7.5–75	CS	2.2 to Close	54 x 86 (2.12 x 3.38)	..215 (0.47)	---	52 x 0.75
VARIFOCAL LENSES/AUTO-IRIS								
1/3-inch Format								
LTC 3364/21	2, 3	2.8–6	CS	1.4 to 200	40.4 x 45.7 x 47.2 (1.59 x 1.8 x 1.86)	59 (0.13)	4-pin	---
LTC 3364/31	2, 3	3.5–8	CS	1.4 to 200	40.4 x 45.7 x 47.2 (1.59 x 1.8 x 1.86)	35 (0.12)	4-pin	30.5 x 0.5
LTC 3364/40	2, 3	2.8–12	CS	1.4 to 360	40 x 46.2 x 59.2 (1.57 x 1.82 x 2.33)	79 (0.17)	4-pin	---
LTC 3374/20	2, 3	5–50	CS	1.4 to 185	41 x 53.7 x 59.2 (1.61 x 2.11 x 2.33)	97 (0.213)	4-pin	---
1/2-inch Format								
LTC 3264/30	2, 3	4.5–10	CS	1.6 to 360	40 x 46.3 x 43.5 (1.57 x 1.82 x 1.71)	97 (0.213)	4-pin	---
LTC 3274/40	1, 2	7.5–75	CS	2.2 to 360	54 x 86 (2.12 x 3.38)	220 (0.48)	4-pin	52 x 0.75

Model No.	Note	Focal Length mm	Mount Style	Iris Range Max to Min f-Stop	Dimensions (D x l) or (W x H x L) mm (inches)	Lens Weight g (lb)	Iris Conn. Type	Filter Mount Dia x Pitch mm
ZOOM LENSES/AUTO-IRIS								
1/3-inch Format								
LTC 3384/20	3, 5	6–60	CS	1.4 to 360	65 x 77.9 x 106 (2.56 x 3.06 x 4.18)	480 (1.06)	4-pin	46 x 0.75
LTC 3384/50	3, 5, 7	6–60	CS	1.4 to 360	65 x 77.9 x 106 (2.56 x 3.06 x 4.18)	480 (1.06)	4-pin	46 x 0.75
LTC 3394/20	3, 5	5.5–90	CS	1.6 to 360	65 x 77.9 x 106 (2.56 x 3.06 x 4.18)	490 (1.08)	4-pin	49 x 0.75
LTC 3394/50	3, 5, 7	5.5–90	CS	1.6 to 360	65 x 77.9 x 106 (2.56 x 3.06 x 4.18)	490 (1.08)	4-pin	49 x 0.75
1/2-inch Format								
LTC 3283/20	4, 6	8–48	CS	1.4 to 360	58 x 63.5 x 78 (2.28 x 2.5 x 3.06)	400 (0.88)	4-pin	49 x 0.75
LTC 3283/40	4, 6	7.5–75	CS	1.4 to 360	67 x 75 x 112 (2.64 x 2.95 x 4.42)	580 (1.28)	4-pin	58 x 0.75
LTC 3283/50	4, 6, 7	7.5–75	CS	1.2 to 512	70 x 80.5 x 12 (2.75 x 3.17 x 4.77)	740 (1.63)	4-pin	58 x 0.75
LTC 3293/20	4, 6	8–120	C	1.6 to 1000	78 x 88.5 x 133.5 (3.07 x 3.49 x 5.26)	800 (1.76)	4-pin	62 x 0.75
LTC 3293/40	4, 6	12–240	C	1.6 to 720	116 x 135 x 206 (4.57 x 5.31 x 8.12)	2630 (5.79)	4-pin	95 x 1.0
LTC 3293/50	4, 6, 7	12–240	C	1.6 to 720	116 x 135 x 206 (4.57 x 5.31 x 8.12)	2630 (5.79)	4-pin	95 x 1.0
ZOOM LENS, AUTO-IRIS/MANUAL OVERRIDE								
1/2-inch Format								
LTC 3293/30	4, 6, 7, 8	8–120	C	1.6 to 1000	78 x 88.5 x 133.5 (3.07 x 3.49 x 5.26)	800 (1.76)	4-pin	62 x 0.75



DC-iris 4-pin connection

- Pin 1: Damping coil –
- Pin 2: Damping coil +
- Pin 3: Driving coil + (open)
- Pin 4: Driving coil –

Video iris 4-pin connection

- Pin 1: power
- Pin 2: not used
- Pin 3: video
- Pin 4: ground

4-pin Connector (Solder Side View)

SPECIALITY ITEMS

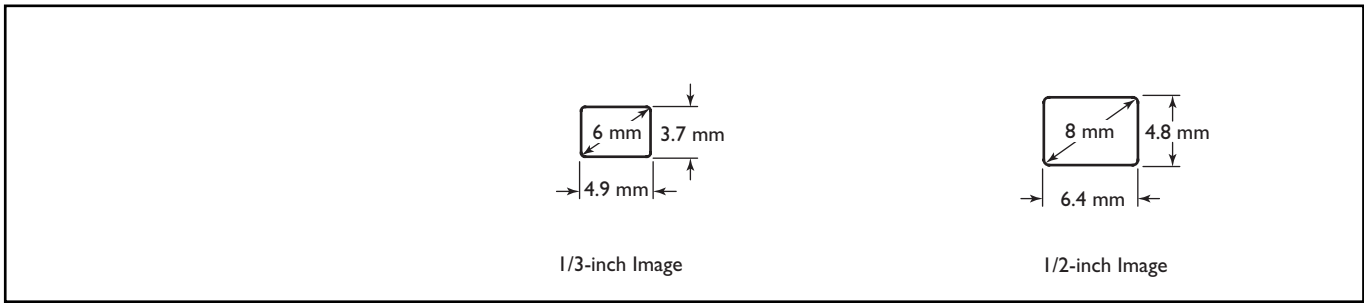
Model No.	Description	Application
S1374	5 mm Adapter Ring	Allows C-mount lenses to be used on CS-mount cameras
S1377	Lens Adapter Cable	Converts 8-pin lens connector to 6-pin camera iris connector
S1378	Lens Adapter Cable	Converts 4-pin round lens connector to 6-pin camera iris connector
S1381	Lens Adapter Cable	Converts 6-pin lens connector to 4-pin EIA-J camera iris connector
S1382	Lens Adapter Cable	Converts 6-pin lens connector to flying leads
S1394	Lens Adapter Cable	Converts 4-pin (EIA-J) lens connector to 6-pin camera iris connector

Notes:

1. Recommended for use on cameras with electronic shutter feature.
2. Includes manual focus ring.
3. Direct drive iris, requires camera with DC iris drive (without EE amplifier).
4. Auto-iris, requires 8-12 VDC and video input signal (with EE amplifier).
5. Requires 6–12 VDC for zoom/focus control.
6. Requires 12 VDC for zoom/focus control.
7. Includes pre-position potentiometers.
8. Manual override activation via an enable line and control wire at 6VDC to 12VDC. To control iris open or closed a plus or minus voltage is required.

Field-of-view Guide

The Field-of-view Guide provides a horizontal angle-of-view (A.O.V) and a horizontal view at 100 feet. To obtain the vertical data for each lens, multiply the horizontal data by 0.75. To obtain view information for distances other than 100 feet, multiply (supplied data at 100 feet) by the [(new distance)/(100 feet)]. Example: The horizontal view for a 2.8 mm lens with a 1/3-inch imager is 175 feet at 100 feet. If the horizontal view at 50 feet is desired: (175) (50)/100 = 87.5. A 2.8 mm lens with a 1/3-inch imager provides a view of 87.5 feet at an object distance of 50 feet.



Focal Length (mm)	Available Formats (in)	1/3-inch Image		1/2-inch Image	
		Horizontal A.O.V.	Horizontal View at 100 ft	Horizontal A.O.V.	Horizontal View at 100 ft
2.8	1/3	82.4°	175	---	---
3.5	1/3 (Varifocal)	70°	140	---	---
3.7	1/2	67°	132	81.7°	173
4	1/3	63°	122	---	---
4.5	1/2 (Varifocal)	57.1°	108	70.8°	139
5.5	1/3 (Zoom)	48°	88	---	---
6	1/2	44.4°	82	56.1°	107
7.5	1/2 (Varifocal)	36.2°	65	46.2°	85
7.5	1/2 (Zoom)	36.2°	65	46.2°	85
8	1/3	34.1°	61	---	---
8	2/3	34.1°	61	43.6°	80
10	1/2 (Varifocal)	27.5°	49	35.5°	64
12	1/3 (Varifocal)	24.1°	43	---	---
12	1/2	23.1°	41	30°	53
16	2/3	17.4°	31	22.6°	40
25	1	11.2°	20	14.6°	26
48	1/2 (Zoom)	5.8°	10	7.6°	13
50	1/3 (Varifocal)	5.6°	10	---	---
50	1	5.6°	9	7.3°	13
60	1/3 (Zoom)	4.6°	8	---	---
75	1/2 (Varifocal)	3.7°	6	4.9°	9
75	1/2 (Zoom)	3.7°	6	5°	9
90	1/3 (Zoom)	3.1°	5	---	---
120	1/2 (Zoom)	2.3°	4	3.1°	5
240	1/2 (Zoom)	1.2°	---	1.5°	2.6

Note: The (---) indicates lens may not be used with the imager format designated. Nominal Field-of-view calculated per imager dimensions shown.



Power Supplies/Transformers

Power Supplies/Transformers

- n For CCD Cameras and Other Low Power Applications
- n 24 VAC & 15 VDC Secondary Output Models
- n Models for 120 VAC, 230 VAC & 24 VAC Power Sources
- n Isolation Transformer for 24 VAC
- n Safety Agency Certified



The Philips 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.

In particular, the TCI382 isolation transformer is recommended for installations using cameras without

built-in isolation transformers. A separate power transformer should be used for each camera. If a single power transformer or other 24 VAC power source is used to power multiple cameras, the TCI382 isolation transformer is recommended between the power transformer or the 24 VAC power source and each of the cameras.

Additionally, the RT2440SL now includes a basic surge protection feature.

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
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 to 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:

Input: 2-prong.

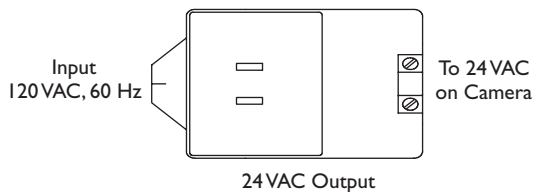
Output: 2 screw terminals.

Construction/Finish: White plastic case.

Dimensions: 66.8 W x 57.2 D x 82.6 H mm
(2.63 x 2.25 x 3.25 in).

Weight: 0.65 kg (1.44 lb).

Safety: UL, cUL.



RT2440SL Power Supply

TC1334

Rated Input: 120 VAC, 60 Hz.

Rated Output: 24 VAC, 60 Hz, 30 VA.

Connectors:

Input: 2-prong.

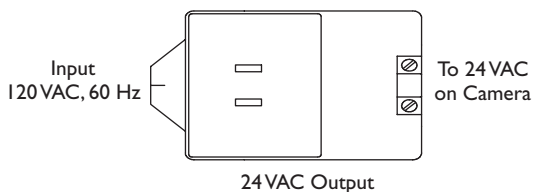
Output: 2 screw terminals.

Construction/Finish: Beige plastic case.

Dimensions: 70 W x 56.4 D x 88.9 H mm
(2.75 x 2.22 x 3.5 in).

Weight: 0.62 kg (1.36 lb).

Safety: UL.



TC1334 Power Supply

TC1323

Rated Input: 120 VAC, 60 Hz.

Rated Output: 24 VAC, 60 Hz, 10 VA.

Connectors:

Input: 2-prong.

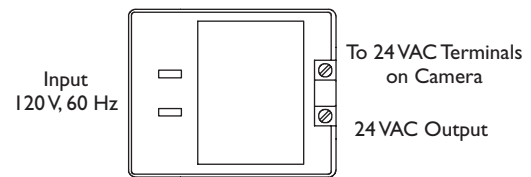
Output: 2 screw terminals.

Construction/Finish: Beige plastic case.

Dimensions: 52 W x 43 D x 62 H mm (2.0 x 1.7 x 2.4 in).

Weight: 0.24 kg (0.53 lb).

Safety: UL, CSA.



TC1323 Power Supply

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).

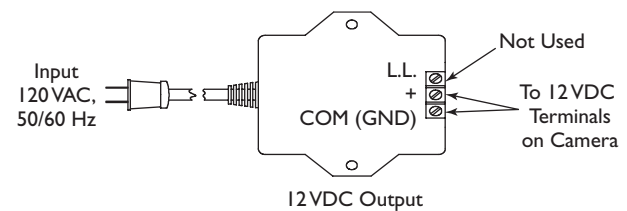
Output: Screw terminals.

Construction/Finish: Black plastic.

Dimensions: 63.5 W x 54 D x 82.6 H mm
(2.5 x 2.12 x 3.25 in).

Weight: 0.65 kg (1.44 lb).

Safety: UL, CSA.



TC120PS Power Supply

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).

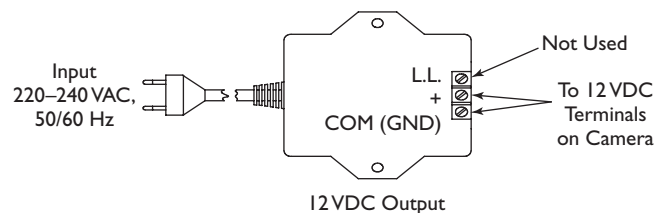
Output: Screw terminals.

Construction/Finish: Black plastic.

Dimensions: 63.5 W x 54 D x 82.6 H mm
(2.5 x 2.12 x 3.25 in).

Weight: 0.60 kg (1.33 lb).

Safety: GS, CE.



TC220PS Power Supply

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).

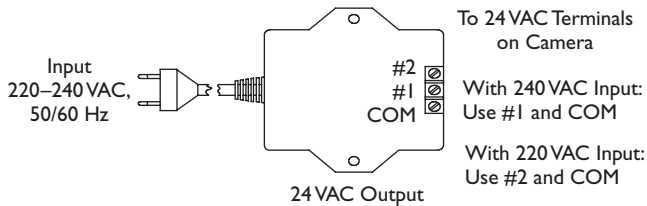
Output: Screw terminals.

Construction/Finish: Black plastic.

Dimensions: 63.5 W x 54 D x 82.6 H mm (2.5 x 2.12 x 3.25 in).

Weight: 0.78 kg (1.72 lb).

Safety: GS, CE.



TC220PSX-24 Power Supply

For 24 VAC Power Sources

TC24PS

Rated Input: 24 VAC to 30 VAC, 50/60 Hz.

Rated Output: 15 VDC, 9 VA.

Connectors:

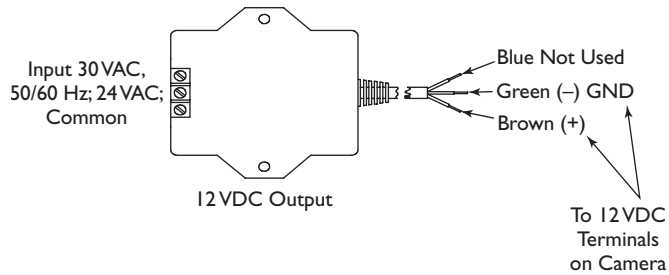
Input: Screw terminals.

Output: Wire leads, 3.6 m (12 ft).

Construction/Finish: Black plastic.

Dimensions: 63.5 W x 54 D x 82.6 H mm (2.5 x 2.12 x 3.25 in).

Weight: 0.73 kg (1.61 lb).



TC24PS Power Supply

TCI382 Isolation Transformer

Rated Input: 24 VAC, 50/60 Hz.

Rated Output: 24 VAC, 50/60 Hz, 7 VA.

Connectors:

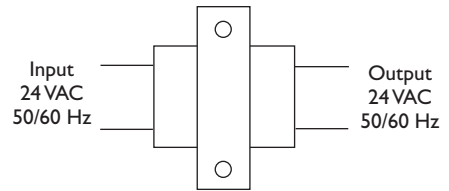
Input: Black wire leads, 203 mm (8 in).

Output: Brown wire leads, 203 mm (8 in).

Construction/Finish: Uncased.

Dimensions: 82.6 W x 51 D x 50 H mm (3.25 x 2 x 1.95 in).

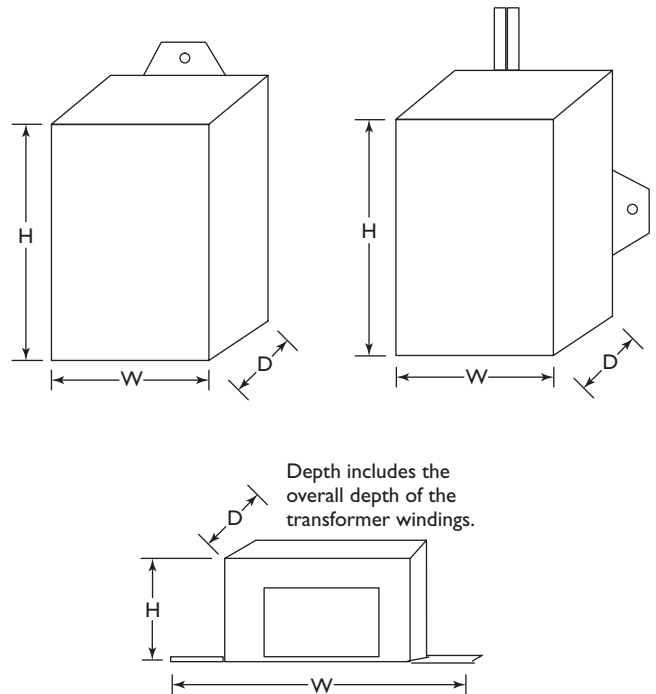
Weight: 0.45 kg (1 lb).



TCI382 Isolation Transformer

Dimension Codes

Note: The dimensions specified are approximate and relate to the general diagrams shown below.



9498 961 12113 01-43

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Let's make things better.

MiniLine Cameras, Indoor

FlexiDome Series Monochrome and Color Fixed Dome Cameras

- Fixed Camera in 76 mm (3-inch) Dome
- Color (DSP) and Monochrome Models
- 1/3-inch Format CCD Image
- Backlight Compensation
- Choice of 3.6 mm or 6 mm Lens
- Dark or Light Dome Version
- Internal Manual Pan (360°) and Tilt (90°) Mechanism
- Flush & Surface Mounting and Ceiling & Wall Mounting



Surface mount

The LTC 1130 and LTC 1230 Series are compact fixed cameras in an attractive dome enclosure. The internal camera has a 1/3-inch image format. Available in two different lens versions, the camera provides semiwide or standard viewing angles. Both monochrome (CCIR and EIA RS-170) and color (PAL and NTSC) versions are available.

These cameras are designed for indoor use, where their attractive styling makes them blend easily with their environment. This makes them especially suited for retail, museums, and bank and hotel lobbies.

The cameras come ready to use and preadjusted for optimum picture quality. The wide range of electronic sensitivity control enables the camera to be used in all indoor lighting conditions.

With backlight compensation, the camera establishes a certain area for automatic light control. If an object falls within this area, the camera will automatically adjust to set optimum contrast, ensuring a usable picture of the object.

Two shutter control modes are selectable: electronic shutter or flickerless mode.

Installation is easy and straightforward on ceilings or walls. Wiring requires connection of power supply and video cables only.



Flush mount

SPECIFICATIONS

Type

Monochrome w/ 3.6 mm fixed lens

LTC 1132/10: CCIR, 3.6 mm, dark color
LTC 1132/11: CCIR, 3.6 mm, light color
LTC 1132/20: EIA, 3.6 mm, dark color
LTC 1132/21: EIA, 3.6 mm, light color

Monochrome w/ 6.0 mm fixed lens

LTC 1133/10: CCIR, 6.0 mm, dark color
LTC 1133/11: CCIR, 6.0 mm, light color
LTC 1133/20: EIA, 6.0 mm, dark color
LTC 1133/21: EIA, 6.0 mm, light color

Color w/ 3.6 mm fixed lens

LTC 1232/10: PAL, 3.6 mm, dark color
LTC 1232/11: PAL, 3.6 mm, light color
LTC 1232/20: NTSC, 3.6 mm, dark color
LTC 1232/21: NTSC, 3.6 mm, light color

Color w/ 6.0 mm fixed lens

LTC 1233/10: PAL, 6.0 mm, dark color
LTC 1233/11: PAL, 6.0 mm, light color
LTC 1233/20: NTSC, 6.0 mm, dark color
LTC 1233/21: NTSC, 6.0 mm, light color

Electrical (Monochrome Version)

Pickup Device: 1/3-inch CCD image sensor.

Num. of Pixel Elements: CCIR 512 (H) x 582 (V).
EIA 512 (H) x 492 (V)

Scanning System: 2:1 interlaced.
CCIR 15,625 kHz (H), 50 Hz (V).
EIA 15,750 kHz (H), 60 Hz (V).

Resolution: CCIR 380 TVL (H), EIA 380 TVL (H).

Minimum Illumination: 0.3 Lux (F1.4).

S/N ratio: 48 dB.

Auto Gain Control: 29 dB (max.).

Shutter Control Mode: Auto electronic shutter or flickerless mode switchable.

Electronic Shutter: Up to 1/100,000 sec.

Backlight Compensation: ON/OFF.

Gamma Compensation: 0.45.

Sync. System: Internal synchronization.

Built-in Lens:

LTC 1132/xx: 3.6 mm, F2.0 fixed lens.

LTC 1133/xx: 6.0 mm, F2.0 fixed lens.

Video Output: 1.0 Vp-p, 75 ohm unbalanced (composite).

Power Source: 12VDC +/-10%, 150 mA¹.

Electrical (Color Version)

Pickup Device: 1/3-inch CCD image sensor.

Num. of Pixel Elements: PAL 500 (H) x 582 (V).
NTSC 500 (H) x 492 (V)

Scanning System: 2:1 interlaced.
PAL 15,625 kHz (H), 50 Hz (V).
NTSC 15,750 kHz (H), 60 Hz (V).

Resolution: PAL 330 TVL (H), NTSC 330 TVL (H).

Minimum Illumination: 2.2 Lux (F1.4).

S/N ratio: 46 dB.

Auto Gain Control: 32 dB (max.).

Shutter Control Mode: Auto electronic shutter or flickerless mode switchable.

Electronic Shutter: Up to 1/100,000 sec.

Backlight Compensation: ON/OFF.

Gamma Compensation: 0.45.

Sync. System: Internal synchronization.

Built-in Lens:

LTC 1132/xx: 3.6 mm, F2.0 fixed lens.

LTC 1133/xx: 6.0 mm, F2.0 fixed lens.

Video Output: 1.0 Vp-p, 75 ohm unbalanced (composite).

Power Source: 12VDC +/-10%, 300 mA¹.

1. Use only a Class 2 listed, well regulated power supply.

Mechanical

Cable Entry:

Power: Screw Terminal.

Video: BNC.

Mounting: Flush/surface mounting or ceiling/wall mounting.

Construction: Acrylic plastic housing.

Finish: Dark (charcoal color) or light (RAL color).

Dimensions: see Figure below.

Weight: 0.3 kg (0.7 lb).

Environmental

Operating Temperature: -10°C to +50°C (+14°F to +122°F).

Humidity: <80% relative humidity.

Electromagnetic Compatibility

EMC Requirements:

CCIR/PAL versions:

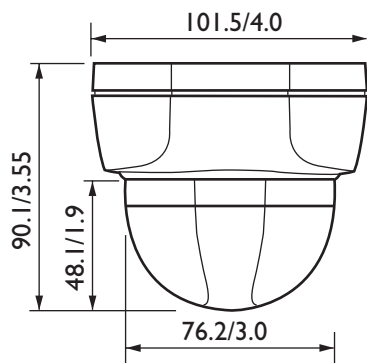
Emission: EN55022.

Immunity: EN50082-1

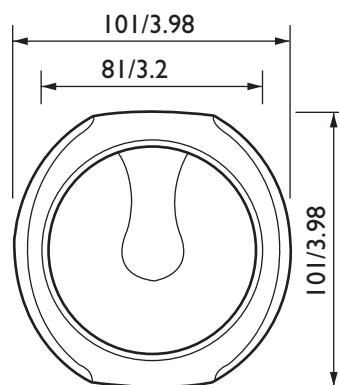
EIA/NTSC versions:

FCC Part 15, Class B.

Safety: CE



Front view



mm/inch

Top view



PHILIPS

Let's make things better.

LTC I32x Series, LTC I42x Series Monochrome and Color FlexiDome II Cameras

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



The LTC I32x and LTC I42x Series FlexiDome II are fixed compact cameras in a stylish surveillance dome. The high performance 1/4-inch monochrome or color CCD cameras have a choice of 3-mm or 6-mm integral lenses for wide angle or standard view. Wide AC voltage ranges allow flexibility in both PAL and NTSC versions.

They are easily surface mounted on ceilings or walls to elegantly blend with their environment. These units are configured for use with a single gang electrical box if desired. The lightly tinted dome masks the camera with minimum f-stop loss. With its 24 Vac supply, and line-lock capabilities, this camera is insensitive to the color interaction between shutter and fluorescent lamps, experienced with dc-supplied cameras.

Although these cameras come ready-to-use, 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.

The backlight compensation, 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.

SPECIFICATIONS

Models

Monochrome:

LTC 1322 Series: With 3 mm f/2.0 integral lens.
LTC 1323 Series: With 6 mm f/2.0 integral lens.

Color:

LTC 1422 Series: With 3 mm f/2.0 integral lens.
LTC 1423 Series: With 6 mm f/2.0 integral lens.

Electrical

Model No.	Voltage Range	Mono/Color Systems
Monochrome		
LTC 1322/10	12 to 28 VAC, 50 Hz	CCIR
LTC 1323/10	12 to 28 VAC, 50 Hz	CCIR
LTC 1322/20	12 to 28 VAC, 60 Hz	EIA RS-170
LTC 1323/20	12 to 28 VAC, 60 Hz	EIA RS-170
Color		
LTC 1422/10	12 to 28 VAC, 50 Hz	PAL B
LTC 1423/10	12 to 28 VAC, 50 Hz	PAL B
LTC 1422/20	12 to 28 VAC, 60 Hz	NTSC
LTC 1423/20	12 to 28 VAC, 60 Hz	NTSC

Power is 2 W for all models.

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

Active Picture Elements:

PAL/CCIR Models: 752 H x 582 V.
NTSC/EIA Models: 768 H x 492 V.

Horizontal Resolution:

PAL/NTSC Color Models: 470 TVL.
CCIR/EIA Monochrome Models: 570 TVL.

Sensitivity (3200 K):

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

f/2 lens, 100% scene reflectance.

Signal-to-Noise (Min. AGC): >50 dB

AGC: 22 dB

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):

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

Video Output: 1.0 Vp-p, 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, 120° Horz; 120° Vertical; 360° Rotation.

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

Temperature:

Operating: -10 °C to +45 °C (+14 °F to +113 °F).
Storage: -25 °C to +70 °C (-4 °F to +158 °F).

Humidity: 0% to 93% relative, noncondensing.

Electromagnetic Compatibility

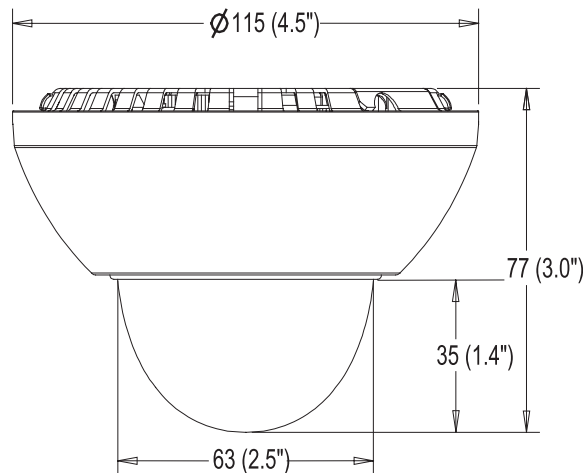
EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B.

Safety: CE, UL, cUL.

Accessories

TC1323 Power Supply: Input 120 VAC, 60 Hz,
Output 24 VAC 60 Hz 10VA

TC220PSX-24 Power Supply: Input 220-240 VAC, 50/60 Hz,
Output 24 VAC /5060 Hz 20VA



Dimensions



LTC 125I Series Color VariDomes

- n **Fixed Cameras in 90 mm (3.6 in) Domes**
- n **1/4-inch Format CCD Imager**
- n **Integrated 2.6–6 mm Varifocal Lens**
- n **High Resolution**
- n **DC Iris**
- n **Backlight Compensation**
- n **Line-lock with Phase Adjustment**
- n **Accepts AC or DC Voltages**



The LTC 125I Series VariDome is a 1/4-inch, high resolution CCD camera integrated into a small, attractive domed housing. This varifocal MiniDome offers substantial flexibility to both the installer and user.

With an integral 2.6–6 mm varifocal lens, the focal length and focus can be manually selected to meet the customer's requirements after the unit has been mounted to the wall. In addition, the lens has DC iris capability that allows the camera to automatically adjust to fluctuations in extreme light levels.

When powering the unit, either AC or DC voltage can be employed. If AC is used, the unit automatically synchronizes to power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be

externally adjusted to allow vertical synchronization in multiphase power installations.

These units come ready-to-use and are easily mounted in ceilings or walls, giving an unobtrusive appearance. They are configured for use with a single gang electrical box and include push-wire connectors for simple power hookup. Easy access dip switches including backlight compensation, phase adjustment, gamma level and automatic gain control are available for various viewing applications.

The VariDome's high resolution, varifocal, and auto iris capabilities make it an ideal replacement for traditional camera installations, while its sleek design and small, inconspicuous appearance allow for an attractive look that compliments most decors.

SPECIFICATIONS

Electrical

Model No.	Voltage Range	Color Systems
LTC 1251/11	21 to 27 VAC or 11 to 13 VDC	PAL
LTC 1251/21	21 to 27 VAC or 11 to 13 VDC	NTSC

Power is 2.7W for all models.

Lens: 2.6–6 mm varifocal.

Iris: Auto DC Control.

Iris Range: F1.6~200.

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

Horizontal Resolution: 480 TVL.

Sensitivity (3200 K):

Scene illumination	fc lx	Minimum Scene Illumination
		0.28
		2.8

f/1.6, 89% reflection, 50 IRE.

Signal-to-noise Ratio: 48 dB.

White Balance:

Automatic Sensing through the Lens (TTL System):
Continuous or hold.

Video Output: 1.0Vp-p, 75 ohm.

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.

Crystal-lock (When DC Supplied): Internal crystal reference is standard on all models.

Controls:

Automatic Gain Control (AGC): On/off.

Backlight Compensation (BLC): On/off.

Gamma: 0.6/1.0.

Automatic White Balance (AWB): Continuous/Hold.

Connectors:

Video Out: BNC.

Power: In-line push-wire connectors.

Mechanical

Cable Entry: External push-wire connectors.

Mounting: Mounts on wall or ceiling.

Construction/Finish: Acrylic dome (with light tint) on molded plastic housing.

Dimensions: See **Dimensional Outline**.

Weight: 0.4 kg (0.9 lb).

Environmental

Temperature:

Operating: -10 °C to +50 °C (+14 °F to +122 °F).

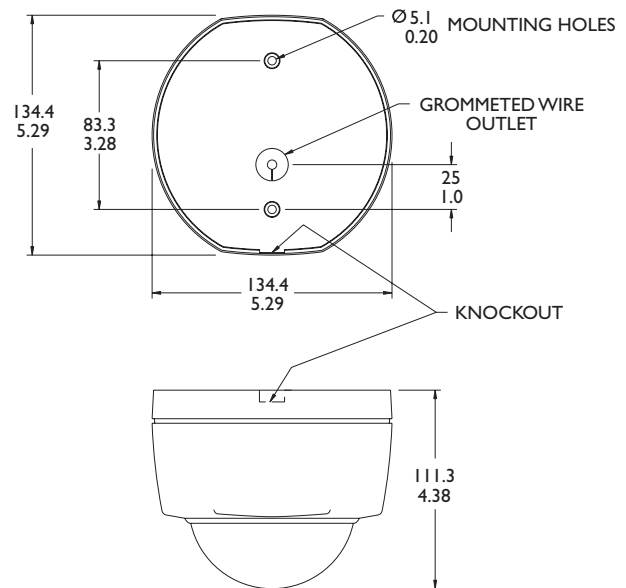
Storage: -20 °C to +50 °C (-4 °F to +122 °F).

Humidity: 0% to 90% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CD Immunity, FCC Class A.

Safety: UL, cUL.



Dimensional Outline



MiniLine Cameras, Indoor/Outdoor

Mini and VariDomes

- n **Full-featured, Fixed Cameras in a Cast Aluminum Alloy Housing and a 101 mm (4-inch) Polycarbonate Dome**
- n **Endures the Equivalent of 120 lbs of Force**
- n **Fixed or Varifocal Integrated Lenses**
- n **For Use in Indoor and Outdoor Applications**
- n **Standard or High Resolution Models**
- n **Line-lock with Phase Adjustment**



The Philips Phortress™ line of hardened Mini and VariDomes provides the ultimate solution for most any security application. Featuring a full-featured camera/lens combination in a cast aluminum housing (with the strength of 10 gauge steel) and polycarbonate dome, these units can withstand the equivalent of 120 lbs of force. As well, these units are sealed for outdoor use.

The Phortress MiniDome & VariDome series cover most camera/lens requirements. The Phortress MiniDome offers a 1/4-inch standard resolution monochrome or color camera with an integrated 3 or 6 mm fixed lenses. The Phortress VariDome includes a high-resolution color camera with an integrated 2.6–6 mm varifocal DC iris lens (see next page

for model mix). All versions accept both AC and DC voltages. If AC is employed, the user can take advantage of its line-locking and phase adjustment capabilities. Backlight compensation can also be adjusted on all Phortress models.

In addition to the above features, the Phortress series cameras come ready to use. They are configured for use with a single gang electrical box and can be wired through either the side or back of the housing via a standard 3/4-inch conduit opening. The Phortress's wide range of options make it an ideal replacement for traditional camera installations, while its sleek design and small, inconspicuous appearance allow for an attractive look that compliments most decors.

SPECIFICATIONS

Electrical

Model No.	Voltage Range	Systems	Power
LTC 1261/11	21 to 27 VAC or 11 to 13 VDC	PAL	2.7 W
LTC 1261/21	21 to 27 VAC or 11 to 13 VDC	NTSC	2.7 W
LTC 1162/10	12 to 28 VAC, 50 Hz or 11 to 36 VDC	CCIR	3 W
LTC 1163/10	12 to 28 VAC, 50 Hz or 11 to 36 VDC	CCIR	3 W
LTC 1162/20	12 to 28 VAC, 60 Hz or 11 to 36 VDC	EIA	3 W
LTC 1163/20	12 to 28 VAC, 60 Hz or 11 to 36 VDC	EIA	3 W
LTC 1262/10	12 to 28 VAC, 50 Hz or 11 to 36 VDC	PAL	3 W
LTC 1263/10	12 to 28 VAC, 50 Hz or 11 to 36 VDC	PAL	3 W
LTC 1262/20	12 to 28 VAC, 60 Hz or 11 to 36 VDC	NTSC	3 W
LTC 1263/20	12 to 28 VAC, 60 Hz or 11 to 36 VDC	NTSC	3 W

Lens:

Model No.	Integral
LTC 1261 Series	2.6–6 mm varifocal
LTC 1162 & LTC 1262 Series	Integral 3 mm
LTC 1163 & LTC 1263 Series	Integral 6 mm

Iris/Shutter:

Model No.	Iris	Electronic Shutter	Iris Range
LTC 1261 Series:	Auto DC Iris	----	f/1.6~200
LTC 1162/10	----	1/50 to 1/100,000 sec	f/2.0
LTC 1163/10	----	1/50 to 1/100,000 sec	f/2.0
LTC 1262/10	----	1/50 to 1/100,000 sec	f/2.0
LTC 1263/10	----	1/50 to 1/100,000 sec	f/2.0
LTC 1162/20	----	1/60 to 1/100,000 sec	f/2.0
LTC 1163/20	----	1/60 to 1/100,000 sec	f/2.0
LTC 1262/20	----	1/60 to 1/100,000 sec	f/2.0
LTC 1263/20	----	1/60 to 1/100,000 sec	f/2.0

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

Horizontal Resolution:

Model No.	Resolution
LTC 1261 Series	480 TVL, high resolution, color
LTC 1162 Serie	380 TVL, standard resolution, monochrome
LTC 1163 Series	380 TVL, standard resolution, monochrome
LTC 1262 Series	330 TVL, standard resolution, color
LTC 1263 Series	330 TVL, standard resolution, color

Sensitivity (3200 K):

Series	Scene Illumination:	Minimum Scene Illumination
LTC 1261 Series	fc	0.28
	lx	2.8
LTC 1162 & LTC 1163 Series	fc	0.04
	lx	0.4
LTC 1262 & LTC 1263 Series	fc	0.4
	lx	4

89% reflection, 50 IRE.

Signal-to-noise Ratio:

LTC 116x Series & LTC 1261 Series: 48 dB.
LTC 126x Series: 50 dB.

White Balance (Color Models Only):

Automatic Sensing through the Lens (TTL System):
LTC 116x & LTC 126x Series: \cup 2700 K to 900 K.
LTC 1261 Series: Continuous or hold.

Video Output: 1.0 Vp-p, 75 ohm.

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.

Crystal-lock (When DC Supplied): Internal crystal reference is standard on all models.

Controls:

For LTC 1261 Series Only:

Automatic Gain Control (AGC): On/off.

Gamma: 0.6/1.0.

Automatic White Balance (AWB): Continuous/Hold.

For All Models:

Backlight Compensation (BLC): On/off.

Connectors:

Video Out: BNC.

Power: Stripped Leads.

Mechanical

Cable Entry: Through side or back 3/4-in conduit knockout.

Mounting: On wall or ceiling using up to four #10 screws.

Construction/Finish: Polycarbonate dome (with light tint) on custom cast aluminum housing.

Dimensions: 4.5 H \leftrightarrow 6.0 W in.

Weight: 3.1 lb.

Environmental

Temperature:

Operating: -40 °C to +50 °C (-40 °F to +122 °F).

Storage: -40 °C to +50 °C (-40 °F to +122 °F).

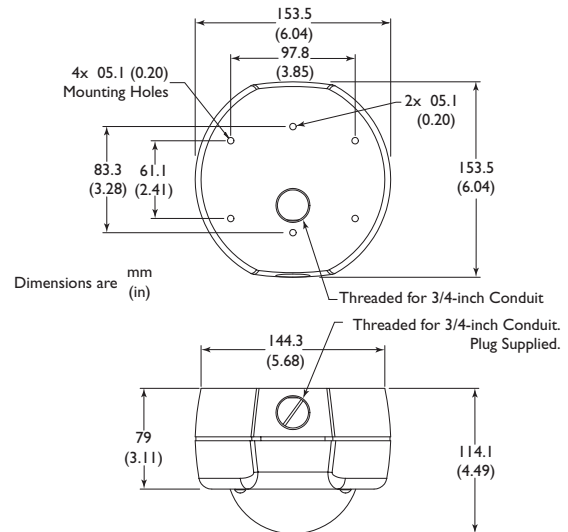
Humidity: 0% to 90% relative, noncondensing.

Protection Level: IP 65.

Electromagnetic Compatibility

EMC Requirements: CD Immunity, FCC Class A.

Safety: UL, cUL, CE.



Dimensional Outline



PHILIPS

Let's make things better.

LTC 1271 Series

- Same High Security Phortress™ Design
- Withstands 120 lbs of Direct Force on the Polycarbonate Dome
- Integral Color, High Resolution Camera with Wide Angle, Varifocal Lens
- Available in Standard or Brushed Aluminum Finishes
- 24 VAC with Line-lock & Phase Adjust
- All-in-one Package with No Separate Corner Bracket Required



As an extension of the MiniLine products, Philips offers a corner-mounted version of the high security grade, aluminum Phortress. The LTC 1271 Series Corner Phortress offers the same camera protection with a discrete design that works well in most indoor corner applications. The camera can mount flush to the ceiling, or it can be wall mounted below ceiling level. It comes in both a standard white aluminum finish and a brushed aluminum version that resembles stainless steel for use in lobbies, elevators, and other design-specific locations.

Like the standard Phortress, the Corner Phortress includes a full-featured camera/lens combination in a

cast aluminum housing (with the strength of 10 gage steel) and polycarbonate bubble that can withstand the equivalent of 120 lbs of force. The unit can also endure 300 lbs of weight, if an attempt was made to pull the unit down from a masonry wall, provided that the recommended mounting bolts are employed.

The Phortress's flexible varifocal camera makes it an ideal replacement for traditional camera installations, where extra security is required. Its sleek design, choice of finishes, and small, inconspicuous appearance allow for an attractive look that complements most decors.

SPECIFICATIONS

Electrical

Model No. Consumption	Voltage Range	Mono/Color Systems	Power
LTC 1271/10C	21 to 27 VAC or 11 to 13 VDC	PAL	2.7 W
LTC 1271/10CS	21 to 27 VAC or 11 to 13 VDC	PAL	2.7 W
LTC 1271/20C	21 to 27 VAC or 11 to 13 VDC	NTSC	2.7 W
LTC 1271/20CS	21 to 27 VAC or 11 to 13 VDC	NTSC	2.7 W

Lens: Integral 2–4 mm varifocal.

Iris/Shutter: Auto DC control iris; F1.6–200 iris range.

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

Horizontal Resolution: 480 TVL.

Sensitivity (3200 K):

Scene illumination	fc	lx	Minimum Scene Illumination
			0.28
			2.8

F1.6, 89% reflection, 50IRE.

Signal-to-noise Ratio: 48 dB.

White Balance (Color Models Only):

Automatic Sensing through the Lens (TTL System): Continuous or hold.

Video Output: 1.0 Vp-p, 75 ohm.

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.

Crystal-lock (When DC Supplied): Internal crystal reference is standard on all models.

Controls:

Automatic Gain Control (AGC): On/off.

Gamma: 0.6/1.0.

Automatic White Balance (AWB): Continuous/hold.

Backlight Compensation (BLC): On/off.

Connectors:

Video Out: BNC.

Power: Stripped leads.

Mechanical

Cable Entry: Through one of three 3/4-inch conduit knockouts. Two plugs provided. Set screw located at top of housing to secure top conduit plug.

Mounting: Mounts on wall using four (4) 6 mm (1/4-inch) screws. Cover is secured with one tamper-resistant screw. Driver bit is provided.

Construction/Finish: Polycarbonate dome on cast aluminum housing. White (LTC 1271/x0C) or brushed aluminum (LTC 1271/x0CS).

Dimensions: See dimensional drawing.

Environmental

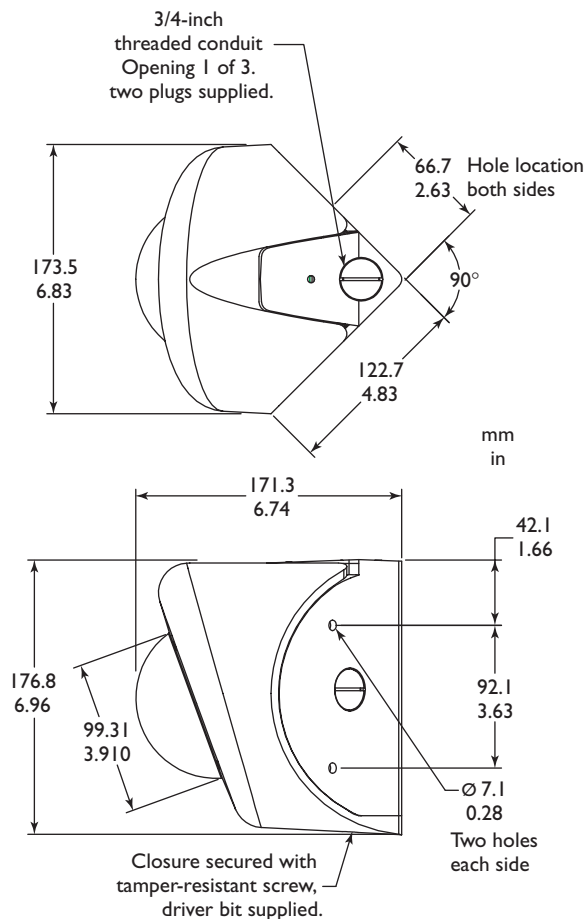
Temperature: Rated for indoor use. Operating: -10°C to 50°C (14°F to 122°F). Storage: -20°C to 50°C (-4°F to 122°F).

Humidity: 0% to 90% relative, noncondensing.

Electromagnetic Compatibility

EMC requirements: CD Immunity, FCC Class A.

Safety: UL, cUL, CE.



Dimensional Outline



PHILIPS

Let's make things better.

DME Series Indoor Fixed Dome Camera

- **Sleek, Smooth Design**
- **Available in Color or Monochrome**
- **3.5–8 mm or Long Range 5–50 mm Lens Options**
- **Test Coax Connector Included for Quick Setup**
- **4.9-inch Dome & 6-inch Height**
- **In-ceiling & Pendant Pipe or Wall Mount Options Available**
- **Optional Plenum Rated Backbox**
- **Full 180° Camera Adjustment Range**



The sleek, smooth DME Series indoor dome camera discretely monitors your premises and protects your business from unwanted events. With its compact design and charcoal color, the DME Series blends into most decors while concealing its high lens power (5–50 mm varifocal) that allows you to view distances over 500 feet.

Replace the square, traditional camera with this 24 VAC/12 VDC assembly that contains a monochrome or color, 3.5–8 mm or 5–50 mm DC iris lens in a pendant or in-ceiling dome. This small,

subtle dome does not immediately resemble a CCTV camera, and the slotted inner liner hides the direction in which the camera is pointing.

Easy to install, the DME Series cameras require minimal setup time. All domes come with a diagnostic coax cable, allowing the installer to set the camera view on-site with a small test monitor at the dome's location. Mounting options include in-ceiling, pendant pipe, and pendant wall mount versions. For plenum installations, a plenum-rated metal backbox can be purchased separately.

SPECIFICATIONS

Electrical

In-ceiling Models

Model	Voltage	Systems	Power	
Horizontal No.	Range			
Resolution				
Monochrome				
DME5RMS38	12–28 VAC or 11–36 VDC, 50 Hz	CCIR	3 W	380 TVL
DME6RMS38	12–28 VAC or 11–32 VDC, 60 Hz	EIA	3 W	380 TVL
Color				
DME5RCS38	12–28 VAC or 11–36 VDC, 50 Hz	PAL	3 W	330 TVL
DME6RCS38	12–28 VAC or 11–32 VDC, 60 Hz	NTSC	3 W	330 TVL

Pendant Models for Pipe Mounting

Model	Voltage	Systems	Power	
Horizontal No.	Range			
Resolution				
Monochrome				
DME5PMS38	12–28 VAC or 11–36 VDC, 50 Hz	CCIR	3 W	380 TVL
DME6PMS38	12–28 VAC or 11–32 VDC, 60 Hz	EIA	3 W	380 TVL
Color				
DME5PCS38	12–28 VAC or 11–36 VDC, 50 Hz	PAL	3 W	330 TVL
DME6PCS38	12–28 VAC or 11–32 VDC, 60 Hz	NTSC	3 W	330 TVL

Note: Change **38** to **55** for units with a preinstalled 5–50 mm DC iris lens.

Add **W** for wall mount versions (pendant models only) (e.g. DME5PMS55W).

Other Models:

Model	Description
DMER	Recessed mount dome housing without camera
DMEP	Pendant mount dome housing for pipe mounting without camera
DMEPW	Pendant mount dome housing for wall mounting without camera

Imager: ¼-inch interline transfer CCD.

Lens Format: ½-inch.

Lens Focal & Iris Range:

-38 Versions: 3.5–8 mm lens, F1.4–200.

-55 Versions: 5–50 mm lens, F1.4–185.

Sensitivity (3200 K) / Signal-to-noise:

		Usable Picture	Signal-to-noise Ratio
DME5RMS38			
DME6RMS38	fc	0.018	48 dB
DME5PMS38	lx	0.18	
DME6PMS38			
DME5RCS38			
DME6RCS38	fc	0.18	48 dB
DME5PCS38	lx	1.8	
DME6PCS38			

F1.2 lens, 75% reflectance rate.

White Balance (Color Models Only):

Automatic Sensing through the Lens (TTL System):
U2700 K to 900 K.

Video Output: 1.0 Vp-p, 75 ohm.

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 to allow vertical synchronization in multiphase power installations.

Crystal-lock (When DC Supplied): Internal crystal reference is standard on all models.

Controls: Backlight Compensation (BLC): On/off.

Connectors:

Power: Screw terminal.
Video Connector: BNC.

Mechanical

Dimensions: See dimensional drawing.

Weight: 0.63 kg (1.4 lb).

Shipping Weight: 1.09 kg (2.41 lb).

Construction/Finish: ABS plastic housing and inner liner in charcoal. Acrylic dome with light tint.

Environmental

Rated for Indoor Use Only.

Electromagnetic Compatibility

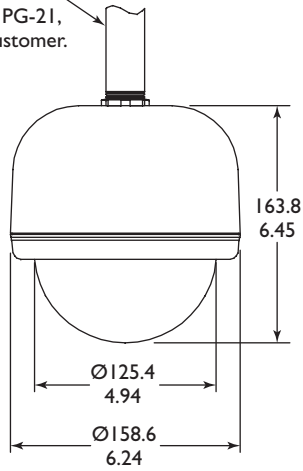
EMC Requirements: FCC Class A.

Safety: UL, CE.

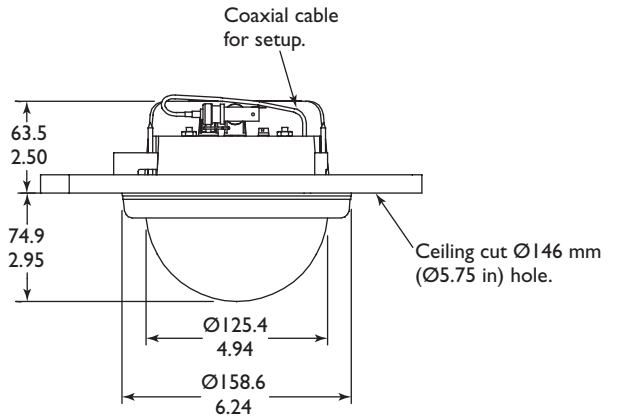
Mounting Accessories

Model	Mount Type
DMEBX	Plenum rated backbox for in-ceiling models
DMEBXR	Plenum rated backbox & support rails for in-ceiling models
MTDMEW	Wall mount for pendant version models (included with wall mount versions)

Threaded conduit with two conduit nuts. Size 3/4-inch or PG-21, supplied by customer.

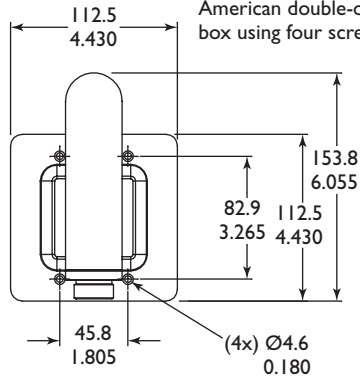


Pendant Pipe Mount

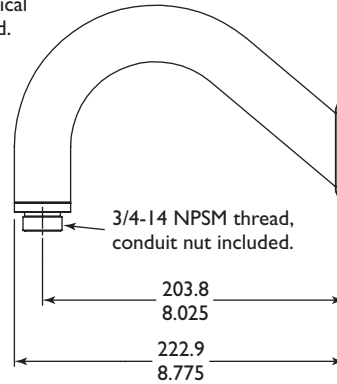


Ceiling Mount

Hole pattern permits mounting of unit to a standard North American double-outlet electrical box using four screws, included.



Pendant Wall Mount



mm
in

Dimensional Outline

9498 961 53612 01-40

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Let's make things better.

e-dome Systems, Indoor



Digital Color Recording System

- View Everything, All the Time!
- Advanced Video Recording System
- MegaPixel Camera Design
- Absolutely Silent
- Totally Digital – No Moving Parts
- Pre/Post Alarm Recording
- Selectable Frame Rates
- Multicamera Expansion



The Philips Color e-dome™ sees it all – taking surveillance to a new level. This completely integrated system includes a camera that electronically pans/tilts/zooms in all directions through PC control.

The e-dome system integrates the latest MegaPixel imaging technology with state of the art digital recording. The system offers expandability up to 4 e-dome cameras.

The camera sees and records all 360° of the complete scene. The easy to use e-dome software allows you to simultaneously view and record non-alarm and alarm events. The e-dome also offers a time/date search capability to provide quick access to specific recorded video that needs to be reviewed.

Installation of the e-dome camera is straightforward. It is entirely electronic with no mechanical moving parts.

The e-dome offers flexible mounting options. It can be mounted in a ceiling looking down, on a table looking up, or on a wall looking sideways. It can be recess mounted so only the discrete 2-inch lens is exposed, or it can be surface mounted as an effective deterrent.

The e-dome is one more innovative way that Philips technology is making things better. For more information, check out the interactive video clip at www.philipscsi.com/color_e-dome.

SPECIFICATIONS

Six different single camera e-dome systems are available as detailed in the following specifications. All systems include a PC, e-dome software, (1) color camera with mounting hardware, and CAT5 plenum cable (25 ft and 100 ft).

Model No.	Power	Configuration
EDSC1	110 VAC/60 Hz	PC monitor not included
EDSC2	220 VAC/50 Hz	PC monitor not included
EDSC1-15F	110 VAC/60 Hz	Includes 15-inch flat-screen PC monitor
EDSC2-15F	220 VAC/50 Hz	Includes 15-inch flat-screen PC monitor
EDSC1-17	110 VAC/60 Hz	Includes 17-inch standard PC monitor
EDSC2-17	220 VAC/50 Hz	Includes 17-inch standard PC monitor

Expansion Camera Kit:

Model No.	Power	Configuration
EDCAMSC	110–220 VAC 50/60 Hz	Color camera and surface ceiling mount

DIGITAL RECORDER

Duration: 168 hours.*

Normal Record File Duration: 15 min segments.

Alarm Record File Duration: 10 min max.

Prealarm: 1, 5, or 10 min.

Alarm File: 1, 5, or 10 min.

CAMERA AND LENS

Camera Resolution: 1024 (H) x 1024 (V).

Frame Rate: 8 frames per second (fps).

Sensitivity: Full Video –5 Lux (0.46 fc).

Signal-to-noise Ratio: 60 dB.

Electronic Shutter: 104 μ s to 107,200 μ s.

Power: 5 Watts.

Temperature:

Storage: –40°C to 60°C (–40°F to 140°F)

Operating: 0°C to 50°C (32°F to 122°F)

Lens Format: 1/2-inch.

Focal Length: 2.6 mm.

Iris Range: F1.6–closed.

Lens Mount: CS.

Iris Control: Manual.

Focus Control: Manual.

Viewing Angle: 360° (H) x 147° (V).

Mounting: Ceiling, wall, or table.

Dimensions: 6.6 L x 3.0 W x 2.98 H in
(167 x 76 x 76 mm).

SYSTEM

Display: Full screen or quad format.

Control: Complete PTZ (live or recorded).

Output: SVGA.

Tracking: AutoPivot.

Preset Titling: 32 characters (screen dependent).

Digital Zoom: 8X.

Pan Speed: 0–90°/sec variable.

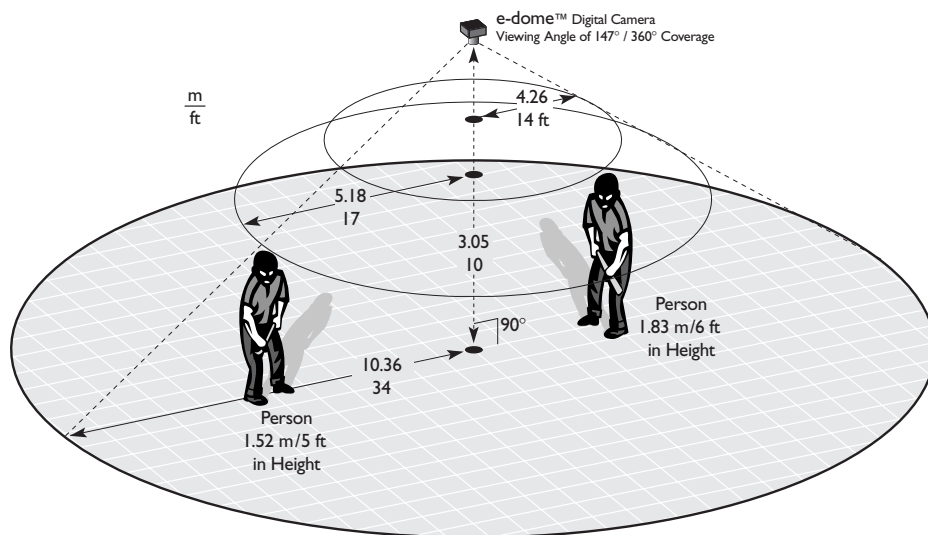
Tilt Speed: 0–90°/sec variable.

Maximum Cabling Distance: 328 ft (100 m) CAT5 plenum.

System Expansion: 1–4 cameras (maximum).

* Based on single camera system at 1 fps normal recording and 30 minutes alarm (8 fps) recording.

Color e-dome Field of View



VIEWING DISTANCE FROM CENTER
BASED ON SUBJECT HEIGHT

HEIGHT OF e-dome	1.52 m/5 ft Person	1.83 m/6 ft Person	Floor Level
3.05 m/10 ft	5.18 m/17 ft	4.26 m/14 ft	10.36 m/34 ft
3.66 m/12 ft	7.01 m/23 ft	6.10 m/20 ft	12.19 m/40 ft
4.57 m/15 ft	10.36 m/34 ft	9.14 m/30 ft	15.24 m/50 ft
5.49 m/18 ft	12.19 m/40 ft	13.41 m/44 ft	18.29 m/60 ft

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AutoDome[®] Systems



Basic AutoDome®

- Indoor, Color Integrated Camera System
- Low Profile
- High Speed
- Affordable, yet Feature Rich
- Easy to Install
- Remotely Configurable
- RS-232 Compatible
- Patented Auto Scaling Feature
- Sector and Preset Titling
- Patented AutoPivot
- Three Year Warranty



Philips' G3 Basic AutoDomes are anything but basic. They are an affordable, yet full featured version of the G3 AutoDome family currently used worldwide for high security surveillance applications. Using an all new mechanical design, the G3 Basic offers faster, quieter, and smoother operation than ever before seen in a dome at this price range. With rugged new motors and fewer moving parts, the G3 Basic uses less power, making it ideal for high usage applications. All this comes in a smaller than ever, easy to install package.

The G3 Basic is designed to save you time. The same camera assembly easily twists into either the pendant mount

or the in-ceiling box. It is addressed remotely using the new FastAddress feature. This feature allows for complete installation before assigning a camera number to it. The G3 Basic includes an On-screen Display (OSD) for programming, so you can set it up right the first time and easily optimize the camera under changing conditions. It also comes standard with 16 zone sectors and 99 pre-positions, each with separate 16-character titling capability so that you always know what you're viewing.

The auto-playback (Guard Tour) feature allows you to store 2 separate tours totaling 15 minutes of duration. These tours consist of control

commands and can be played back when needed. It stores all camera and position information including pan, tilt, zoom, etc., for maximum flexibility.

As with all Philips AutoDome systems, The G3 Basic includes our patented AutoPivot feature that automatically rotates and flips the camera, so tracking a subject under the dome is effortless.

The G3 Basic AutoDome offers a variety of styles and mounting options and can even be used with existing G3 mounting hardware. Its new design, flexibility, and versatility make this dome an affordable and valuable addition to any security system.

G3 BASIC SPECIFICATIONS

Color Camera	Imager	1/4-inch IT CCD (752 x 596 pixels PAL), (768 x 494 pixels NTSC)
	Lens	12X zoom (4.0 mm – 48 mm) F1:1.0 to F1:2.0
	Focus	Automatic with manual override
	Iris	Automatic with manual override
	Field of View	3.8° to 43.6°
	Video Output	1.0Vp-p, 75 Ohms
	Gain Control	Off/Auto
	Synchronization	Line lock (0 to 359° vertical phase adjust) or internal crystal
	Full Video Level	1 Vp-p with 50% APL typ. (1.3 V max)
	Aperture Correction	Horizontal and vertical
	Digital Zoom	Not applicable
	Horizontal Resolution	450 TV lines
	Sensitivity (Usable Video)	10 fc/1.0 lx (5 fc/0.5 lx with optional clear window)
	SNR	>50 db
	White Balance	2300 K to 9500 K

Environmental	Design Rating	IP31 (NEMA 2)
	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)

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	Power Consumption	15 W
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Misc.	Camera Setup Control	Biphase or RS-232
	Pre-positions	99 each with 16-character titles
	Guard Tour	2 tours totaling 15 minutes duration. All camera functions stored in memory.
	Addressing	FastAddress™ remote addressing
	Sectors/Titling	16 independent sectors with 16-character titles/sector

COMPATIBILITY STATEMENT:

The G3 Basic domes use the remote addressing feature, FastAddress, exclusively. There is no manual way to set the address using switches. Because of this, these domes are only compatible with Philips systems that meet the following criteria:

- All **System4**® Multiplexers w/ a variable speed keyboard.
- Any Allegiant® system which supports variable speed protocol mode. This includes all LTC 8100, LTC 8200, LTC 8300, & LTC 8900 models.
- LTC 8500/LTC 8600/LTC 8800 CPUs having version 5.3 or later.
- Any LTC 8500/LTC 8600/LTC 8800 CPUs that have two 8-position dip switches are guaranteed to support variable speed.
- Any LTC 8600/LTC 8800 sold after 6/94 and LTC 8500 sold after 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 (i.e., keyboards, receiver/drivers, port expanders, etc.).

Ordering Information:

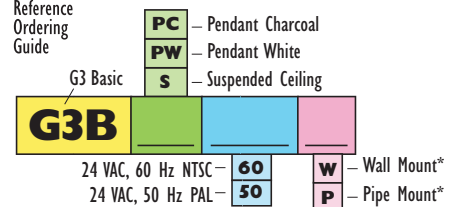
Use the following chart to create your order numbers based on the example below. All units are for indoor applications.

Sample: **G3BPW50W**

- G3 Basic
- Pendant White
- 24 VAC, 50 Hz PAL
- Wall Mount

G3 Basic

Quick Reference Ordering Guide



* Options available for pendant models only.

Individual components:

- G3B50 – 24 VAC, 50 Hz Camera Module (PAL)
- G3B60 – 24 VAC, 60 Hz Camera Module (NTSC)
- G3BS – Suspended Ceiling Mounting Kit
- G3BPW – Pendant Backbox (White)
- G3BPC – Pendant Backbox (Charcoal)
- BUB-G3BTI – Replacement Bubble w/ Tinted Window
- BUB-G3BCL – Optional Bubble w/ Clear Window





AutoDome® Indoor Systems

- **Slow Shutter Control (Frame Integration)**
- **Available in Color, B/W, or Day/Night Versions**
- **FastAddress Remote Addressing**
- **Low Profile**
- **Ultra High Sensitivity**
- **High Resolution**
- **Remotely Configurable**
- **Patented AutoPivot & Auto Scaling Features**
- **Sector & Preset Titling**
- **Multilingual Displays**



Philips' G3 AutoDomes offer over 200x zoom (18 optical, 12 digital) in small, easy-to-install packages, making them inconspicuous, effective deterrents.

These attractive integrated units offer high speed panning and tilting with 360° continuous rotation and 0.5° accuracy, so you can get to any pre-position with great accuracy in less than a second. In addition, the patented scaling feature ensures you have optimum control for viewing at all zoom settings.

The G3s offer remote addressing through our FastAddress capability, allowing you to install all of the domes first and then set the addresses afterwards from the control system. Since it is not necessary to go to the camera's physical location, this feature also makes it easier to readdress cameras at a later time.

The day/night G3 AutoDome can be programmed to switch into night mode (from color to b/w) by removing the IR filter when light levels drop below the specified threshold. From the keyboard, the user can also choose to switch modes manually.

Slow shutter control (frame integration) is now standard on all color and day/night AutoDomes. This option allows the camera to reduce the shutter speed to as little as 1/4-sec, thus increasing the sensitivity to nearly 0.03 lux.

To ensure reliability, G3 AutoDomes are manufactured with rugged motors and fewer moving parts, making them ideal for high-usage applications.

The G3 AutoDome is designed to save you time. The camera easily twists and locks into place, making installations a breeze. It includes an on-screen display during programming, so you set it up right the first time. It also comes standard with 16 character sector titling (16 sectors) and pre-position titling (99 pre-positions) so that you always know what you are viewing.

The auto-playback (Guard Tour) feature allows you to store 2 separate types of guard tours: two (2) recorded tours and one (1) preset tour. The recorded guard tours can have a combined

duration of 15 minutes. Recorded tours consist of control commands and can be played back when needed. All camera position information is stored for maximum flexibility (including pan, tilt, zoom, etc.). The preset tour consists of up to 99 scenes consecutively.

You can use your Philips Allegiant® control system or G3 keyboard to set limits, pan between limits, control the phase adjustable line-lock delay, set the AGC, activate backlight compensation, or any other advanced feature that comes standard with every G3 dome.

As with all Philips AutoDome® systems, the G3 includes our patented AutoPivot feature that automatically rotates and flips the camera, so tracking a subject under the dome is effortless.

The G3 AutoDome offers a variety of styles and mounting options for all applications and includes multilingual displays. The supported languages are English, French, German, and Spanish.

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.

Camera Commands

- Picture quality settings such as **White Balance** and **Sharpness**.
- **Gain Control:** Rather than simply turning Automatic Gain Control (AGC) on or off, the AutoDome allows selection of a specific gain setting in instances where only minor gain may be needed.
- **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 **off**, **fully automatic**, or one of 6 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.
- **Night Mode Color:** Useful when a color burst signal is required/desired, even when the camera is in Night Mode. The result is a **Colorized Monochrome** appearance.

Dome Commands

- **Guard Tours:** There are two different styles of Guard Tours:
 1. The **preset tour** has capability for any number of the 99 presets, which can be either 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.

2. **Recorded tours** (2) 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:

1. **Low** (any user can access any option).
2. **Medium** (a published command unlocks the commands [OFF-90-ENTER]).
3. **High** (a four digit (modifiable) password is required to unlock the commands).

G3 AUTODOME SPECIFICATIONS

		COLOR	DAY/NIGHT	MONOCHROME
Camera	Imager	1/4-in IT CCD (752 x 582 PAL) (768 x 494 NTSC)		1/3-in IT CCD (752 x 697 PAL) (752 x 582 NTSC)
	Lens	18X Zoom (4.1 mm – 73.8 mm) F1: 1.4 to F1: 3.0		16X Zoom (4.5 mm – 72 mm) F1: 1.2 to F1: 2.7
	Focus	Automatic with manual override		Automatic w/manual override
	Iris	Automatic with manual override		Automatic with manual override
	Field of View	2.7° to 48°		3.4° to 57°
	Video Output	1.0 Vp-p, 75 ohms		1.0 Vp-p, 75 ohms
	Gain Control	Off/Auto/Fixed		Off/Auto
	Synchronization	Line-lock (-120 to 120° vertical phase adjust) or internal crystal		Line-lock 0 to 360° vertical phase adjust) or internal crystal
	Full Video Level	750 mVp-p with 50% APL typ (1.0 V max)		1 Vp-p with 50% APL typ (1.3 V max)
	Aperture Correction	Horizontal and vertical		Horizontal and vertical
	Digital Zoom	12X		N/A
	Horizontal Resolution	470 TVL (NTSC) 460 TVL (PAL)		550 TVL (typ)
	Sensitivity (Usable Video)	0.05 fc/0.5 lx w/slow shutter off	0.0031 fc/0.031 lx night mode w/slow shutter off 0.0031 fc/0.031 lx day mode w/slow shutter on	0.008 fc/0.08 lx
	SNR	>50 dB		>55 dB
	White Balance	2000 K to 10,000 K		N/A

Environmental	Model	Pendant	In-ceiling
	Design Rating	IP54 (NEMA 3)	Plenum Rated
	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, noncondensing	

Mechanical	Model	Pendant	In-ceiling
	Weight	3.6 kg (8 lb)	2.7 kg (6 lb)
	Pan/Tilt	360° continuous pan, 0 to 90° tilt from horizontal plane	
	Pre-position Speed	360°/sec, ± 0.50° accuracy	
	Variable Speed	120°/sec	

Power	21-28 VAC, 50/60 Hz, 15 W
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Miscellaneous	Sectors/Titling	16 independent sectors with 16-character titles/sector
	Camera Setup/Control	Biphase or RS-232
	Pre-positions	99 each with 16-character titles
	Guard Tours	2 Separate Types of Tours: Recorded Tours - Two (2), totaling 15 minutes duration for both Preset Tour - One (1), consisting of up to 99 scenes consecutively
	Addressing	FastAddress remote addressing or 4 digit thumbwheel

Ordering Information:

Use the following chart to create your order numbers based on the example below.

Sample: **G3ACPW5TP**

- Indoor AutoDome
- Color
- Pendant White
- 24 VAC 50 HZ
- Tinted
- Pipe Mount

G3 AutoDome®
Quick Reference
Ordering
Guide

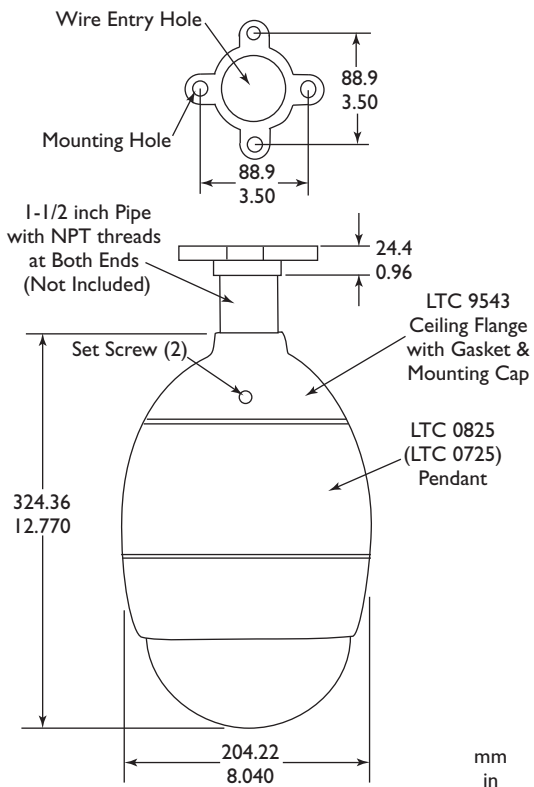
Color –	C	Clear –	C	P	– Pipe**
Day/Night –	D	Tint –	T	W	– Wall**
G3A					
Suspended Ceiling –	S	5	– 24 VAC, 50 Hz PAL*		
Pendant White –	PW	6	– 24 VAC, 60 Hz NTSC*		
Pendant Charcoal –	PC				

* NOTE: No transformer included. Customer must supply 24 VAC, 15 W (min.) transformer.

** Wall and pipe mount kits only apply to pendant models.

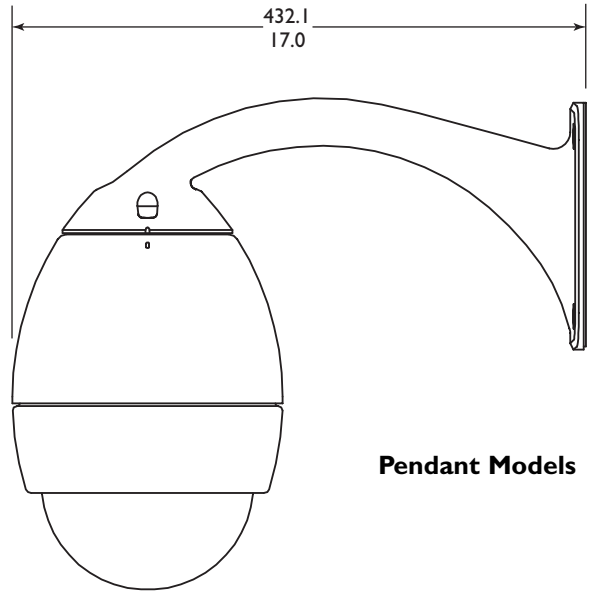
Monochrome models are ordered as LTC 0725 Series (pendant) and LTC 0729 Series (in-ceiling). See your local sales representative for specific model numbers.

PRODUCT DRAWINGS

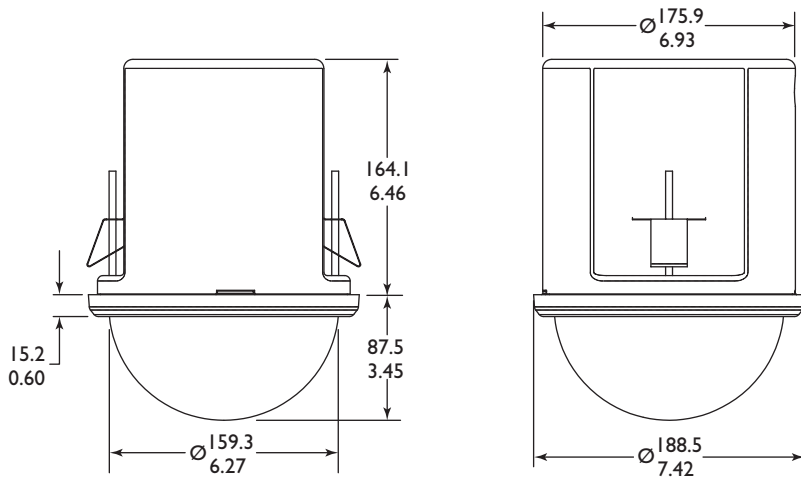


Pipe Model

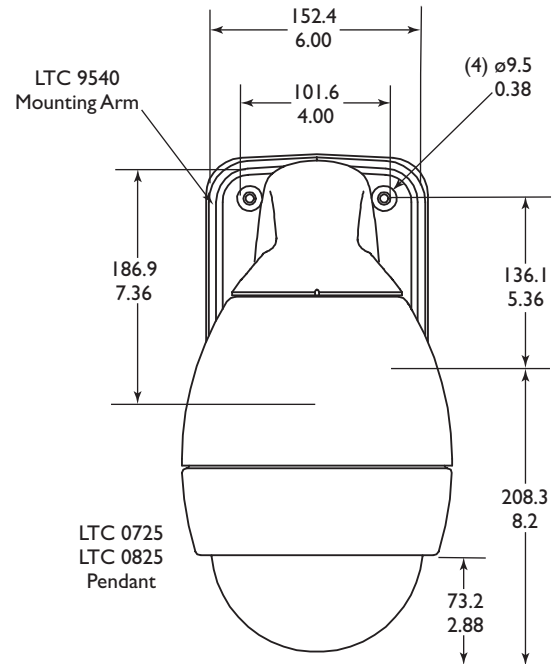
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in



Pendant Models



Suspended/Hard Ceiling Models



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G³ EnviroDome Systems

- **Slow Shutter Control (Frame Integration)**
- **Rugged Weather-resistant Design**
- **Available in Color, B/W, or Day/Night Versions**
- **Ultra High Sensitivity**
- **High Resolution**
- **Remotely Configurable**
- **Patented AutoPivot & Auto Scaling Features**
- **Sector & Preset Titling**
- **FastAddress Remote Addressing**
- **Three Year Warranty**
- **Multilingual Displays**



Philips' G3 EnviroDome™ is available in 3 different camera versions: color, monochrome, and a day/night version which switches from color to monochrome when light levels drop, such as at night. All three versions are offered in a small, easy-to-install, weather-resistant package, making it an inconspicuous, effective deterrent.

The day/night EnviroDome can be programmed to switch into night mode (from color to b/w) by removing the IR filter when light levels drop below the specified threshold. From the keyboard, the user can also choose to switch modes manually.

Slow shutter control (frame integration) is now standard on all color and day/night AutoDomes. This option allows the camera to reduce the shutter speed to as little as 1/4-sec, thus increasing the sensitivity to nearly 0.03 lux.

The G3s offer remote addressing through our FastAddress capability, allowing you to install all the domes first and then set the addresses afterwards from the control system. Since it is not necessary to go to the camera's physical location, this feature also makes it easier to readdress cameras at a later time.

**Philips
Communication,
Security & Imaging**

Another option of the G3 EnviroDome is the fiber optic transmission of both video and control signals over a single fiber for distances up to 4 km (2.5 mi).

This attractive integrated unit, designed to meet IP66 and NEMA 4, offers a wide operating temperature range, and its low profile makes it stable in windy conditions. Add high speed panning and tilting with 360° continuous rotation and 0.5° accuracy on presets and you can get to any pre-position, with great accuracy, in less than a second. In addition, the patented scaling feature ensures you have optimum control for viewing at all zoom settings.

To ensure reliability, G3 EnviroDomes are manufactured with rugged new motors and fewer moving parts, making them ideal for high-usage applications.

The G3 EnviroDome is designed to save you time. The camera easily twists and locks into place, making installations a breeze. It includes an on-screen display during programming, so you set it up right the first time. It also comes standard with 16-character sector titling (16 sectors) and pre-position titling (99 pre-positions) so that you always know what you are viewing.

The auto-playback (Guard Tour) feature allows you to store 2 separate types of guard tours: two (2) recorded tours and one (1) preset tour. The recorded guard tours can have a combined duration of 15 minutes. Recorded tours consist of control commands and can be played back when needed. All camera position information is stored for maximum flexibility (including pan, tilt, zoom, etc.). The preset tour consists of up to 99 scenes consecutively.

As with all Philips AutoDome® systems, the G3 includes our patented AutoPivot feature that automatically rotates and flips the camera, so tracking a subject under the dome is effortless.

You can use your Philips Allegiant® control systems or G3 keyboard to set limits, pan between limits, control the phase adjustable line-lock delay, set the AGC, activate backlight compensation, or perform any other advanced feature that comes standard with every G3 dome.

The G3 EnviroDome offers a variety of styles and mounting options for all applications and includes multilingual displays. The supported languages are English, French, German, and Spanish.



PHILIPS

G 3 ENVIRODOME SPECIFICATIONS

		COLOR	DAY/NIGHT	MONOCHROME
Camera	Imager	1/4-in IT CCD (752 x 582 PAL) (768 x 494 NTSC)		1/3-in IT CCD (752 x 697 PAL) (752 x 582 NTSC)
	Lens	18X Zoom (4.1 mm – 73.8 mm) F1: 1.4 to F1: 3.0		16X Zoom (4.5 mm – 72 mm) F1: 1.2 to F1: 2.7
	Focus	Automatic with manual override		Automatic w/manual override
	Iris	Automatic with manual override		Automatic with manual override
	Field of View	2.7° to 48°		3.4° to 57°
	Video Output	1.0 Vp-p, 75 ohms		1.0 Vp-p, 75 ohms
	Gain Control	Off/Auto/Fixed		Off/Auto
	Synchronization	Line-lock (-120 to 120° vertical phase adjust) or internal crystal		Line-lock 0 to 360° vertical phase adjust) or internal crystal
	Full Video Level	750 mVp-p with 50% APL typ (1.0 V max)		1 Vp-p with 50% APL typ (1.3 V max)
	Aperture Correction	Horizontal and vertical		Horizontal and vertical
	Digital Zoom	12X		N/A
	Horizontal Resolution	470 TVL (NTSC) 460 TVL (PAL)		550 TVL (typ)
	Sensitivity (Usable Video)	0.05 fc/0.5 lx w/slow shutter off	0.05 fc/0.5 lx day mode w/slow shutter off 0.0031 fc/0.031 lx night mode w/slow shutter off 0.0031 fc/0.031 lx day mode w/slow shutter on 0.0004 fc/0.004 lx night mode w/slow shutter on	0.008 fc/0.08 lx
	SNR	>50 dB		>55 dB
White Balance	2000 K to 10,000 K		N/A	

Environmental	Humidity	0% to 90% relative, noncondensing	
	Ingress Protection	Designed to meet IP66 (NEMA 4)	
	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, 0 to 90° tilt from horizontal plane	
	Pre-position Speed	360°/sec, ± 0.50° accuracy	
	Variable Speed	120°/sec	

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)	

Power	Power	21–28 VAC, 50/60 Hz	
		Camera input - 20 W Maximum Heater input - 30 W Maximum	

Miscellaneous	Sectors/Titling	16 independent sectors with 16-character titles/sector	
	Camera Setup/Control	Biphase or RS-232	
	Pre-positions	99 each with 16-character titles	
	Guard Tours	2 Separate Types of Tours: Recorded Tours - Two (2), totaling 15 minutes duration for both Preset Tour - One (1), consisting of up to 99 scenes consecutively	
	Addressing	FastAddress remote addressing or 4 digit thumbwheel	

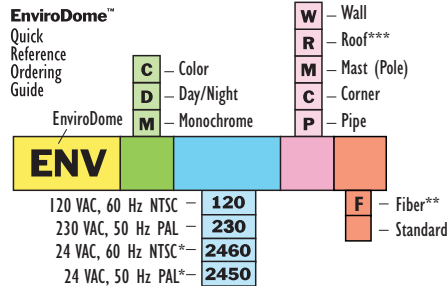
†425 TVL in NTSC versions with digital zoom.

Ordering Information:

Use the following chart to create your order numbers based on the example below.

Sample: **ENVC120W**

- EnviroDome
- Color
- 120 VAC 60 Hz
- Wall Mount
- No Fiber Option



* NOTE: No transformer included. Customer must supply 24 VAC, 50 VA transformer (LTC 5401 or equivalent). Not available with fiber optic option.

** 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.

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

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PHILIPS

Let's make things better.



AutoDome® Fiber Optic Mounts

- **Integrated Fiber Optic Transceiver for G3 AutoDomes**
- **Single Fiber Optic Connection for Video and Control**
- **Simple Field Installation**
- **Environmentally Sound NEMA 4/IP65 Rated Enclosure**
- **Available in a Variety of Mounting Options**



The new family of G3 AutoDome fiber optic accessories offers you a clean, efficient method of installing and using fiber optics with your Philips AutoDome. Unlike other video and data transmission techniques, fiber eliminates ground loops while offering a secure medium that is virtually impossible to tap into. It also offers a superior signal even in hostile ElectroMagnetic Interference (EMI) or Radio Frequency Interference (RFI) environments. In addition, fiber optics offers this high quality signal over long distances of up to 4 km (2.5 miles) between the dome and the video management system.

The fiber transceiver located at the dome is integrated with the AutoDome's power supply enclosure, so there is no need for any additional hardware at the camera site. These power supplies are in rugged NEMA 4/IP65 rated enclosures and provide an easy way to connect power and fiber quickly. Simply supply line voltage (120 VAC or 230 VAC), plug in the fiber, and

attach the Philips G3 indoor AutoDome or G3 EnviroDome™.

At the video management system, the fiber signal is separated back into discreet video and control data via a rack mountable fiber optic receiver (LTC 4629 Series) and connected to the rest of the system in the traditional manner (sold separately).

SPECIFICATIONS

Design Rating	IP65 (NEMA 4)
Operating Temperature	-40°C to 50°C (-40° F to 122° F)
Storage Temperature	-40°C to 60°C (-40° F to 140° F)
Humidity	0% to 90% relative, noncondensing
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/control 1300 nm)
Max Distance	4 km (2.5 miles)
Power (Including AutoDome)	G3 Indoor – 25 W Max EnviroDome – 50 W Max
Compatible Receivers	LTC 4629/50, LTC 4629/60, LTC 4629/00

ORDERING INFORMATION

Integrated Transmitter/AutoDome Mounting Kits

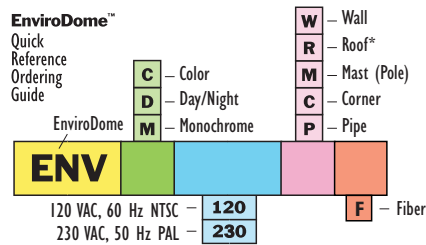
Mount	230 VAC, 50 Hz	120 VAC, 60 Hz
Pendant Arm for Wall (White)	LTC 9540/50F	LTC 9540/60F
Pendant Arm for Wall (Charcoal)	LTC 9540/51F	LTC 9540/61F
Pendant Arm for Mast/Pole	LTC 9541/50F	LTC 9541/60F
Pendant Arm for Outside Corner	LTC 9542/50F	LTC 9542/60F
Power Supply Only w/Fiber	LTC 5401/50F	LTC 5401/60F

Also Available in all 120 VAC or 230 VAC EnviroDome kits with part numbers ending in "F"

Use the following chart to create your order numbers based on the example below.

Sample: **ENVCI20WF**

- EnviroDome
- Color
- 120 VAC, 60 Hz
- Wall Mount
- Fiber Option



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

Compatible receivers (one required for each Transmitter)

	230 VAC, 50 Hz	120 VAC, 60 Hz
Stand Alone Receiver	LTC 4629/50	LTC 4629/60
Rack Mounted Receiver (requires rack kit below)	LTC 4629/00	
Rack Mount for Use with up to 14 LTC 4629/00	LTC 4637/50	LTC 4637/60
Blank Panel for Above Rack	LTC 4600/00	



LTC 9230/00

Parapet Mount AutoDome® Systems

- **Accepts all Philips AutoDome® Systems**
- **Roof Mount Available**
- **Swivels to Allow Easy Positioning**
- **Sturdy Construction**
- **Attractive Appearance**
- **Lightweight**
- **Corrosion-Resistant Finish**



Shown with LTC 0825 Pendant AutoDome System. AutoDome System is not included.

The Philips LTC 9230/00 Parapet Mount has been designed for Philips AutoDome installations up to a rated load of 29 kg (64 lb). It is made of lightweight aluminium and features welded construction providing an extremely rigid dome mount.

The mount can be fitted on the inside or outside of parapets and can be swiveled to allow for easy positioning and servicing access to the AutoDome. Also available is the LTC 9230/01 Roof Mount which enables the parapet to be mounted on a flat surface.

SPECIFICATION

LTC 9230/00:

MECHANICAL

Maximum Load: 29 kg (64 lb)

Load center of gravity located in line with load attachment point.

Load attachment point uses 1-1/2 NPT (Pipe thread).

Mounting Hardware: Not furnished

Finish: Dark Mushroom

Construction: Aluminum

Dimensions: See **Dimensional Outline**.

Weight: 7.7 kg (17 lb).

Note: Do not mount the LTC 9230/00 in an inverted position.

ACCESSORIES

LTC 9230/01 Roof Mount: For mounting unit in an upright position on a flat surface.

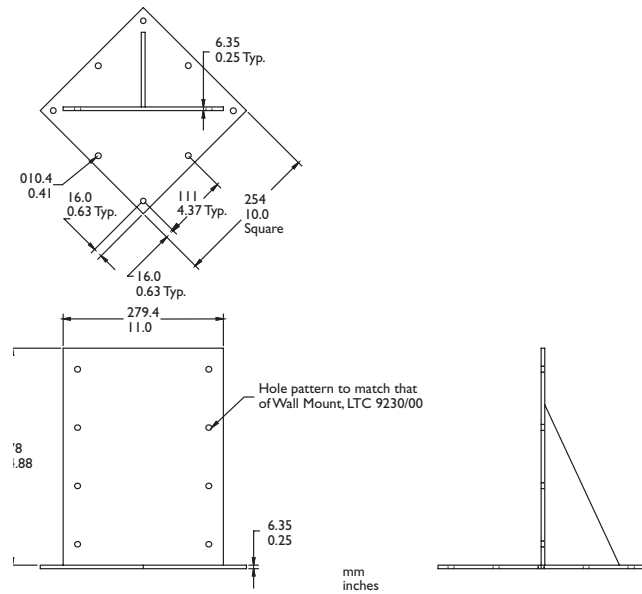


Figure 2: Optional LTC 9230/01 Roof Mount

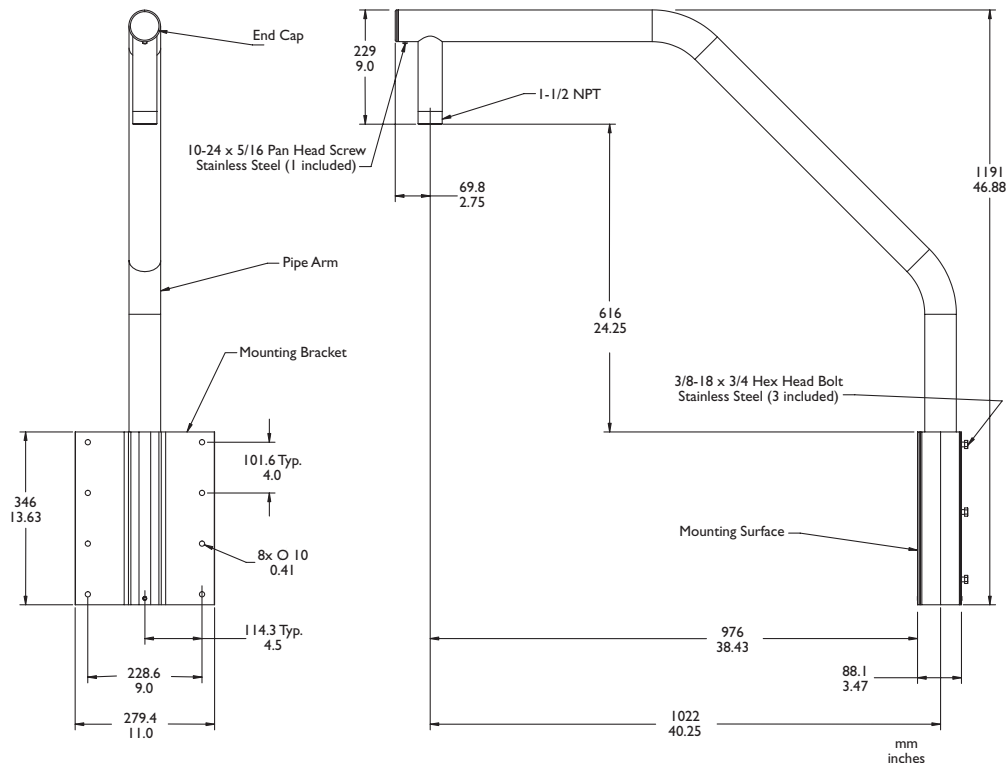


Figure 1: Dimensional Outline - LTC 9230/00 Parapet Mount Shown With Included Wall Mount Bracket

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PHILIPS

Let's make things better.

Accessories for Domed Housings

- n **Wall Mount Brackets**
- n **Mounting Poles**
- n **Pole Mounts**
- n **Adapters And Brackets**
- n **Heaters**
- n **Blowers**



This publication lists the line of accessories for domed housings. A variety of mounting brackets, mounting poles, brackets, and adapters are available to complement the various indoor and outdoor environmental domed housings. A complete line of heaters and blowers is available.

SPECIFICATIONS

Wall Mount Brackets

Wall mount brackets for all-weather domed housings. Constructed of hot rolled channel iron and electrically galvanized for rust prevention. All camera, lens, and pan/tilt wiring can be enclosed within the mount providing cable protection and an orderly

installation. These mounting brackets can be used alone or with other domed housing mount hardware TC9311CA2, TC9315P, TC9315SRM, TC9316PRM, or TC9311PM3.

TC9320WM Designer Bracket

Designer wall mount brackets for all-weather TC9320 Series designer domed housings.

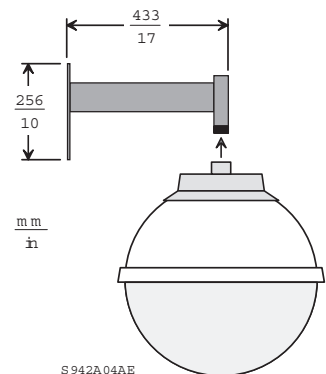
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: (4) 3/8-inch bolts (not included).

Construction/Finish: Black powder-coat steel.

Dimensions: See Drawing.

Weight: 3.6 kg (8 lb).



Note: Domed housing not included.

TC9320WM Wall Mount Bracket

TC9315P Mounting Pole

Mounting pole for all environmental domed housings in high security applications. Contains two access panels 76 x 152 mm (3 x 6 in) for easy installation and servicing.

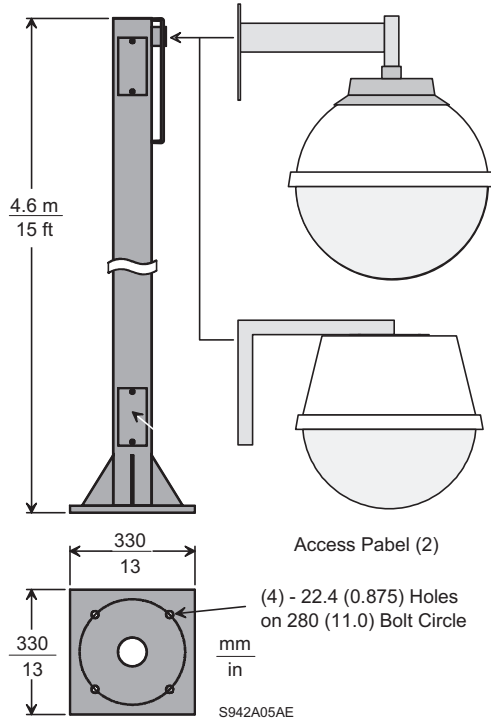
Maximum Rated Load: 113 kg (250 lb).

Mounting Hardware: Pole-to-bracket hardware included.

Construction/Finish: Black powder-coat steel.

Dimensions: See Drawing.

Weight: 100 kg (220 lb).



Notes: Wall mounting brackets and domed housings not included.

A 915 x 915 mm (36 x 36 in) square concrete pad with a minimum depth of 457 mm (18 in) complying with local frost-line codes is required. Length of anchor depends on depth of pad.

TC9315P Mounting Pole

TC9315SRM Corner Mount Bracket With Pivoting Pole

Rotating mounting pole for installation of all environmental domed housings on corner rooftop. TC9315SRM is a two-part pole that rotates at pivot point for easy rooftop servicing. Mounting applications are designed for L-shaped wall mount brackets.

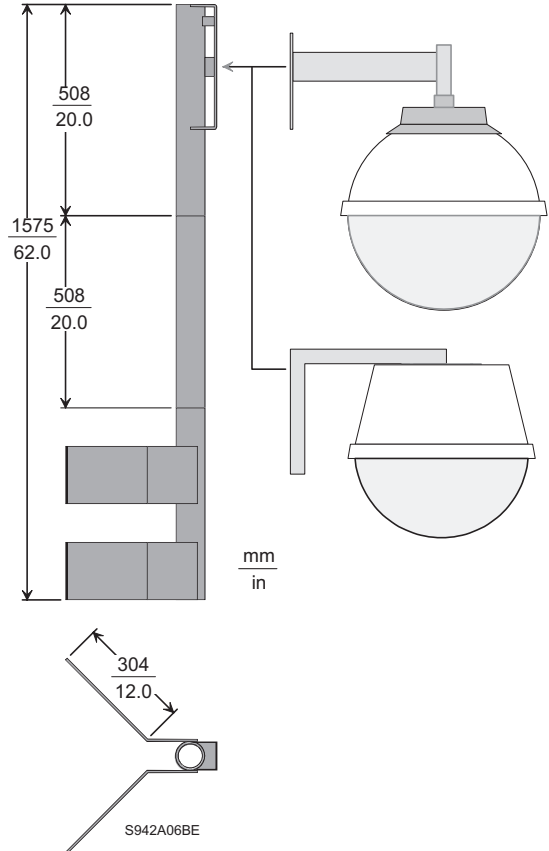
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Pole-to-bracket hardware included.

Construction/Finish: Black powder-coat steel.

Dimensions: See Drawing.

Weight: 24.5 kg (54 lb).



Note: Wall mounting brackets and domed housings not included.

TC9315SRM Corner Mount Bracket With Pivoting Pole

TC9315SMW Wall Mount Adapter

Wall mount adapter for TC9315SRM. Allows the TC9315SRM to be mounted on a flat wall surface.

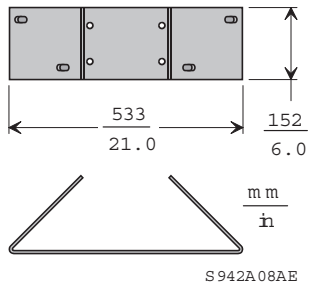
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Not included.

Construction/Finish: Black powder-coat steel.

Dimensions: See Drawing.

Weight: 9.5 kg (21 lb).



Wall Mount Adapter

TC9316PRM Parapet Roof Mount Bracket With Pivoting Arm

Parapet roof mount bracket with pivoting arm which permits rooftop servicing. Designed for use with TC9320 Series environmental domes. Mounting applications are designed for use with L-shaped wall mount brackets.

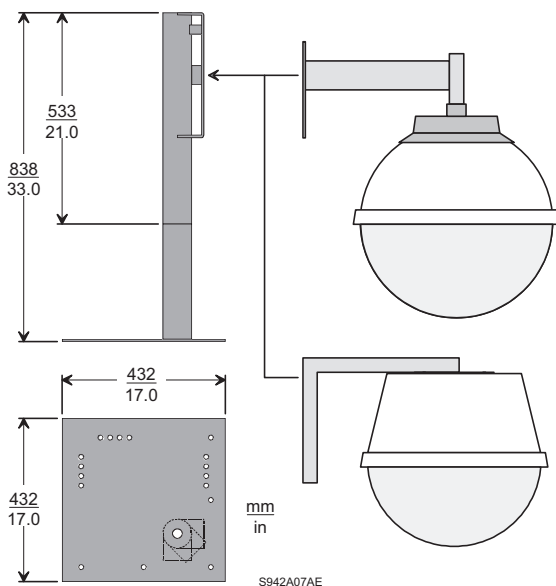
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Pole-to-bracket hardware included.

Construction/Finish: Black powder-coat steel.

Dimensions: See Drawing.

Weight: 18 kg (40 lb).



Parapet Roof Mount Bracket

Note: Wall mounting brackets and domed housings not included.

TC9311CA2 Corner Mount Bracket

Bracket for corner mount applications. For use with all-weather domed housings TC9322 Series, and TC9318 Series with appropriate L-shaped mounting brackets (not included). Brackets have eight 11.2 mm (7/16 in) mounting holes.

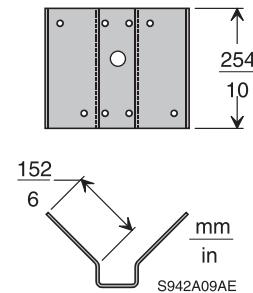
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Not included.

Construction/Finish: Hot rolled steel with black powder-coat.

Dimensions: See Drawing.

Weight: 4.5 kg (10 lb).



Corner Mount Bracket

TC9311PA2 Parapet Mount Bracket

Bracket is designed to be mounted on top surface of parapet wall or corner section of the parapet. For use with all-weather domed housings TC9318 Series, TC9322 Series, and TC9329 Series with appropriate L-shaped mounting brackets (not included). Brackets have ten 11.2 mm (7/16 in) mounting holes.

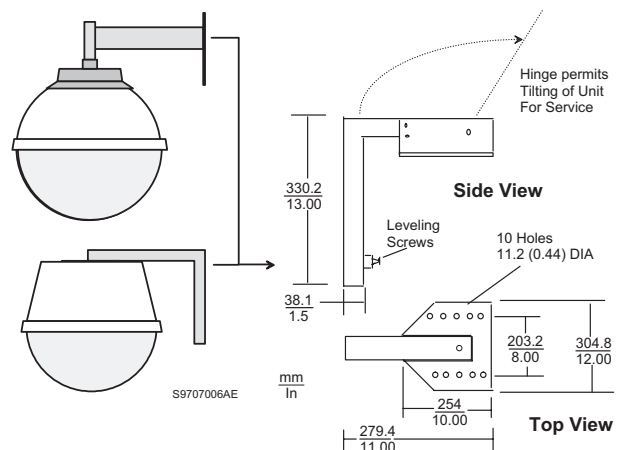
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Bolts included for mounting TC9318WM and TC9320WM wall mount brackets.

Construction/Finish: Steel with black powder-coat.

Dimensions: See Drawing.

Weight: 6.8 kg (15 lb).



Parapet Mount Bracket

Note: Wall mounting brackets and domed housings not included.

TC9311PM3 Pole Mount Adapter TC9311PM3T Installation Tool

TC9311PM3

TC9311PM3 is a pole mount adapter allowing use of all L-shaped wall mount brackets on security mounting poles from 76 mm (3 in) to 381 mm (15 in) in diameter. Stainless steel straps included.

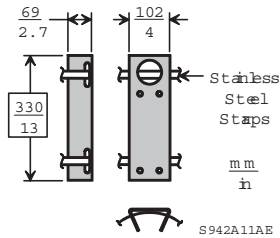
Maximum Rated Load: 68 kg (150 lb).

Mounting Hardware: Included.

Construction/Finish: Hot rolled steel with black powder-coat.

Dimensions: See Drawing.

Weight: 2 kg (4 lb).



Pole Mount Adapter

TC9311PM3T

The TC9311PM3T is a special tool required for proper installation of TC9311PM3.

TC9320H24,TC9320H115,TC9320H240 Heater And Thermostat Assemblies

Heater/thermostat units for use with TC9320 Series outdoor domed housings. Heating strips (set connected in series) are UL listed and constructed from 4-ply fiberglass-supported silicone rubber. Each strip is backed with aluminum. Thermostat (included) closes at 7 °C (45 °F) and opens at 16 °C (60 °F).

Model No.	Rated Voltage	Nominal Power
TC9320H24	24 VAC, 50/60 Hz	150 W
TC9320H115	115 VAC, 50/60 Hz	150 W
TC9320H240	220-240 VAC, 50/60 Hz	150 W

TC9320B24,TC9320B115,TC9320B240 Blower And Thermostat Assemblies

Fan/thermostat units for use with TC9320 Series outdoor domed housings. Fans are UL and CSA Listed; all metal parts have been treated with corrosion inhibitors for outdoor use. Thermostat (included) closes at 35 °C (95 °F) and opens at 26.7 °C (80 °F).

Model No.	Rated Voltage	Nominal Power
TC9320B24	24 VAC, 50/60 Hz	24 W
TC9320B115	115 VAC, 50/60 Hz	24 W
TC9320B240	220-240 VAC, 50/60 Hz	24 W

TC9311VC3,TC9311VC4, TC9311VC5 Coiled CCTV Cable

Coiled CCTV cables for use with all domed housings where required; see specific recommendations in installation instructions.

TC9311VC3

Coiled 2-conductor CCTV Cable; 1.8 m (6 ft), 1 male BNC, 1 female BNC.

TC9311VC4

Coiled 6-conductor CCTV cable; 2.1 m (7 ft), 1 male BNC, 1 female BNC, leads for zoom lens connections.

TC9311VC5

Coiled 11-conductor CCTV cable; 1.8 m (6 ft), 1 male BNC, 1 female BNC, leads for power, zoom lens, and P/T connections.



Monitors

MONI51CL

15-inch Color LCD

Flat Panel Display Monitor

- **Provides 540 TV Lines Resolution**
- **Y/C (S-video), Loop-through Composite Video and Audio Inputs**
- **Space Saving, Compact Design**
- **60% Less Power Consumption than Conventional CRT Monitors**
- **PAL & NTSC Formats**
- **Universal Power Source**
- **Free of Annoying Flicker Prevalent in Conventional CRT-type Monitors**
- **On-screen Display (OSD) for Setup and Adjustment of Monitor Parameters**
- **Desktop, Wall Mount, or Rack Mount Applications**



Philips moves into the future by introducing the first liquid crystal display (LCD) video monitor designed exclusively for the CCTV security marketplace.

Available in an ergonomically and aesthetically pleasing design, this state-of-the-art monitor includes a 15-inch color thin film transfer (TFT) active matrix LCD panel with XGA standard 1024 by 768 pixels, providing the highest color TV lines of resolution in the industry on an LCD panel of this size.

The Philips MONI51CL 15-inch LCD Monitor utilizes a long life fluorescent backlight. The brightness level is maintained over time, because the LCD monitor design avoids the brightness

degradation experienced with CRT monitors as the tube ages. Its versatile design allows it to accept PAL and NTSC signal formats and power supply voltages from 90 to 240 VAC. The MONI51CL provides a sharp display, free of the annoying flicker prevalent in equivalent CRT monitors, allowing longer use of your LCD monitor with little or no eyestrain.

Its compact styling, including a width of less than 3 inches, makes it a color monitor of choice for those space limited applications. With its wide range viewing angle, 140° in the horizontal and 115° in the vertical direction, the unit can be properly viewed whether installed on a desktop, wall mounted, or rack mounted in a standard 19-inch EIA rack.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
MON151CL	120/230 VAC, 50/60 Hz	90 to 240 V	28 W	NTSC/ PAL

LCD Panel:

Type: TFT LCD.

Screen Size: 304.1 (H) × 228.1 (V) mm (12.0 × 9 in).

Viewable Picture Area: 38-cm (15 in) measured diagonally.

Pixel Pitch: 0.297 (H) × 0.297 (V) mm.

Resolution: 1024 × 768 pixels;

540 TV lines typical, 500 TV Lines minimum.

Backlight: 2 cold cathode fluorescent tubes, rated life at 50,000 hours, at 50% brightness.

Optical Characteristics:

Luminance: 200 cd/m².

Contrast Ratio: 300:1.

Viewing Angle: 140° horizontal, 115° vertical.

Video Input:

Composite Video (CVBS): 0.4 to 1.5 V_{p-p}, from 75 Ω unbalanced termination with active loop-through operation.

Y/C (S-video): 0.4 to 1.5 V_{p-p}.

Audio Input:

Signal Level: 0.7 V_{p-p}.

Audio Output:

Loop-through line level.

Speaker: Two, 1 W.

S/N: >55 dB.

Controls:

Front Panel: Push-buttons.

Input: Selects CVBS 1, CVBS 2, Y/C, or sequence mode.

Menu: Selects on-screen display (OSD).

5 : Up cursor, brightness select, brightness level increase.

6 : Down cursor, brightness level decrease.

3 : Contrast select, contrast level decrease, adjustment decrease.

4 : Contrast level increase, adjustment increase.

Power: On/off.

On-screen Display: (Multilanguage).

Tint (applicable to NTSC only).

Color.

Default.

Language (English, French, German, Italian, Spanish).

Channel title.

Dwell time.

Volume.

Exit.

Indicators:

LED: Power on (green), Standby (red), sequence mode (yellow).

Connectors:

Input 1:

Composite Video: 2 RCA, one in, one out; 2 RCA-to-BNC Adapters included.

Audio: 2 RCA, one in, one out.

Input 2:

Composite Video: 2 RCA, one in, one out; 2 RCA-to-BNC adapters included.

Audio: 2 RCA, one in, one out.

Y/C (S-video): 1 Mini-DIN, 4-pin (in only).

Power Cord: Two, 3-wire with grounded plug, 1.8 m (6 ft) long; one with European Continental plug type and one with U.S. plug type.

Mechanical

Cabinet:

Material: ABS 94V-0 plastic.

Finish: Charcoal.

Dimensions:

LCD Panel with Base: 390.5 (W) × 183 (D) × 395 (H) mm (15.4 × 7.2 × 15.6 in).

LCD Panel Only: 390.5 (W) × 69.9 (D) × 304.8 (H) mm (15.4 × 2.75 × 12 in).

Weight: 4.4 kg (9.6 lb).

LCD Panel with Base: 4.5 kg (9.9 lb).

LCD Panel Only: 1.3 kg (2.9 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: 90% maximum.

Electromagnetic Compatibility

EMC Requirements:

Immunity: EN55024.

Emission: EN50081-1, FCC Part 15, Class B.

Safety:

CE: IEC 950.

ETL: ANSI/UL 1950.

ETLc: CAN/CSA C22.2, No. 950.

Accessories

Wall Mount Adapter Bracket: VESA standard bracket, included.

MON151RK Rack Mount Kit: For mounting one MON151CL monitor in an EIA standard 19-inch rack. One unit wide by 7 rack units high.

MON151PS: 120/220 VAC, 50/60 Hz input; 12 VDC, 3.7 A output, for operation away from base.



LTC 2009, LTC 2012, LTC 2017 and LTC 2020 Series Monochrome Video Monitor

- Choice of 9-, 12-, 17-, and 20-inch monitors
- High quality pictures
- Auto-termination
- Supply 100-230 VAC with selectable selection between EIA and CCIR formats
- LTC 2020/90 has auto detection for EIA/CCIR and audio capabilities
- Robust metal case to minimize interference
- Optional rack mounting (except LTC 2020/90)



Philips offer a range of high performance monitors which reflects the high standards of other associated units in the Philips' CCTV systems, such as cameras, transmission and control equipment.

Included in this range of Philips' are the LTC 2009, LTC 2012, LTC 2017 and LTC 2020 Series of monochrome monitors. They offer high performance pictures with a resolution of 900 TVL, or in the case of the LTC 2017 monitor 700 TVL, making them ideal for remote observation and video applications.

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 100-230 VAC, without the need for any switching or adjustments. The monitors are setup for standard composite video signals, the LTC -/5x versions CCIR format, the LTC -/6x versions EIA format and the LTC 2020/90 with automatic detection of CCIR/EIA format.

All controls are located on the front panel for easy adjustment of the picture image.

Monitor features include loop through connection; electrical circuits provide safeguards against interference, noise and changing signal strengths to maintain a clear and stable picture.

Additional features of the LTC 2017 and LTC 2020 monitors include switchable scanning size (over scan & under scan) and switchable DC restoration.

Also the LTC 2020/90 monitor includes two video input options and audio input/output with volume control.

An optional rack mounting is available for these monitors (except the LTC 2020/90).

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2009/51	230 VAC, 50 Hz	198 to 264	18 W	CCIR
LTC 2009/61	120 VAC, 60 Hz	108 to 132	18 W	EIA
LTC 2012/51	230 VAC, 50 Hz	198 to 264	18 W	CCIR
LTC 2012/61	120 VAC, 60 Hz	108 to 132	18 W	EIA
LTC 2017/50	230 VAC, 50 Hz	198 to 264	27 W	CCIR
LTC 2017/60	120 VAC, 60 Hz	108 to 132	27 W	EIA
LTC 2020/90	230 VAC, 50 Hz 120 VAC, 60 Hz	90 to 264	45 W	CCIR/EIA

Monochrome system:

CCIR/EIA, selectable on LTC 2009, LTC 2012, LTC 2017.
Auto selectable on LTC 2020.

Display Tube:

Measured diagonally, 90° deflection angle

- LTC 2009: 23 cm (9 in).
- LTC 2012: 30 cm (12 in).
- LTC 2017: 43 cm (17 in).
- LTC 2020: 51 cm (20 in).

Viewable picture area:

- LTC 2009: 22 cm (9 in).
- LTC 2012: 29 cm (11 in).
- LTC 2017: 41 cm (16 in).
- LTC 2020: 49 cm (19 in).

Linearity:

Horizontal: 10% max.
Vertical: 10% max.

Horizontal resolution:

LTC 2009, LTC 2012: 900 TVL.
LTC 2017: 700 TVL.
LTC 2020: 900 TVL.

Video input:

Composite video: 0.5 to 2.0 Vpp, sync negative. Auto switching from 75 Ω unbalanced termination to Hi-Z with looped through operation.
Two video inputs (LTC 2020/90 only).

Controls:

LTC 2009 & LTC 2012: Power, Contrast, Brightness, V-Hold, H-Hold, EIA/CCIR switch, V-Height, V-Lin.
LTC 2017: Power, Contrast, Brightness, V-Hold, H-Hold, Under/Over Scan, DC-Restoration, V-Height, V-Lin.
LTC 2020: Power, Video A/B, Volume, Sharpness, Contrast, Brightness, V-Hold, H-Hold, Under/Over Scan, DC-Restoration, V-Size, H-Size, V-Lin.

Connectors:

LTC 2009 & LTC 2012: Power input socket, 2 BNC Video input.
LTC 2017: Power input lead, 2 BNC Video input.
LTC 2020: Power input socket, 4 BNC Video input.

Audio input (LTC 2020/90 only):

RCA pin, bridge-out possible. 2 RCA phone jacks.

Audio output (LTC 2020/90 only):

Speaker: 1 W loop through line level.

Power cord:

Approx. 1.8 m (6 ft) with European Continental type.
2.4 m (8 ft) with plug US 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).
LTC 2020: 441 x 445 x 380 mm (17.4 x 17.5 x 14.96 in).

Weight:

LTC 2009: 4.3 kg (9.5 lb).
LTC 2012: 8.9 kg (19.6 lb).
LTC 2017: 15 kg (33 lb).
LTC 2020: 17.7 kg (39 lb).

Environmental

Temperature:

Operation: -10 to +50 °C (+14 to +122 °F).
Storage: -10 to +50 °C (+14 to +122 °F).

Humidity:

Operating: 30 to 90% (non-condensing).

Electromagnetic Compatibility

EMC Requirements:

Immunity EN50082-1 1992,
EN500 82-1 1997 for LTC 2020/90 only.
Emission EN50081-1 1992.
FCC Part 15, Class B.

Safety

LTC 2009, LTC 2012, LTC 2017:
CE: EN60065.
UL: UL 1410.
cUL: CSA 22.2#01.

LTC 2020:

CE: EN60950.
UL: UL 1950.
cUL: CSA 22.2#950.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Accessories

LTC 9009/00 Rack Kit: For mounting two LTC 2009 Series Monitors in an EIA 19-inch rack. One rack unit wide by 6 rack units high.

LTC 9009/01 Blank Panel: For use with LTC 9009/00 Rack Kit when mounting only one LTC 2009 Series Monitor in an EIA 19-inch rack.

LTC 9012/00 Rack Kit: For mounting one LTC 2012 Series Monitor in an EIA 19-inch rack. One rack unit wide by 7 rack units high.

LTC 9017/00 Rack Kit: For mounting one LTC 2017 Series Monitor in an EIA 19-inch rack. One rack unit wide by 10 rack units high.



LTC 2810/90 Color Video Monitor

- **Multi-standard compatibility**
- **Two composite video inputs**
- **Auto-termination**
- **Built-in loudspeaker**
- **Compact, space-saving design**
- **On-Screen-Display**
- **Wide range power supply**
- **Optional Rack Mounting**



The LTC 2810/90 is a standard-resolution color monitor with a 23 cm (9-inch) viewable picture area and multi-standard compatibility. With a built-in loudspeaker and inputs able to accept NSTC and PAL standards, the LTC 2810/90 monitor offer maximum flexibility for a wide variety of applications.

The monitor incorporates a 10-inch (diagonally measured) display tube with a stripe pitch of 0.63 mm (0.024 inch), which delivers standard color reproduction and picture clarity with more than 280 TV lines of horizontal resolution.

The LTC 2810/90 has two sets of composite input terminals for video signals. Each of these terminals have auto-termination and can have bridged outputs. The monitor also features an auto-detect function, which identifies whether input signals are NTSC or PAL and automatically switches mode accordingly.

Monitor adjustments are made via the front control buttons together with the Volume (Data) control buttons. An "On-Screen-Display" provides feedback information of the selected settings.

From these buttons, selections and adjustments can be made to monitor functions such as picture sharpness, tint, color, brightness and contrast.

The loudspeaker volume, is also adjustable with push-button switches arranged conveniently on the front panel for easy access.

The LTC 2810/90 monitor is housed in a compact, space-saving metal cabinet for rugged reliability.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2810/90	230 VAC, 50 Hz 120 VAC, 60 Hz	207 to 253 108 to 132	50W 50W	PAL NTSC

Display tube: 25cm (10 in) measure diagonally, 90° deflection stripe pitch 0.63 mm, in line guns, integral implosion protection.

Viewable picture area: 23 cm (9 in) measured diagonally.

Linearity:

Horizontal: Within $\pm 7\%$.

Vertical: Within $\pm 7\%$.

Horizontal resolution: 280 TV lines.

Video Input:

Composite video: 0.5 to 2.0 Vpp, sync negative. Automatic switching from 75 Ω unbalanced termination to Hi-Z with looped through operation.

Audio input:

Line level: 300 mV.

Impedance: 47 k Ω .

Audio output:

Loop through line level.

Speaker: 0.8 W.

Controls:

Front panel:

Sharp.

Tint.

Color.

Brightness.

Contrast.

Volume.

Video input selection switch.

Power On/Off.

Connectors:

Power input socket.

Composite video A: 2 BNC.

Composite video B: 2 BNC.

Input/output audio terminals: 4 RCA phono jacks.

Power cord:

1.83 m (6 ft) with European Continental type.

1.83 m (6 ft) with plug US type.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 265 W x 330 D x 260 H mm (10.4 x 13 x 10.2 in)

Weight: 6.5 kg (14.3 lb).

Environmental

Temperature:

Operating: 0°C to +40°C (+32°F to +104°F).

Storage: -25°C to +50°C (-13°F to +122°F).

Humidity: 20% to 80% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements:

Immunity: EN50082-1 1992.

Emission: EN50022 1987.

FCC Part 15, Class A.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD Requirements: EN60065 1993.

UL: UL 1410.

cUL: CSA 22.2, No. 1.

Accessories

LTC 9110/00 Rack Kit: For mounting one monitor in an EIA 19-inch rack. One rack unit wide by seven rack units high.



LTC 2813/90 Color Video Monitor

- n **36 cm (14-inch) Screen Size**
- n **400 TVL Resolution**
- n **Auto-sensing of PAL and NTSC Signals**
- n **Wide Range Power Supply**
- n **Front Panel Controls**
- n **Metal Case Minimizes Interference**
- n **Audio Capability**
- n **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.

This monitor incorporates a 36 cm/14-inch (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.

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

SPECIFICATIONS

Electrical

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

Display Tube: 35.6 cm (14-in) measured diagonally, 90° deflection dot 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 TV lines (minimum);
400 TV lines (typical).

Video Input:
Composite Video: 0.3 to 1.5 Vp-p, sync negative. Manual switching from 75 Ω 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: Two 75 Ω /Hi-Z impedance switch (loop-through).

Indicators (Front Panel): Power on LED.

Connectors:

Video A:

Composite Video: 2 BNC, one in, one out.

Video B:

Composite Video: 2 BNC, one in, one out.

Audio: 2 RCA phono jacks, one in, one out.

Power Cord: Two detachable 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 356 W x 380 D x 333 H mm
(14 x 15 x 13.1 in).

Weight: 13.2 kg (29 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%, noncondensing.

Agency Certifications

EMC:

Immunity: EN50130-4 1998.

Emission: EN55022-1 1998, FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD requirement: EN60950 1992.

ETL: ANSI/UL1950.

cETL: CAN/CSA_C22.2, No. 950.

Accessories

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



LTC 2814/90 Color Video Monitors

- **34-cm (13.4-in) Viewing Diagonal**
- **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**



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 rack-mount kit.

Ease of Installation and Operation

The monitor needs only to be connected to the mains 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 4-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 professionals' 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.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2814/90	120/230 VAC, 50/60 Hz	100 to 240	70 W	PAL/ NTSC

Display Tube: 35 cm (14 in) measure 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 Resolution: 350 TV lines (CVBS).

Video Input:

Composite Video: 0.5 to 1.5 Vp-p, sync negative. Automatic switching from 75 Ω unbalanced termination to Hi-Z with looped-through operation.

Y/C: Impedance: 75 Ω unbalanced.

Y Signal: 0.7 Vp-p.

C Signal: 0.3 Vp-p.

Audio Input:

Line Level: 300 mV.

Impedance: 47 kΩ.

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.

Connectors:

Composite Video: Four BNC, two in, two out.

Y/C Video: Two mini-DIN.

Audio: Four RCA phono jacks, two in, two out.

Power Cord: Two 3-wire with grounded plug; 1.5 m (5 ft) long with European Continental and US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 353 W x 390 D x 330 H mm
(13.9 x 15.4 x 13 in)

Weight: 14 kg (30.9 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: 90% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements:

Immunity: EN50082-1 1997.

Emission: EN50081-1 1992.

FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD Requirements: EN60950 1997.

UL: UL 1950.

cUL: CSA 22.2, No. 1.-M94.

Accessories

LTC 9114/00 Rack Kit: For mounting one LTC 2814/90 monitor in an EIA 19-inch rack. One rack unit wide by 8 rack units high.



LTC 2821/90 Color Video Monitor

- **51-cm (20-in) Viewing Diagonal**
- **450 TVL Resolution**
- **PAL & NTSC Format**
- **Two Composite Video Inputs**
- **One Y/C Input**
- **Auto-termination**
- **Audio Capability**
- **Wide Range Power Supply**
- **Compact, Space-saving Design**



The LTC 2821/90 is a color monitor with a 51 cm (20 inch) viewable picture area and multistandard compatibility. With a built-in loudspeaker and inputs able to accept NTSC, PAL, and S-video standards, the LTC 2821/90 monitor offers maximum flexibility for a wide variety of applications.

The monitor incorporates a 21-inch (diagonally measured) display tube with a stripe pitch of 0.7 mm (0.027 inch), which delivers outstanding color reproduction and picture clarity with more than 450 TV lines of horizontal resolution.

The LTC 2821/90 has two sets of composite video inputs and a Y/C input for S-video signals. Each of these inputs has auto-termination and provides bridged outputs. The monitor also features an auto-detect function,

which identifies whether input signals are 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.

Monitor adjustments are made via the front control buttons together with the Volume (Data) control buttons. 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 speaker volume is also adjustable with push-button switches arranged conveniently on the front panel for easy access.

The LTC 2821/90 monitor is housed in a compact, space-saving metal cabinet for rugged reliability.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2821/90	230 VAC, 50 Hz 120 VAC, 60 Hz	207 to 253 108 to 132	75 W 75 W	PAL NTSC

Display Tube: 53 cm (21 in) measured diagonally, 90° deflection stripe pitch 0.7 mm (0.027 in), in-line guns, integral implosion protection.

Viewable Picture Area: 51 cm (20 in) measured diagonally.

Linearity:

Horizontal: Within $\pm 7\%$.

Vertical: Within $\pm 7\%$.

Horizontal Resolution: 450 TV lines, typical.

Video Input:

Composite Video: 0.5 to 2.0 Vp-p, sync negative. Automatic switching from 75 Ω unbalanced termination to Hi-Z with looped-through operation.

Y/C:

Impedance: 75 Ω unbalanced, bridge-out possible, auto termination.

Y-signal: 0.7 Vp-p.

C-signal: 0.3 Vp-p.

Audio Input:

Line Level: 300 mV.

Impedance: 47 k Ω .

Audio Output:

Loop-through line level.

Speaker: 1.2 W.

Controls:

Front Panel:

Sharp.

Tint.

Color.

Brightness.

Contrast.

Volume.

Video input selection switch.

Power on/off.

Indicators:

Front Panel LEDs:

Video A (composite).

Video B (composite).

Video C (Y/C).

On-Screen Text:

Adjustment level.

Video input signal indication.

Loss of video signal.

Connectors:

Power input socket.

Composite Video A: 2 BNC.

Composite Video B: 2 BNC.

Y/C Video C: 2 mini DIN.

Input/Output Audio Terminals: 6 RCA phono jacks.

Power Cord:

1.83 m (6 ft) with European Continental type.

1.83 m (6 ft) with plug US type.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 490 W x 483 D x 444 H mm
(19.3 x 19.0 x 17.5 in).

Weight: 25 kg (55 lb).

Environmental

Temperature:

Operating: 0°C to +40°C (+32°F to +104°F).

Storage: -25°C to +50°C (-13°F to +122°F).

Humidity: 20% to 80% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements:

Immunity: EN50082-1 1992.

Emission: EN50081-1 1992.

FCC Part 15, Class A.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD Requirements: EN60065 1993.

UL: UL 1410.

cUL: CSA 22.2, No. 1.



LTC 2910/90 Color Video Monitor

- **23 cm (9-inch) Screen Size**
- **350 TVL 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-inch (measured diagonally) CRT which delivers excellent color reproduction and picture clarity with more than 350 TV lines of resolution.

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 19-inch 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.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2910/90	120/230 VAC, 50/60 Hz	90 to 264	45 W	PAL/NTSC

Display Tube: 23 cm (9-in) measured diagonally, 90° deflection, tri-dot pitch 0.50 mm, in-line guns, integral implosion protection.

Viewable Picture Area: 22.3 cm (8.8-in), measured diagonally.

Linearity:
Horizontal: 7%.
Vertical: 7%.

Horizontal Resolution: 300 TV lines (minimum); 350 TV lines (typical).

Video Input:
Composite Video: 0.3 to 1.5 V_{p-p}, sync negative. Automatic switching from 75 Ω unbalanced termination to Hi-Z with loop-through operation.

Audio Input: I V line level.

Audio Output: Loop-through line level, I W speaker.

Controls (Front Panel):

Volume.
Sharpness.
Brightness.
Contrast.
Color.
Tint (NTSC only).
Video input A/B selector switch.
Power: On/off switch.

Indicators (Front Panel): Power on LED.

Connectors:

Video A:
Composite Video: 2 BNC, one in, one out, auto-terminating.

Video B:
Composite Video: 2 BNC, one in, one out, auto-terminating.

Audio: 2 RCA phono jacks, one in, one out.

Power Cord: Two detachable, 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.
Finish: Charcoal.

Dimensions: 222 W x 303 D x 227.5 H mm (8.75 x 11.9 x 8.9 in).

Weight: 6.8 kg (14.9 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%, noncondensing.

Agency Certifications

EMC:

Immunity: EN50130-4 1998.
Emission: EN50081-1 1992, FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD requirement: EN60950 1992.
ETL: ANSI/UL1950.
cETL: CAN/CSA_C22.2, No. 950.

Accessories

TC210AMK Rack Kit: For mounting one or two LTC 2910/90 monitors in a 19-inch standard EIA rack. One rack unit wide by 6 rack units high.



LTC 2914/91 Color Video Monitor

- n **36 cm (14-inch) Screen Size**
- n **700 TVL Resolution**
- n **Auto-sensing of PAL and NTSC Signals**
- n **Switchable Composite Video and Y/C Signal Inputs**
- n **On-screen Menus for Monitor Adjustments**
- n **Wide Range Power Supply**
- n **Audio Capability**
- n **Optional Rack Mounting**



The LTC 2914/91 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 36 cm/14-inch (measured diagonally) CRT which 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.

The LTC 2914/91 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 3 inputs is selectable for display individually or in sequence mode. Single line level audio is also available for composite video A and composite B-Y/C inputs.

The LTC 2914/91 features an auto-sensing function which automatically identifies whether input signals are PAL or NTSC, and it includes a universal power supply to handle a wide range of power sources.

Housed in a compact, space-saving metal cabinet, the LTC 2914/91 can be rack mounted in a 19-inch standard EIA rack using the optional LTC 9113/00 Rack Mount Kit.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2914/91	120/230 VAC, 50/60 Hz	90 to 264	75 W	PAL/NTSC

Display Tube: 35.6 cm (14-in) measured diagonally, 90° deflection dot stripe pitch 0.22 mm, in-line guns, integral implosion protection.

Viewable Picture Area: 34 cm (13.4-in) measured diagonally.

Linearity:
Horizontal: 7%.
Vertical: 7%.

Horizontal Resolution: 700 TV lines (min).

Video Input:

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

Y/C:

Y-signal: 0.7 Vp-p.
C-signal: 0.3 Vp-p. Manual switching from 75 Ω 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:

- OSD: Selects on-screen display menu.
- 6 : Brightness adjustment decrease, and down cursor control OSD.
- 5 : Brightness adjustment increase, and up cursor control OSD.
- ◀3 : Contrast adjustment decrease, and adjustment decrease OSD.
- ▶4 : Contrast adjustment increase, and adjustment increase OSD.
- A: Select video input A to be displayed.
- B: Select video input B to be displayed.
- Y/C: Select video input Y/C to be displayed.
- SEQ: Select video input A, B, and Y/C to be displayed in sequence.
- Power: On/off switch.

Rear Panel: Three 75 Ω/Hi-Z impedance switch (loop-through).

On-screen Display (7 Languages):

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

Indicators (Front Panel): Power on LED.

Connectors:

Input A:

Composite Video: 2 BNC, one in, one out.
Audio: 2 RCA phono jacks, one in, one out.

Input B:

Composite Video: 2 BNC, one in, one out.
Audio: 2 RCA phono jacks, one in, one out.
Y/C Video: 2 mini-DIN, one in, one out.

Power Cord: Two, detachable, 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.
Finish: Charcoal.

Dimensions: 356 W x 380 D x 333 H mm
(14 x 15 x 13.1 in).

Weight: 13.2 kg (29 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%, noncondensing.

Agency Certifications

EMC:

Immunity: EN55024 1998 (CISPR 24).
Emission: EN50081-1 1992, FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD requirement: EN60065 1993.
ETL: ANSI/UL1950.
cETL: CAN/CSA_C22.2, No. 950.

Accessories

LTC 9113/00 Rack Kit: For mounting one LTC 2914/91 monitor in a 19-inch standard EIA rack. One rack unit wide by 8 rack units high.



LTC 2917/91 Color Video Monitor

- n **44 cm (17-inch) Screen Size**
- n **700 TVL Resolution**
- n **Auto-sensing of PAL and NTSC Signals**
- n **Switchable Composite Video and Y/C Signal Inputs**
- n **On-screen Menus for Monitor Adjustments**
- n **Wide Range Power Supply**
- n **Audio Capability**
- n **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-inch (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.

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 3 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 multiscreen 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 19-inch standard EIA rack using the optional LTC 9117/00 Rack Mount Kit.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2917/91 PAL/NTSC	120/230 VAC, 50/60 Hz	90 to 264	80 W	

Display Tube: 44 cm (17-in) measured diagonally, 90° deflection dot stripe pitch 0.28 mm, in-line guns, integral implosion protection.

Viewable Picture Area: 41 cm (16-in) measured diagonally.

Linearity:
Horizontal: 7%.
Vertical: 7%.

Horizontal Resolution: 700 TV lines (min).

Video Input:

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

Y/C:

Y-signal: 0.7 Vp-p.

C-signal: 0.3 Vp-p. Manual switching from 75 Ω unbalanced to Hi-Z with loop-through operation via the impedance switch.

Audio Input: I V line level.

Audio Output: Loop-through line level, I W speaker.

Controls:

Front Panel:

OSD: Selects on-screen display menu.

6 : Brightness adjustment decreases, and down cursor control OSD.

5 : Brightness adjustment increases, and up cursor control OSD.

3 : Contrast adjustment decrease, and adjustment decrease OSD.

4 : Contrast adjustment increase, and adjustment increase OSD.

A: Select video input A to be displayed.

B: Select video input B to be displayed.

Y/C: Select video input Y/C to be displayed.

SEQ: Select video input A, B, and Y/C to be displayed in sequence.

Power: On/off switch.

Rear Panel:

Three 75 Ω/Hi-Z impedance switch (loop-through).

On-screen Display (7 Languages):

Brightness.

Contrast.

Tint (applicable to NTSC only).

Color.

Default.

Language (English, Chinese, French, German, Spanish, Italian, Dutch).

Channel title.

Dwell time.

Volume.

Underscan.

Indicators (Front Panel): Power on LED.

Connectors:

Input A:

Composite Video: 2 BNC, one in, one out.

Audio: 2 RCA phono jacks, one in, one out.

Input B:

Composite Video: 2 BNC, one in, one out.

Audio: 2 RCA phono jacks, one in, one out.

Y/C Video: 2 mini-DIN, one in, one out.

Power Cord: Two, detachable, 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 400 W x 406 D x 363 H mm
(15.75 x 16 x 14.3 in).

Weight: 19 kg (41.8 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%, noncondensing.

Agency Certifications

EMC:

Immunity: EN55024 1998 (CISPR).

Emission: EN50081-1 1992, FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD requirement: EN60065 1993.

ETL: ANSI/UL1950.

cETL: CAN/CSA_C22.2, No. 950.

Accessories

LTC 9117/00 Rack Kit: For mounting one LTC 2917/91 monitor in a 19-inch standard EIA rack. One rack unit wide by 9 rack units high.



PHILIPS

Let's make things better.

LTC 2919/90 Color Video Monitor

- n **48 cm (19-inch) Screen Size**
- n **700 TVL Resolution**
- n **Auto-sensing of PAL and NTSC Signals**
- n **Switchable Composite Video and Y/C Signal Inputs**
- n **On-screen Menus for Monitor Adjustments**
- n **Wide Range Power Supply**
- n **Audio Capability**
- n **Optional Rack Mounting**



*Photo inset shown with rack mount kit installed (sold separately).

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-inch (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.

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 3 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.

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

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2919/90 PAL/NTSC	120/230 VAC, 50/60 Hz	90 to 264	90 W	

Display Tube: 48.3 cm (19-in) measured diagonally, 90° deflection dot stripe pitch 0.27 mm, in-line guns, integral implosion protection.

Viewable Picture Area: 45.7 cm (18-in) measured diagonally.

Linearity:
Horizontal: 7%.
Vertical: 7%.

Horizontal Resolution: 700 TV lines (min).

Video Input:

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

Y/C:

Y-signal: 0.7 Vp-p.

C-signal: 0.3 Vp-p. Manual switching from 75 Ω unbalanced to Hi-Z with loop-through operation via the impedance switch.

Audio Input: I V line level.

Audio Output: Loop-through line level, I W speaker.

Controls:

Front Panel:

OSD: Selects on-screen display menu.

6 : Brightness adjustment decreases, and down cursor control OSD.

5 : Brightness adjustment increases, and up cursor control OSD.

3 : Contrast adjustment decrease, and adjustment decrease OSD.

4 : Contrast adjustment increase, and adjustment increase OSD.

A: Select video input A to be displayed.

B: Select video input B to be displayed.

Y/C: Select video input Y/C to be displayed.

SEQ: Select video input A, B, and Y/C to be displayed in sequence.

Power: On/off switch.

Rear Panel:

Three 75 Ω/Hi-Z impedance switch (loop-through).

On-screen Display (7 Languages):

Brightness.

Contrast.

Tint (applicable to NTSC only).

Color.

Default.

Language (English, Chinese, French, German, Spanish, Italian, Dutch).

Channel title.

Dwell time.

Volume.

Underscan.

Indicators (Front Panel): Power on LED.

Connectors:

Input A:

Composite Video: 2 BNC, one in, one out.

Audio: 2 RCA phono jacks, one in, one out.

Input B:

Composite Video: 2 BNC, one in, one out.

Audio: 2 RCA phono jacks, one in, one out.

Y/C Video: 2 mini-DIN, one in, one out.

Power Cord: Two, detachable, 3-wire IEC connector with grounded plug, 1.5 m (5 ft) long; one with European Continental and one with US plug types.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 441 W x 444 D x 413 H mm
(17.4 x 17.5 x 16.25 in).

Weight: 21.8 kg (48 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%, noncondensing.

Agency Certifications

EMC:

Immunity: EN50130-4.

Emission: EN50081-1 1992, FCC Part 15, Class B.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.

Safety:

CE, LVD requirement: EN60950 1992.

ETL: ANSI/UL1950.

cETL: CAN/CSA_C22.2, No. 950.

Accessories

LTC 9119/00 Rack Kit: For mounting one LTC 2919/90 monitor in a 19-inch standard EIA rack. One rack unit wide by 9 rack units high.



PHILIPS

Let's make things better.

LTC 292I Series Color Video Monitors

- **51-cm (20-inch) Viewing Diagonal**
- **High Resolution Color Monitor - 550 TVL**
- **Auto-sensing of PAL/NTSC Signals**
- **Monitor Adjustments via On-screen Menus**
- **Selectable 4:3 or 16:9 Aspect Ratios**
- **Brightness Peak Suppression System**
- **Audio Capability**
- **Front Panel Control Lock-out**



The LTC 292I Series are high resolution color monitors with a 51 cm (20-inch) flat, square viewable picture area and a comprehensive lineup of professional features including multistandard compatibility and user-friendly on-screen menus. With a built-in loudspeaker and inputs able to accept NTSC, PAL, and S-video standards, the LTC 292I Series monitors offer maximum flexibility for a wide variety of applications.

The monitors incorporate a 21-inch (diagonally measured) CRT, which delivers outstanding color reproduction and picture clarity with more than 550 TV lines of horizontal resolution. Color temperature levels of either 6500 °K or 9300 °K can be selected via an on-screen menu.

The LTC 292I Series have two sets of composite input terminals and a Y/C

input terminal for S-video signals. Each of these terminals have auto-termination and can have bridged outputs. The monitors also feature an auto-detect function, which identifies whether input signals are NTSC or PAL and automatically switches the mode accordingly.

Monitor adjustments are made via user-friendly on-screen menus, which offer a choice of either opting for the standard default settings or quickly and simply customizing the monitor to meet particular requirements. From these menus, selections and adjustments can be made to monitor functions such as the image aspect ratio, color temperature, brightness peak suppression, picture sharpness, video system, horizontal and vertical position, white balance, and remote select. In addition, the standard tint, color, brightness, and contrast, as well as the loudspeaker volume, are adjustable

with push-button switches arranged conveniently on the front panel for easy access. Levels selected are momentarily displayed on the screen. A control lock-out feature is available to limit unauthorized use of the front panel controls.

A remote control terminal is provided, allowing the user to choose functions that can be remotely controlled. These options include choice of image aspect ratio or brightness peak suppression (BPS).

When the BPS system is activated, it has the effect of automatically moderating peak brightness levels to reduce the load on the CRT, extending the life of the monitor. BPS can be switched on or off either by the remote control function or via the on-screen menu.

Each monitor is housed in a compact, space-saving metal cabinet for rugged reliability.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage	Sync Format
LTC 2921/50	230 VAC, 50/60 Hz	207 to 253	95	PAL/NTSC
LTC 2921/60	120 VAC, 50/60 Hz	108 to 132	90	PAL/NTSC

Color System: Auto-select.

Display CRT: 54 cm (21 in) measured diagonally, 90° deflection, in-line guns, stripe pitch 0.69 mm (0.027 in).

Viewable Picture Area: 51 cm (20 in) measured diagonally.

Linearity:

Horizontal: Within $\pm 7\%$.

Vertical: Within $\pm 7\%$.

Horizontal Resolution: 550 TV lines typical.

Video Inputs:

Video A: Composite video. 1 Vp-p, 75 Ω , negative sync, bridge-out possible, auto-termination.

Video B: Composite video. 1 Vp-p, 75 Ω , negative sync, bridge-out possible, auto-termination.

Video B: Y/C: 75 Ω unbalanced, bridge-out possible, auto-termination.

Y Signal: 1.0 Vp-p.

C Signal: 0.286 Vp-p (NTSC), 0.3 Vp-p (PAL).

Audio Input:

Line Level: 500 mV.

Impedance: High.

Audio Output:

Loop-through line level.

Speaker: 1 W.

Controls:

Front Panel:

Tint (NTSC mode only).

Color.

Brightness.

Contrast.

Menu.

Volume.

Video B: Y/C video.

Video B: Composite video.

Video A.

Power On/Off.

On-Screen Display (OSD):

Sharpness.

Color temperature.

Color system.

Aspect ratio.

Brightness peak suppression.

Horizontal position.

Vertical position.

White balance.

Control lock.

BPS adjustment.

Remote select.

Indicators: Front panel LEDs.

Input B: Y/C.

Input B: video.

Input A: video.

Connectors:

Composite Video: Four BNC, two in, two out.

Y/C Video: Two mini-DIN.

Audio: Four RCA phono jacks, two in, two out.

Remote Terminals: Two RCA phono jacks.

Power Cord: 3-wire with grounded plug; 1.5 m (5 ft) long.

LTC 2921/50: European Continental type.

LTC 2921/60: US plug type.

Mechanical

Cabinet:

Material: Steel with plastic front.

Finish: Charcoal.

Dimensions: 476 W x 479 D x 408 H mm (18.7 x 18.9 x 16.1 in).

Weight: 28.5 kg (63 lb).

Environmental

Temperature:

Operation: 0 to 40 °C (32 to 104 °F).

Storage: -25 °C to 50 °C (-13 to 122 °F).

Humidity: 20 to 80% (noncondensing).

Agency Certifications

EMC:

LTC 2921/50:

Immunity EN50082-1 1992.

Emission EN50081-1 1992.

LTC 2921/60:

FCC Part 15, Class B.

Safety:

LTC 2921/50:

CE: EN60950.

LTC 2921/60:

UL: UL 1950.

cUL: CSA 22.2#950.

Product complies with DHHS Rules 21 CFR applicable at the date of manufacture.



MM3000, TC9209MM-W, TC9217MM Series, TC9220MM Series, TC9227MM Series Monitor Mounts

- For Mounting 23-cm (9-inch) to 69-cm (27-inch) Monitors
- 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-inch) to 69-cm (27-inch) 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.

The MM3000 is a ceiling mount for 23-cm (9-inch) to 30-cm (12-inch) 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-inch) to 33-cm (13-inch) 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.

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

Structural Ceiling Mounts

MM3000

Monitor Size: 23-cm (9-inch) to 30-cm (12-inch).

Maximum Load: 18 kg (40 lb).

Pan: 360°.

Tilt: 45° maximum forward.

Finish: Off-white.

Dimensions: See drawing¹.

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-inch) to 43-cm (17-inch).

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-inch) to 53-cm (21-inch).

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).

TC9227MM-C

Monitor Size: 63-cm (25-inch) to 69-cm (27-inch).

Maximum Load:

Concrete Ceiling: 65 kg (150 lb).

Wood Stud Ceiling: 57 kg (125 lb).

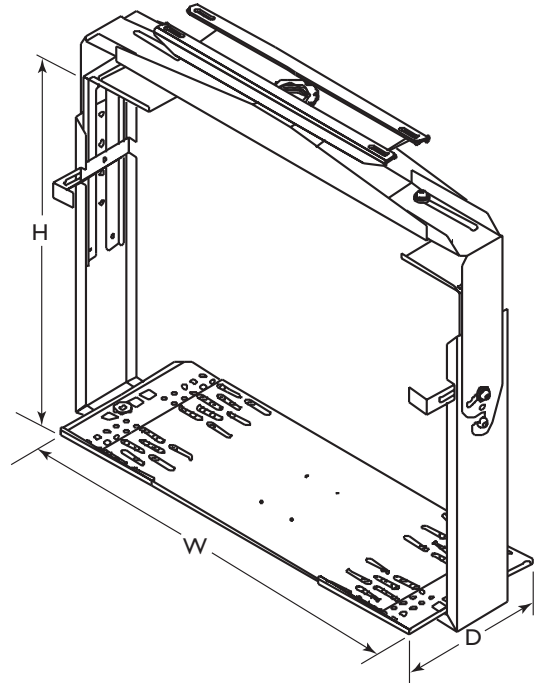
Pan: 360°.

Tilt Range: 30°.

Finish: Black.

Dimensions: See drawing.

Weight: 19.2 kg (42.4 lb).



Model No.	Width (W)	Height (H)	Depth (D)	Units
TC9217MM-C	343 to 534	324 to 457	254	mm
	13.5 to 21	12.8 to 18	10	in
TC9220MM-C	457 to 660	400 to 533	356	mm
	18 to 26	15.8 to 21	14	in
TC9227MM-C	610 to 787	527 to 660	356	mm
	24 to 31	20.8 to 26	14	in

Wall Mounts

TC9209MM-W

Monitor Size: 23-cm (9-inch) to 33-cm (13-inch).

Maximum Load: 22.7 kg (50 lb).

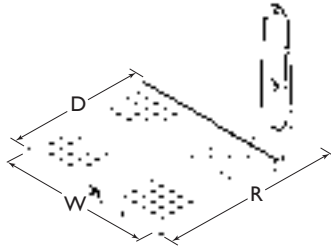
Pan: 360°.

Tilt Range: 0°/5°/10°.

Finish: Black.

Dimensions: See drawing.

Weight: 3.9 kg (8.5 lb).



Width (W)	Depth (D)	Reach (R)	Units
267	292	368	mm
10.5	11.5	14.5	in

Suspended Wall Mounts

TC9217MM-W

Monitor Size: 33-cm (13-inch) to 43-cm (17-inch).

Maximum Load:

Concrete Wall: 68 kg (150 lb).

Wood Stud Wall: 56.7 kg (125 lb).

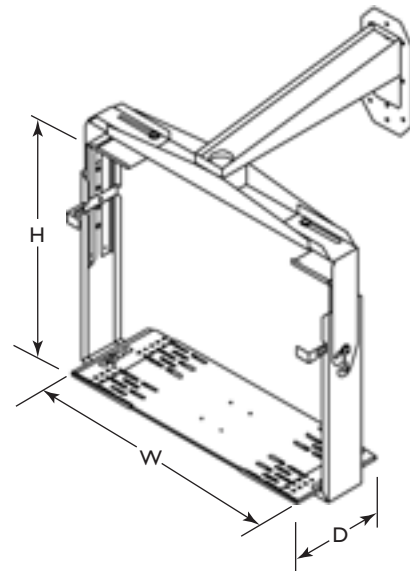
Pan: 360°.

Tilt Range: 30°.

Finish: Black.

Dimensions: See drawing.

Weight: 18.4 kg (40.5 lb).



TC9220MM-W

Monitor Size: 48-cm (19-inch) to 53-cm (21-inch).

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).

TC9227MM-W

Monitor Size: 63-cm (25-inch) to 69-cm (27-inch).

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: 24.2 kg (53.4 lb).

Model No.	Width (W)	Height (H)	Depth (D)	Reach	Units
TC9217MM-W	343 to 533	324 to 457	254	457	mm
	13.5 to 21	12.8 to 18	10	18	in
TC9220MM-W	457 to 660	400 to 533	356	457	mm
	18 to 26	15.8 to 21	14	18	in
TC9227MM-W	610 to 787	527 to 660	356	572	mm
	24 to 31	20.8 to 26	14	22.5	in

Accessories

Extension columns used to increase ceiling clearance for TC9217MM-C, TC9220MM-C, and TC9227MM-C ceiling mounts. Consist of 1 1/2-inch-11.5 NPT pipe with notched ends for safety locking.

TC9220EC2

Finish: Black.

Length: 610 mm (24 in).

Weight: 2.54 kg (5.6 lb).

T9220EC4

Finish: Black.

Length: 1219 mm (48 in).

Weight: 4.9 kg (10.7 lb).

Monitor Mount Compatibility Chart

Philips 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 2020/90	TC9220MM-C	TC9220MM-W
Color		
LTC 2810/90	TC9217MM-C	TC9217MM-W
LTC 2813/60, /90	TC9217MM-C	TC9217MM-W
LTC 2814/90	TC9217MM-C	TC9217MM-W
LTC 2821/90	TC9220MM-C	TC9220MM-W
LTC 2910/50, /60, /90	MM3000	TC9209MM-W
LTC 2914/91	TC9217MM-C	TC9217MM-W
LTC 2917/90, /91	TC9217MM-C	TC9217MM-W
LTC 2919/90	TC9220MM-C	TC9220MM-W
LTC 2921/50, /60	TC9220MM-C	TC9220MM-W
PA9027C	TC9227MM-C	TC9227MM-W



Video Recorders

RT24A/00T

Real Time - Time Lapse Recorders

- n **24hr Real Time and 96hr Time Lapse Recording**
- n **Superior Picture Quality**
- n **Turbo Drive Technology for Fast Picture Retrieval**
- n **4hr Mode for Alarming**
- n **Programmable Timer**
- n **Automatic Picture Control**
- n **Auto Repeat Recording with End-of-Tape Alarm**
- n **Search Via Jog Shuttle Control**
- n **Security Lock**



The Philips RT24A/00T Real Time - Time Lapse Recorder allows for long weekend recording with its 24 hr real time mode and 96 hr time lapse mode operations. It introduces state-of-the-art audio and video quality plus many easy-to-use features that can be used with any security application including banking, educational, industrial, retail, and medical installations. The RT24A/00T has superior resolution picture and superb still picture quality, with no wavering for the best possible picture display.

Specifically designed with surveillance and security in mind, the RT24A/00T offers two picture quality modes (4 and 24 hour recording) together with 96 hr Time Lapse recording to enable the appropriate balance between

picture quality and recording time depending on the application: fully automatic recording at user defined time intervals, manual recording, time-lapse or event alarm recording. Event alarm can be activated by alarm contact or an external device.

In the playback mode the user can either quickly select individual images by using time/date or alarm search, or easily browse through by using the jog shuttle. Turbo drive technology provides high speed rewind (a E180 minute tape is rewound in about 95 seconds).

The alarm memory enables display of alarms on the display monitor and allows the user to rewind to the selected alarm. Other important features of the RT24A/00T include

built-in timer with up to seven programmable options; automatic picture control to ensure no more tracking problems; automatic head cleaning for maintenance free operation; auto repeat recording, with an end-of-tape alarm, warning the user that the tape is about to start over-recording; screw terminal on the back of the unit for camera switch control and alarm inputs; security lock; and 24 hr power failure protection.

For reliable CCTV recording, the RT24A/00T Recorder provides the system capability, quality, and ease of operation needed for continuous, dependable service.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Min. Voltage
RT24A/00T	230 VAC, 50 Hz	230 \pm 10%	12 W

Sync System: PAL.

Recording System: 4 rotary heads, helical scan. Auto head cleaning.

Video:

Input: 1.0 V_{p-p} composite, 75 ohm.

Output: 1.0 V_{p-p} composite, 75 ohm.

Resolution: 300 TVL (monochrome), 240 TVL (color).

Search Features:

Time/Date search.

Alarm search.

Rev/Fwd search mode in variable speed ranges.

Field-by-Field or Frame-by-Frame search.

Recording Features: 4, 24 hr Real Time, 96 hr Time Lapse.

Signal to noise ratio: Better than 46 dB (in 3 hour alarm mode).

Controls:

Power switch

Menu

Record

Stop/Standby

Still

Play

Search

Jog Shuttle (Rev./Fwd.)

Connectors:

Video In: 1 BNC.

Video Out: 1 BNC.

Audio In: Cinch.

Audio Out: Cinch.

Alarm In: Screw terminal input for starting alarm recording.

Alarm Out: Screw terminal output indicating alarm recording.

ALRES/RECOU: Screw terminal input for alarm reset.

Serial IN: Screw terminal input for serial recording.

Serial OUT: Screw terminal output for serial recording.

Cam. Switch OUT: Vext pulse for synchronization (4, 96 hr mode)

Tape End OUT: Screw terminal output for tape end alarm.

Record Check: Screw terminal input record check.

Ground: Screw terminal input ground connection.

Mechanical

Finish: Grey.

Dimensions: 381 W x 337.8 D x 86.3 H mm (15 x 13.3 x 3.4 in).

Weight: 4.58 kg (10.1 lb).

Environmental

Temperature: Operating: +10°C to +40°C (+50°F+104°F).

Humidity: 30-90% relative, non-condensing..

Electromagnetic Compatibility

EMC Requirements: FCC, Class A, CE, 89/336/EEC.

Safety: UL. CSA. CE



TL24A/00T Time Lapse Recorders

- n **24hr Video Recorder**
- n **Superior Picture Quality**
- n **Turbo Drive Technology for Fast Picture Retrieval**
- n **3hr Mode in Alarm**
- n **7 Programmable Timer**
- n **Automatic Picture Control**
- n **Auto Repeat Recording with End-of-Tape Alarm**
- n **Search Via Jog Shuttle Control**



The Philips TL24A/00T 24hr Time Lapse Recorder (TLR) introduces state-of-the-art audio and video quality plus many easy-to-use features that can be used with any security application including banking, educational, industrial, retail, and medical installations. The TLR has excellent resolution picture and superb still picture quality, with no wavering for the best possible picture display.

Specifically designed with surveillance and security in mind, the TL24A/00T TLR offers three picture quality modes (3, 12 and 24 hour recording) to enable the appropriate balance between picture quality and recording time depending on the application: fully

automatic recording at user defined time intervals, manual recording, time-lapse or event alarm recording. Event alarm can be activated by alarm contact.

In the playback mode the user can either quickly select individual images by using time/date or alarm search, or easily browse through by using the jog shuttle. Turbo drive technology provides high speed rewind (a E180 minute tape is rewound in about 95 seconds).

The alarm memory enables display of 7 alarms on the display monitor and allows the user to rewind to the selected alarm. Other important features of the TLR include superimposed on-screen display for

monitoring cameras while checking VCR display; built-in timer with up to seven programmable options; automatic picture control to ensure no more tracking problems; automatic head cleaning for maintenance free operation; auto repeat recording, with an end-of-tape alarm, warning the user that the tape is about to start over-recording; screw terminal on the back of the unit for camera control and alarm inputs; security lock; and power failure protection to recall alarms.

For reliable CCTV recording, the TL24A/00T Time Lapse Recorder provides the system capability, quality, and ease of operation needed for continuous, dependable service.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Min. Voltage
TL24A/00T	230 VAC, 50 Hz	230 \pm 10%	12 W

Sync System: PAL.

Recording System: 4 rotary heads, helical scan. Auto head cleaning.

Video:

Input: 1.0 V_{p-p} composite, 75 ohm.

Output: 1.0 V_{p-p} composite, 75 ohm.

Resolution: 300 TVL (monochrome), 240 TVL (color).

Search Features:

Time/Date search.

Alarm search.

Rev/Fwd search mode in variable speed ranges.

Field-by-Field or Frame-by-Frame search.

Recording Features: Time lapse. 3, 12, 24 hr.

Signal to noise ratio: Better than 46 dB
(in 3 hour alarm mode).

Controls:

Power switch

Menu

Record

Stop/Standby

Still

Play

Search

Jog Shuttle (Rev./Fwd.)

Connectors:

Video In: 1 BNC.

Video Out: 1 BNC.

Audio In: Cinch.

Audio Out: Cinch.

Alarm In: Screw terminal input for starting alarm recording.

Alarm Out: Screw terminal output indicating alarm recording.

ALRES/RECOU: Screw terminal input for alarm reset.

Serial IN: Screw terminal input for serial recording.

Serial OUT: Screw terminal output for serial recording.

Cam. Switcher OUT: Screw terminal connection to Multiplexer or Switcher.

Tape End OUT: Screw terminal output for tape end alarm.

Record Check: Screw terminal input record check.

Ground: Screw terminal input ground connection.

Mechanical

Finish: Grey.

Dimensions: 381 W x 337.8 D x 86.3 H mm
(15 x 13.3 x 3.4 in).

Weight: 4.58 kg (10.1 lb).

Environmental

Temperature: Operating: +10°C to +40°C
(+50°F+104°F).

Humidity: 30-90% relative, non-condensing..

Electromagnetic Compatibility

EMC Requirements: FCC, Class A, CE, 89/336/EEC.

Safety: UL. CSA. CE



TL960A/00T Time Lapse Recorders

- n **960hr Time Lapse Recording**
- n **RS-232 Interface**
- n **High Picture Quality**
- n **Turbo Drive Technology**
- n **Alarm Memory for Display and Rewind to Selected Alarm**
- n **Programmable Timer**
- n **Auto Repeat Recording with End-of-Tape Alarm**
- n **Easy Search Via Jog Shuttle Control**



The Philips TL960A/00T Time Lapse Recorder not only introduces state-of-the-art audio and video quality but includes RS-232 interfacing for remote programming and control. Four video heads produce high quality pictures for recording at 9 different speeds, with no wavering for the best possible picture display.

In the playback mode the user can either quickly select individual images by using time/date or alarm search, or easily browse through by using the jog shuttle. Turbo drive technology provides high speed rewind (a E180 minute tape is rewound in about 95 seconds).

The alarm memory enables display of alarms on the display monitor and allows the user to rewind to the selected alarm.

The TL960A/00T includes special features to enhance security

surveillance. A superimposed on-screen display for monitoring cameras while checking VCR can be displayed; the built-in timer allows up to seven programmable options; the automatic picture control ensures that there are no tracking problems; automatic head cleaning gives maintenance free operation; the auto repeat recording provides constant surveillance without having to change the tape and an end-of-tape alarm warns the user that the tape is about to start over-recording. Screw terminal on the back of the unit enable easy connection for camera control and alarm inputs. The unit includes a security lock to provide protection of tape handling.

The TL960A/00T Recorder provides the system capability, quality, and ease of operation needed for long periods of operation and dependable service.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Min. Voltage
TL960A/00T	230 VAC, 50 Hz	230 \pm 10%	12 W

Sync System: PAL.

Recording System: 4 rotary heads, helical scan. Auto head cleaning.

Video:

Input: 1.0 V_{p-p} composite, 75 ohm.

Output: 1.0 V_{p-p} composite, 75 ohm.

Resolution: 300 TVL (monochrome), 240 TVL (color).

Search Features:

Time/Date search.

Alarm search.

Rev/Fwd search mode in variable speed ranges.

Field-by-Field or Frame-by-Frame search.

Recording Features: 3, 12, 24, 48, 72, 168, 336, 720, 960 hr alarm mode.

Signal to noise ratio: Better than 46 dB (in 3 hour alarm mode).

Controls:

Power switch

Menu

Record

Stop/Standby

Still

Play

Search

Jog Shuttle (Rev./Fwd.)

Connectors:

Video In: 1 BNC.

Video Out: 1 BNC.

Audio In: Cinch.

Audio Out: Cinch.

Alarm In: Screw terminal input for starting alarm recording.

Alarm Out: Screw terminal output indicating alarm recording.

ALRES/RECO_{UT}: Screw terminal input for alarm reset.

Serial IN: Screw terminal input for serial recording.

Serial OUT: Screw terminal output for serial recording.

Cam. Switcher OUT: Screw terminal connection.

Tape End OUT: Screw terminal output for tape end alarm.

Record Check: Screw terminal input record check.

Ground: Screw terminal input ground connection.

Mechanical

Finish: Grey.

Dimensions: 381 W x 337.8 D x 86.3 H mm (15 x 13.3 x 3.4 in).

Weight: 4.58 kg (10.1 lb).

Environmental

Temperature: Operating: +10°C to +40°C (+50°F+104°F).

Humidity: 30-90% relative, non-condensing..

Electromagnetic Compatibility

EMC Requirements: FCC, Class A, CE, 89/336/EEC.

Safety: UL. CSA. CE



LTC 3924/5 I LTC 3924/6 I Time-lapse Video Recorders

- Improved Resolution
- 24-hour Real Time & Time-lapse Recording
- High Density Recording on All Speeds
- Alarm Search
- Video Loss Detection
- Master Clock Synchronization



The LTC 3924 Series Video Cassette Recorders use state-of-the-art technologies to provide high density (HD) video and audio recording at all speeds.

Designed for security, these recorders offer alarm recording. When connected to an alarm switch and programmed for a preselected recording duration, alarms are automatically recorded. A TTL output and audible alarm are also available.

The *Alarm Ready* feature allows the recording of alarms 24 hours a day, even when the VCR is in the timer mode. *Alarm Command Speedup* automatically switches the speed from extended record mode to a preprogrammed *Alarm Record Speed*. Eleven (11) selectable alarm recording durations are available, including *Manual* and *End of Tape*. An alarm light on the front panel and the on-screen display indicate that an alarm has been received.

High Speed Alarm Search allows the tape to be rapidly scanned for the presence of alarm data. The recorder automatically switches from high speed search to the play mode upon encountering the recorded alarm. *Still Playback* freezes the tape for close observation of one picture.

Other important security features, such as video loss detection, provide an audible alarm upon the loss of video and a security lock for the recorder's controls. A built-in master clock can be selected to synchronize time/date (displays year in four digits) of multiple recorders. These units feature on-screen display (OSD) of head usage and slow-speed tracking. *High-speed Video Scan* allows fast searching for areas of interest.

For reliable and economical CCTV recording, the LTC 3924 Series recorders provide the system capability, quality, and ease of operation needed for continuous, dependable service.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
PAL Model			
LTC 3924/51	230 VAC, 50 Hz	207 to 253	19 W
NTSC Model			
LTC 3924/61	120 VAC, 60 Hz	108 to 132	19 W

Tape Format: Standard 12.7 mm (0.5 in) VHS tape.

Video Recording System:

Rotary Heads: 4 helical scan (2 selected for recording).

Luminance: FM recording.

Color: Converted subcarrier, direct recording.

Selectable Speeds (Recording & Playback):

LTC 3924/51: 9 and 27 hours on E-180 tape.

LTC 3924/61: 6, 18, and 30 hours on T-120 tape; 8, 24, and 40 hours on T-160 tape.

Audio Record Speed:

LTC 3924/51: 9 and 27 hours.

LTC 3924/61: 8, 24, 40 hours.

Alarm Record Speeds:

LTC 3924/51: 9 and 27 hours on E-180 tape.

LTC 3924/61: 6, 18, and 30 hours on T-120 tape; 8, 24, and 40 hours on T-160 tape.

High Speed Video Scan:

LTC 3924/51: 9 x 9-hour speed.

LTC 3924/61: 9 x 8-hour speed.

Rewind/Fast Forward Time: 3.5 minutes (T-160).

Alarm Command:

Alarm Index: Inserts Alarm-code in on-screen display for easy location during later visual search.

Alarm Recording: The selected alarm recording speed can be programmed to continue for a period of 15 seconds, 30 seconds, 1 minute, 3 minutes, or until manually discontinued.

Typical Delay Time Before Alarm Recording:

From STOP Mode: Approx. 2 seconds.

From RECORD Mode: Less than 1 second.

Video:

Input: 1.0 Vp-p, 75 Ω , unbalanced.

Output: 1.0 Vp-p, 75 Ω , unbalanced.

Horizontal Resolution:

Monochrome: 350 lines.

Color: 300 lines.

Signal-to-noise: 43 dB.

LTC 3924/51: At 9-hour speed.

LTC 3924/61: At 8-hour speed.

Audio:

Input: Line; -7.8 dBm, 50 k Ω .

Output: -7.8 dBm, 600 Ω , unbalanced.

Response: \pm 3 dBm, 100 Hz to 8 kHz.

LTC 3924/51: At 9-hour speed.

LTC 3924/61: At 8-hour speed.

Signal-to-noise: 37 dB.

LTC 3924/51: At 9-hour speed.

LTC 3924/61: At 8-hour speed.

Time/Memory Power-loss Backup: 720 hours (minimum).

Indicators: LED Displays.

Controls: Front panel.

Connectors:

Video In: 1; BNC.

Video Out: 1; BNC.

Audio In: RCA phono jack.

Audio Out: RCA phono jack.

External Interface: 15-pin and terminal strip adapter.

Mechanical

Finish: Charcoal.

Dimensions: 434 W x 366 D x 94 H mm (17.1 x 14.4 x 3.7 in).

Weight: 6.5 kg (14.3 lb).

Environmental

Temperature: Operating: 5 $^{\circ}$ C to 40 $^{\circ}$ C (41 $^{\circ}$ F to 104 $^{\circ}$ F).

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A, ICES-003.

Safety: CE, UL, CSA.

Accessories

TCI 350 Video Cassettes: 10 pack VHS T-120.

TCI 355 Video Cassettes: 10 pack VHS T-160.

LTC 9061/00 Rack Kit: For mounting one VCR in an EIA 19-inch rack. One rack unit wide by 3 rack units high.



PHILIPS

Let's make things better.

LTC 3990/50 High Resolution Time-Lapse Video Recorder

- **Up to 30 Days of Time-Lapse Recording**
- **Time/Date Search Capability**
- **Composite and S(Y/C) Input**
- **High Speed Video Scan**
- **RS-232C Output**
- **Utilizes S-VHS and VHS Tapes**



The LTC 3990/50 high resolution time-lapse video cassette recorder uses state-of-the-art technologies to provide video and audio recording on command at selectable speeds for up to 720 hours (30 days). This recorder detects S-VHS or VHS tape and automatically sets the VCR for that mode.

The LTC 3990/50 includes a unique time/date search feature which "reads" tape in the playback mode, that was previously encoded during recording, and permits the user to initiate a search for the exact month, day, year, hour, minute, and second. The

LTC 3990/50 features remote programming and control through an RS-232C port.

The "Alarm Ready" feature allows recording of alarms even when the VCR is in the Timer mode. Alarm Command Speedup automatically switches the speed from extended record mode to a preprogrammed "Alarm Record Speed".

High Speed Alarm Recall and Review allows the tape to be rapidly scanned for the presence of alarm data. The recorder automatically switches from High Speed Search to the Play mode upon encountering the recorded

alarm. Still Playback freezes the tape for close observation of one picture. The seven day programmable timer starts and stops the recording for any two selectable periods for each day of the week.

Other features include: on screen display which records time, date, number of alarms, and other valuable information; battery backup protection; low tape out, tape end out, two independent alarm inputs, alarm output, alarm record reset, camera switch pulse, record start input, record status output, and electronic security lockout.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 3990/50	230 VAC, 50 Hz	207 to 253	23 W

Tape Format: 12.7 mm (0.5 in) VHS.

Video Recording System:

Rotary Heads: 4 helical scan; 2 (-6), 2 (+6).

Luminance: FM recording.

Color: Converted subcarrier, direct recording.

Selectable Speeds (Recording & Play):

3/12/24/48/72/120/168/240/480/720 h.

Alarm Record Speeds: 12 and 24 hours.

Time/Date Search: Via on-screen display (OSD).

High Speed Video Scan: 9 x 3-h speed.

Rewind/Fast Forward Time: 4 minutes (T-180).

Alarm Command (From the Recording or Stop Mode):

Initiates selectable recording rate of 50, 10, or 5 fields/sec. at the 3, 12, or 24 hr. rate for best documentation during alarms.

Turns on Alarm Indicator and "Alarm-On" output until reset.

Stores the date and time of up to 9 alarm closures for later recall (1st + last 8).

Inserts Alarm-Code in on-screen display for easy location during later visual search.

Selected alarm recording speed can be programmed to continue for a period of 5 s, 15 s, 30 s, 1 min., 3 min. or until contact is reopened. Recorder then returns to previously established recording speed or Stop mode if initiated from the Stop mode.

Video:

PAL color/CCIR mono, auto or manual selection.

Input and Output: 1.0 Vp-p, 75 ohm, unbalanced.

Horizontal Resolution:

S-VHS: 400 lines (monochrome and color).

VHS: 350 lines (monochrome); 240 lines (color).

Signal-to-Noise: 47 dB at 3 h speed.

Audio:

Input: Line; -7.8 dBm, 50 ohm, unbalanced.

Output: -7.8 dBm, 600 ohm, unbalanced.

Response: ± 3 dBm, 100 Hz to 8 kHz at 3 h speed.

Signal-to-Noise: 40 dB at 3 h speed.

Time/Memory Power-Loss Backup: 720 hours.

Format:

Date: Day, Month, Year.

Time: Hour, Minute, Second (24 h format).

Tape-In, Index, Alarm, Timer, Digital Counter, Tape Speed,

Lock, Tab, Fault, Tape End.

Controls: EJECT, SHARPNESS, SLOW TRACKING, TRACKING, REC, Rec/Play hours (UP, DOWN), REVERSE PLAY, REW SEARCH, FIELD REV, STILL, STOP, FIELD ADV, F. FWD SEARCH, PLAY, ALARM INDEX, TIMER, REC CHECK, PROGRAM, START/STOP, SET, DOWN, UP, BLK/WHT, V-POS, H-POS, ALARM RESET, COUNTER RESET, Reset (recessed), V LOCK.

Connectors:

BNC: Video in, video out.

S Connectors: S(Y/C) in, S(Y/C) out.

RCA Phono Jack: Audio in, audio out.

15-Pin D-Connector (Terminal strip adapter provided):

Alarms commands in. "Alarm On" signal out.

Alarm record reset. Tape end out.

Tape end reset.

Switcher control pulse.

Record start in.

Record output.

Low tape out.

Record check in.

One-Shot command in.

25-Pin D-Connector: RS-232C interface.

Mechanical

Finish: Charcoal.

Dimensions: 435 W x 366 D x 94 H mm (17.1 x 14.4 x 3.7 in).

Weight: 6.5 kg (14.3 lb).

Environmental

Temperature:

Operating: +5 °C to +40 °C (+41 °F to +104 °F).

Electromagnetic Compatibility

EMC Requirements:

89/336/EEC:

Immunity: EN50082-1.

Emission: EN55022 Class B.

Harmonics: EN61000-3-2.

Voltage Fluctuation: EN61000-3-3.

Safety:

CE:

LVD Requirements: 73/23/EEC; EN60065.

Accessories

TCI350 Video Cassettes (10 pack): VHS T-120.

TCI381 Video Cassettes (10 pack): S-VHS T-120.

LTC 9061/00 Rack Kit: For mounting one VCR in an EIA 19-inch rack. One rack unit wide by 3 rack units high.



LTC 9022 Series LTC 9023 Series VCR Lock Boxes

- **Tamper Protection for VCRs**
- **Accommodates Most VCRs**
- **Includes Cooling Fan**
- **Can Be Attached to Horizontal Surfaces**
- **Strong, Sturdy, Lockable Cabinet**
- **Ideal for Securing Other Devices**



LTC 9022 Series shown.

The LTC 9022 Series and LTC 9023 Series are VCR lock boxes designed to prevent tampering of video cassette recorders. These units discourage tampering of preprogrammed recorders and erasure of tapes. Two models are available to accommodate most present day VCRs. A viewing window is included with only the

LTC 9022 Series units. All models may be used for safeguarding other devices such as control units.

These sturdy lockable boxes are constructed of heavy gauge steel to deter unauthorized entry. The hinged front doors and mechanically interlocking tops allow quick and easy

access by authorized personnel to remove tape or change programming. A continuously running integral cooling fan maintains room temperature and reduces the accumulation of dust within the cabinet. A rear access port provides convenient entry of camera wiring, power cords, and other cables.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Nom. Power Rated Voltage
LTC 9022/50	230 VAC, 50 Hz	207 to 253	13 W
LTC 9022/60	115 VAC, 60 Hz	103 to 127	13 W
LTC 9023/50	230 VAC, 50 Hz	207 to 253	13 W
LTC 9023/60	115 VAC, 60 Hz	103 to 127	13 W

Cable Entry: Throuh rear port.

Window: Acrylic,.

Cabinet Mounting: Can be secured to table top or other horizontal surfaces.

Construction: Steel.

Finish: Black.

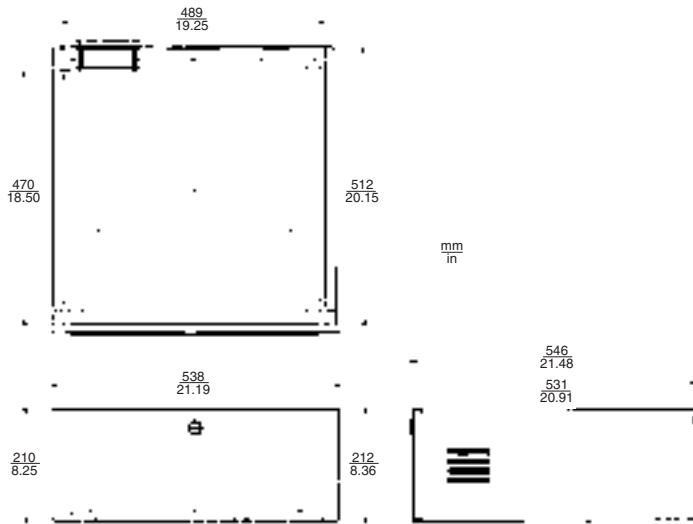
Dimensions: See drawings.

Mechanical

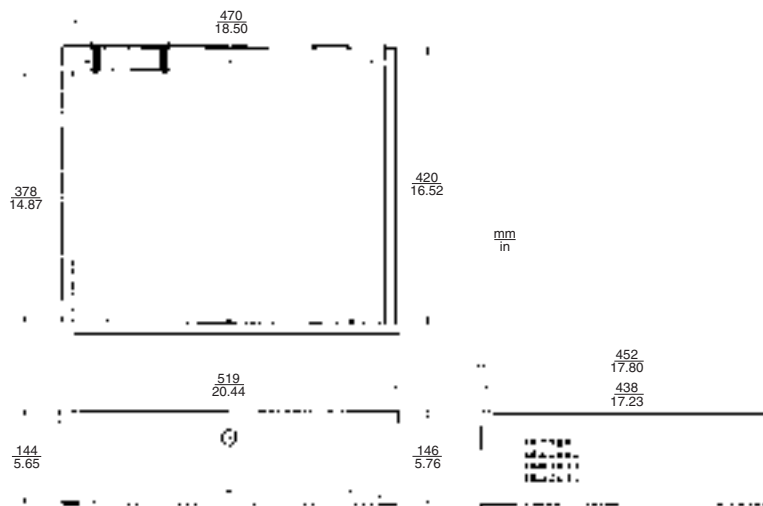
Maximum VCR (Or Other Device) Size:

LTC 9022: 539 W x 533 D x 214 H mm
(21.255 x 21 x 8.44 in).

LTC 9023: 463 W x 393 D x 123 H mm
(18.25 x 15.5 x 4.88 in).



LTC 9022 Series



LTC 9023 Series

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Digital Recording Systems

DVRI Series Digital Video Recorders

- **Simple VCR Replacement**
- **Network Viewing of Live & Recorded Video**
- **Simultaneously Records & Archives with Remote Viewing**
- **Large Storage Capacity**
- **Multiple Archive Options**
- **Compatible with Philips & Other Manufacturer's Multiplexers**
- **Fast Access to High Quality Video**
- **Audio Recording Version**



Philips' DVRI Series recorders replace traditional analog time-lapse recorders in conventional CCTV systems, providing a cost-effective digital solution. These DVRI recorders are compatible with a wide range of multiplexers. The simple installation, VCR-like functions, and common recording speeds ease the transition to digital and minimize the need for training.

The benefits of digital eliminate the conventional technology associated with VCRs and tapes. This provides fast, uninterrupted video access, available locally and via a network connection. The DVRI is ideal for upgrading an existing CCTV system and for new installations.

These flexible DVRI recorders are designed to suit many applications. Each unit provides two (2) quality settings (VHS and SVHS), three (3) recording modes (manual, event, scheduled), six (6) recording speeds, and three (3) overwrite modes (Continuous, Write once and Stop).

Three models with various internal storage capacities are available, the largest of which includes an option for audio recording. This unit practically eliminates the need for tape archiving, although digital tape archive systems are supported. Selected events can be backed up locally to a CD-writer.

Additionally, events may be stored as video clips on your PC's hard drive,

using the Remote Viewer software. The Remote Viewer provides access to live, recorded, and backed up images, as well as snapshot creation and image enhancement. Image quality will not deteriorate regardless of how many times the images are viewed or re-recorded. A particular benefit is fast access to recorded events, accomplished by simply specifying the camera, time, date, and alarm search filters. When using the viewer, an analysis tool provides graphical display of all recorded video and alarms, making location of the desired video even faster.

The DVRI Series incorporates all of the benefits of digital recording and eliminates the maintenance worries and costs associated with analog VCRs.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Min. Voltage
DVR I	12 VDC	120–230 VAC, 50/60 Hz	35 W nominal
DVR IEP	12 VDC	120–230 VAC, 50/60 Hz	35 W nominal
DVR IEP2	12 VDC	120–230 VAC, 50/60 Hz	40 W nominal
DVR IEP2A (with audio)	12 VDC	120–230 VAC, 50/60 Hz	55 W nominal

*Power adapter is included: 12 VAC, 90 V–264 V AC/DC.

Sync System: PAL & NTSC automatically detected.

Digital Resolution: 720 x 484 NTSC, 720 x 586 PAL.
Grayscale: 256 levels.

Internal Hard Drive Capacity:

DVR I: 30 GB.
DVR IEP: 80 GB.
DVR IEP2: 160 GB.
DVR IEP2A: 160 GB.

Video:

Input: 1.0 V_{p-p} composite, 75 ohm.
Output: 1.0 V_{p-p} composite, 75 ohm.
Colors: YUV 4:2:2, 16.8 million colors.
Compression: Wavelet.

Audio (DVR IEP2A Model Only):

Compression: G.711.

Search Features: Camera, time/date & alarm search.

Recording Modes: Event, scheduled, manual.

Recording Speed:

NTSC: 60, 30, 20, 10, 5, 3, 2, 1, 0.5, 0.2, and 0.1 IPS.
PAL: 50, 25, 17, 10, 5, 3, 2, 1, 0.5, 0.2, and 0.1 IPS.

Connectors:

RS-232, DB-9, male.
I/O Port: DB-9, alarm input and output, record start in, alarm record reset, VEXT pulse out, error out, ground, video loss out, disk full output.

Video Inputs/Outputs: BNC, S-video (4-pin mini).

Audio Inputs/Outputs: RCA jack.

SCSI-2: 50-pin male.

Network: RJ45, 10/100BaseT compatible.

Remote Viewer Software Features:

View live or recorded video.
Store video on PC's hard drive.
Snapshots of live and recorded images.
Review and search video while recording.

PC System Requirements

(for Remote Viewer Software):

Windows® 95/98/2000 or Windows NT® operating systems.
Pentium® 166 MHz or faster.
16 MB free hard disk or more.
Monitor (SVGA) 1024 x 768, 24-bit color.

Mechanical

Dimensions: 444.5 W x 355.6 D x 44.45 H mm
(17.5 W x 14 D x 1.75 H in).

Weight:

DVR I & DVR IEP: 11.46 lb (5.2 kg).
DVR IEP2 & DVR IEP2A: 13.8 lb (5.98 kg).

Temperature: Operating: 0° to 40°C (32° to 104° F).

Relative Humidity: 80%, noncondensing.

Accessories (Included)

Rack Kit

9-pin Accessory Board

Philips Approved Archiving Kits¹

ARCAIT2S: Single AIT-2 tape drive (1) SCSI cable, (1) SCSI active terminator.

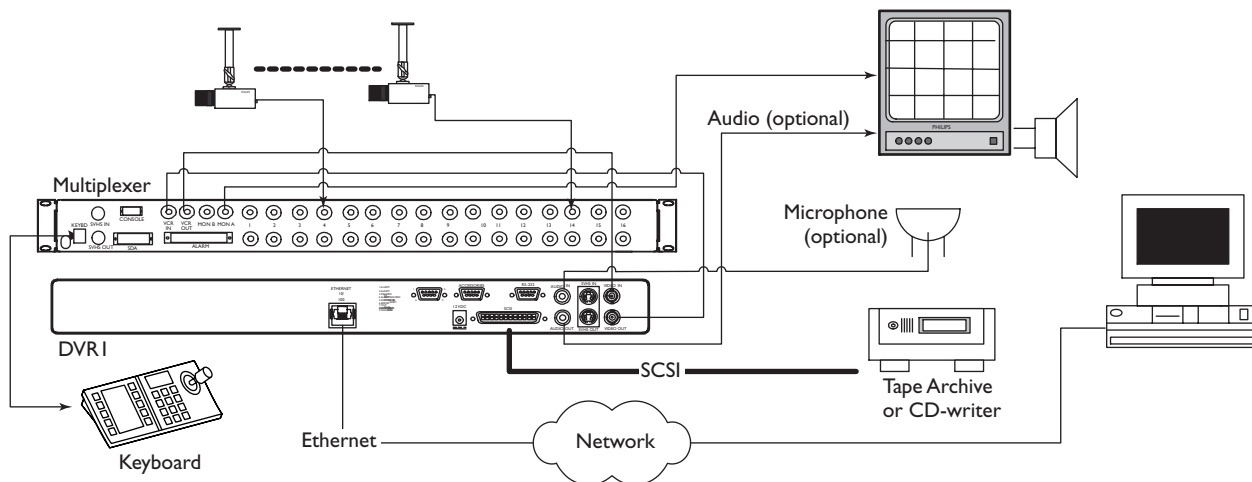
DTD1: Single DAT tape drive, 20 GB; (1) SCSI cable; (1) SCSI active terminator.

DT-20: 20 GB DAT tapes.

DT-50: 50 GB AIT-2 tapes.

ARCCDW: CD-writer, 10 CD-RWs, (1) SCSI cable.

1. For the latest *Approved Archive Devices & Multiplexer Compatibility* chart visit the **Digital Video Multiplexer/Recorders** area of our Web site at www.philipscsi.com.



Typical System Configuration

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Pentium® is a registered trademark of Intel Corporation.

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Let's make things better.

DVR9, DVRI6 Digital Video Recorders

- 9 & 16-channel Color Duplex Models
- High Quality, True-to-life Images
- Camera Display Lock-out
- Timed Event Feature
- Digital Motion Detection
- Smart Search Capability
- Archive Capability
- User Friendly



The Philips Digital Video Multiplexer/Recorder DVR Series is ideal for applications where high quality, multiplexed digital recording is required. These economical, easy-to-use units can simultaneously record and view on live multiscreen.

These DVRs use state-of-the-art technology to provide high quality, true-to-life color images. Enhanced circuitry allows increased image accuracy and faster display rates without annoying on-screen flickering (aliasing) common in multiscreen mode.

Live cameras can be displayed in full, sequence, quad, or multiscreen on monitor A. At the same time, on monitor B, cameras can be sequencing video or displaying alarm or action call-up. With additional unique camera display lockout features, the selected camera will not display on both monitors. However, high quality pictures of the selected video are recorded to a built-in Hard Disc Drive.

User-friendly controls make these units fast and easy to program and operate. An on-screen programming menu in English, French, German, Spanish, Dutch, and Italian is included. These DVRs also include a Timed Event feature which allows preprogrammed setup parameters, including the recorded functions, to be activated based on the time of day. Up to 6 separate operational settings can be programmed and stored in memory.

To enhance the recording of cameras and hard drive space, the Digital Motion Detection feature intelligently analyzes the motion content of all camera input and ensures that the camera(s) with motion are recorded as a priority. There are two modes of activity detection: "exclusive" and "interleave," both of 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.

The DVR Series recorders provide excellent picture quality with instant access to video and a smart search feature using a special filter with thumbnail video, eliminating hours spent searching tapes for critical events. Additionally, the greater reliability and lower maintenance associated with digital technology results in lower service costs.

The record and playback functions closely emulate a security VCR, so operation is intuitive. The DVR records via the following event or continuous recording modes: from 16 IPS to 0.1 IPS, equivalent to 960 hours. A built-in HDD allows smooth operation in Play, Fast Forward, Reverse, Fast Reverse, and Pause modes. Archiving is available through a 50 pin SCSI DAT/AIT/CD (optional).

Units do not require external synchronization of camera inputs since they employ time-based correction in all models.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Power at Rated Voltage
DVR9	108-253 VAC, 50/60 Hz, DC adapter included	35 W
DVR16	108-253 VAC, 50/60 Hz, DC adapter included	35 W

Inputs:

Cameras:

DVR9: Nine (9), looping, BNC connectors, auto-terminating.

DVR16: Sixteen (16), looping, BNC connectors, auto-terminating.

Outputs:

Monitor (2): BNC connectors.

Video:

Display Memory: 720 x 576 PAL.

720 x 484 NTSC.

AGC: Automatic or manual adjusts for each video input.

Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Zoom: 4 times.

Compression: WAVELET.

Synchronization:

Full time base correction with automatically detected PAL or NTSC.

Monochrome: 652 line, 50 Hz, CCIR.

Monochrome: 525 line, 60 Hz, EIA RS-170.

Color: 625 line, 50 Hz, PAL.

Color: 525 line, 60 Hz, NTSC.

Alarm Handling:

Alarm Inputs:

DVR9: Nine (9) fixed programmable NC or NO.

DVR16: Sixteen (16) fixed programmable NC or NO.

Alarm Outputs:

Two (2) form C relays, each NC and NO.

Rated 1.0 A at 40 VAC/DC.

Connectors:

Alarm Accessories: DB25 (1).

Storage Capacity/Record Time:

Hard Drive:

DVR9: 30 GB min.

DVR16: 75 GB min.

Record Speed: 16, 10, 5, 1, 0.5, 0.2, and 0.1 IPS (NTSC & PAL).

Archive:

DAT: One (1) SCSI, DB 50-S SCSI.

Drive Format: SCSI-2.

Mechanical

Dimensions: 440 W x 305 D x 40 H mm.

(17.5 W x 14 D x 1.7 H in).

Weight: 11 lbs (5 kg).

Rack Mount Kit (Included): For mounting one unit in an EIA 19-inch rack.

Environmental

Temperature: 0° to 40° C (32° to 104°F), operating.

Relative Humidity: 90%, noncondensing.

Accessories (Optional):

DTD1: Single digital tape drive for DAT tape.

DTD8: 8-tape digital tape drive for auto-loader.

DT-20: 20 GB DAT tape.



DMX-16

16-channel Color, Digital Multiplexer Recorder

- High Quality Video
- Remote Viewing via Ethernet Port
- Simultaneous Record & Playback with GUI Software (Included)
- AIT/DAT Archive
- Instant Retrieve with Time/Date/Search
- Duplex Operation
- Real Time or Time-lapse Recording
- Time Event



The Philips Digital Video Multiplexer/Recorder (DMX-16) is ideal for applications where high quality multiplexed digital recording is required and economy and ease of use are desired. Live cameras can be displayed in full, sequence, quad, or multiscreen, while excellent high quality pictures from all cameras are sent to a built-in Hard Disc Drive (HDD). Instant access to critical recordings is provided by alarm, time, date, and camera search.

The DMX-16 provides excellent picture quality with instant access to video, eliminating hours spent searching tapes for critical events. Additionally, the greater reliability and lower maintenance associated with digital technology results in lower service costs.

The record and playback functions closely emulate a security VCR, so operation is intuitive. The DMX-16 records via the following event or continuous recording modes: 2, 24, 48, 72, 168, or 960. For simultaneous playback and live multiscreen, a dual monitor setup is available to display playback picture on Monitor B and live viewing on Monitor A.

A built-in 30 or 75 GB HDD allows smooth operation in Play, Fast Forward, Reverse, Fast Reverse, and Pause. Additionally, an Ethernet port is also available for remote viewing (LAN/WAN) with user-friendly GUI software. Archiving is available through a 50 pin SCSI DAT/AIT/CD (optional).

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Power at Rated Voltage
DMX-161	110V,AC/DC adapter included	35 W
DMX-162	220V,AC/DC adapter included	35 W
DMX75-161	110V,AC/DC adapter included	35 W
DMX75-162	220V,AC/DC adapter included	35 W

Inputs:

Cameras: Sixteen (16), looping, BNC connectors, PAL/NTSC or PAL/CCIR compatible, auto-terminating.

Outputs:

Monitor (Three (3)): One (1) MON-A multiscreen output, BNC connector NTSC/EIA or PAL/CCIR compatible; one (1) MON-A multiscreen output, S-VHS, 4-pin mini-DIN; one (1) MON-B full screen switched, BNC connector, NTSC/EIA or PAL/CCIR compatible.

Archive (Optional):

DAT: One (1) SCSI, DB 50-S SCSI (reversed).
Drive Format: SCSI -2.

Video:

Display Memory: 1024 x 512 memory array, 4 Mb total display memory.

Colors: YUV 4:2:2, 16.8 million colors.

Gray Scale: 256 levels.

Horizontal Resolution: 720 pixels.

Vertical Resolution: 484 active lines NTSC/EIA, 576 active lines, PAL/CCIR.

Compression: WAVELET.

Alarm Handling:

Alarm Inputs: Sixteen (16) fixed programmable NC or NO in menus.

Alarm Outputs: Two (2) form C relays, each NC and NO. Rated 0.5 A continuous, 1.0 A momentary.

Alarm Latching (Three (3) settings): Latched; transparent; timed-out. Programmable 1-100 seconds.

Alarm Recording: Interleaved programmable.

Alarm Displays: Automatic alarm multiscreens, Programmable.

Activity Detection:

Zones per Camera: 256, 16 x 16 grid.

Sensitivity Settings: 10 levels.

Gray Levels per Zone: 256 levels.

Recording Priority: Interleaved.

Status Output: Link to relay.

Connectors:

RS-232 Port (2).

RJ 11 (2) for future use.

Alarm Accessories:

DB 9 (2).

DB 25 (1).

Storage Capacity/Record Time:

Hard Drive:

DMX-161/162: 30 GB.

DMX75-161/162: 75 GB.

Record Speed: 2, (3 PAL), 24, 48, 72, 168, 960, or Event.

Ethernet Port:

10 Base T, 100 Base T (RJ45).

Remote Control and Programming:

RS-232 (Two (2)): One (1) DB-9, female, 3-wire, N-8-1, baud rate selectable in menus. Allows remote programming of menus, upload of status data, remote control of front panel buttons; one (1) DB-9, male, 3-wire, N-8-1, baud rate selectable in menus.

Minimal PC Requirements:

200 MHz Pentium®.

32 MB RAM (64 MB preferred).

6 MB free hard disc space.

10 MB ethernet card (100 MB preferred).

4 MB SVGA card capable of displaying 1024 ↔ 768 in bit color (24 bit true color preferred).

Windows 95® SE (second edition), Windows 98®, or Windows NT®.

Environmental

Temperature: 0° to 40° C (32° to 104°F), operating.

Relative Humidity: 90%, noncondensing.

Mechanical

Dimensions: 17.5 x 14 x 1.7 in (444 x 360 x 43 mm).

Weight: 9 lbs (4 kg).

Ordering Information

DMX-161: Duplex, Color, NTSC/EIA, 30 GB HDD.

DMX-162: Duplex, Color, PAL/CCIR, 30 GB HDD.

DMX75-161: Duplex, Color, NTSC/EIA 75 GB HDD.

DMX75-162: Duplex, Color, PAL/CCIR 75 GB HDD.

Accessories

DMX-16MK: Rack mount kit for all DMX units.

SI390: RS-485 terminator plug for all DMX units.

303-2974-001: LAN/WAN crossover cable.

*Contact the Philips Web site at www.philipscsi.com for a list of supported SCSI AIT/DAT hardware.

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PHILIPS

Let's make things better.

Real Time Digital Video Recorders

- **Simultaneously Records Four Channels of Real Time, High Resolution Video**
- **Record, Play Back & Archive Video Simultaneously**
- **Front Panel Control of Video Recording, Playback & Archival**
- **Real Time & Time-lapse Recording Modes**
- **Event Only Recording with Pre- & Post-alarm Video**
- **Instant Alarm Retrieval**
- **Reliable & Robust Embedded System, No PC Required**
- **Archive Compatibility**
- **Audio Recording**



The Hi-Q recorder delivers high quality, real time digital video recording even when using all four channels. Its four MPEG-2 compression engines provide crystal clear, high resolution video while optimizing hard disk space.

The Hi-Q recorder complements any existing system. Its four contact alarm inputs, motion detection, and one-touch alarm button make it ideal for event recording. With simultaneous recording, archiving, and playback, all from the front panel, the Hi-Q is the perfect spot monitor recorder to enhance an existing analog system. Imagine instantly reviewing high quality

video while the device continues recording without interruption.

The Hi-Q can record up to 48 hours of continuous, real time video on all four channels. Total recording time can be further extended and optimized by selecting the right combination of the four time-lapse modes, three quality settings, and built-in scheduler. For even more storage, the Hi-Q recorder is compatible with archiving devices.

Powerful Hi-Q features include dark and sync loss alarms, dual monitor outputs, quad and full screen display, digital PTZ, audio, sequencing, motion detection, and password security.

SPECIFICATIONS

Electrical

Model No.	Voltage Range	Power (Operating)
DVRRT4	105/206 to 132/264 VAC, 50/60 Hz	75 W
DVRRT4EP	105/206 to 132/264 VAC, 50/60 Hz	75 W

Digital Resolution:

	60 IPS (50 IPS PAL)	30 IPS (25 IPS PAL)	<30 IPS (<25 IPS PAL)
NTSC:			
High Quality	720 H x 480 V	—	720 H x 240 V
Medium Quality	—	720 H x 240 V	352 H x 240 V
Standard Quality	—	352 H x 240 V	352 H x 240 V
PAL:			
High Quality	720 H x 576 V	—	720 H x 288 V
Medium Quality	—	720 H x 288 V	352 H x 288 V
Standard Quality	—	352 H x 288 V	352 H x 288 V

On-line Storage Time: See table below.

Recording Speeds per Channel (IPS):

NTSC: 60, 30, 15, 10, 5, and 2 IPS.

PAL: 50, 25, 12/13, 9, 5, and 2 IPS.

Internal Hard Drive Capacity:

DVRRT4: 75 GB.

DVRRT4EP: 150 GB.

Video

Inputs: Four (4), looping BNC connectors (auto-terminating), 0.5 to 2.0 Vp-p, PAL/NTSC compatible.

Outputs (Mon A/B): BNC connectors, PAL/NTSC compatible, composite.

Compression: Four (4) independent MPEG-2 channels.

Audio:

Input (Mono): Screw terminal, balanced LL.

Balanced Audio Input:

4.0 Vp-p (max)/2.8 Vp-p (typ) differential level
AUDIO IN (+) to AUDIO IN (-).

Unbalanced Audio Input:

4.0 Vp-p (max)/2.8 Vp-p (typ) unbalanced level
AUDIO IN (+) to GROUND/SHIELD with AUDIO
IN (-) tied to GROUND/SHIELD.

Output: Screw terminal, balanced LL.

Audio Output to Audio Input Gain: Unity Gain, typically.

Connectors:

Power: IEC male.

Console (Serial) Port: RS-232, DB-9 male.

Video Inputs/Outputs: BNC.

Audio Inputs/Outputs: Screw terminal.

Ultra SCSI: DB-50, narrow, single-ended.

Network: RJ45, ethernet 10/100BaseT compatible.

Alarm Handling:

Contact Alarms:

Alarm Inputs: Four (4) NO or NC inputs, DC.

Alarm Outputs: Four (4) NO or NC outputs; Rated at 40 VAC/DC, 1 A Max (resistive).

Other Alarms: Sync Alarm, Dark Alarm, Manual, Motion Alarm.

Motion Detector (Each Input):

Parameters: Size, speed, direction; false alarm suppression.

Supported Archiving Device:† Sony® AIT-2 Single Tape Drive.

Mechanical

Dimensions: 441.96 W x 464.8 D x 137.16 H mm (17.4 W x 18.3 D x 5.4 H in).

Weight: 10.94 kg (24.1 lb).

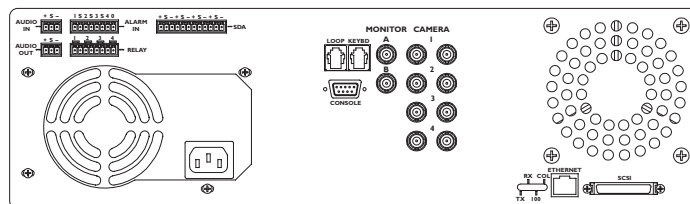
Temperature: 0° to 45°C (32° to 113°F).

Relative Humidity: 0 to 90%, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A, ICES-003.

Safety: CE, UL, cUL.



Hi-Q Recorder

RECORDING TIMES (HOURS):

	RECORD SPEED PER CHANNEL (IPS)						
	NTSC PAL	Real Time Modes			Time-lapse Modes		
		60 50	30 25	15 12.5	10 9	5 5	2 2
DVRRT4:							
High Quality		10	—	14	20	25	57
Medium Quality		*	12.5	19	28.5	36.5	80
Standard Quality		*	24	40	57	70	159
DVRRT4EP:							
High Quality		20	—	28.5	40	50	114.5
Medium Quality		*	25	38	57.5	73	160.5
Standard Quality		*	48.5	80.5	114.5	140.5	318.0

NOTE: This table reflects estimated recording times and assumes that all video channels are continuously recording at the given quality and record rate without audio recording.

*Interlaced video (50/60) is only available when recording at the High Quality setting.

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† Consult the Philips CSI Web site at www.philipscsi.com for an updated listing of supported devices.

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PHILIPS

Let's make things better.

Unapproved Draft

Video Signal Equipment

LTC 523 I Series LTC 5234 Series Video Distribution Amplifiers

- **Video Presence Indicators**
- **Video Loss Contact Closure**
- **No User Adjustments**
- **Easy Installation**
- **Optional Rack Mounting**
- **Color Compatible**



The LTC 523 I Series and LTC 5234 Series are video distribution amplifiers. They provide video outputs identical to the video input for use with other video equipment.

The LTC 523 I Series are single-channel video distribution amplifiers. They provide four (4) video outputs identical to a single video input for use with other video equipment. A front panel LED is provided to indicate when the amplifier is receiving video. In the event of loss of video, the

LTC 523 I Series amplifiers provide a relay contact closure output to signal this occurrence.

The LTC 5234 Series are 4-channel video distribution amplifiers. They provide four distribution amplifiers each having one input and three outputs. Each of the four amplifiers provides three (3) video outputs identical to a single video input for use with other video equipment. Inputs have selectable termination permitting looping of the video signal. This

feature allows a single video signal to be distributed to as many as 12 devices when all four distribution amplifiers are used. A front panel LED is provided for each distribution amplifier to indicate when the amplifier is receiving video. Each of the four channels of the LTC 5234 Series also include a relay contact closure output to signal video loss.

These units are supplied as desktop units; rack mount kits are available for rack mounting.

SPECIFICATIONS

LTC 5231 Series Single-Channel

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5231/60	120 VAC, 50/60 Hz	105 to 130	5 W
LTC 5231/50	230 VAC, 50/60 Hz	198 to 264	5 W

Video Inputs: One (1).

Signal Range: 0.5 Vp-p to 2.0 Vp-p.

Video Outputs: Four (4) isolated, 75 ohm.

Video Gain: Unity.

Signal-to-Noise: 65 dB typical.

Bandwidth -3 dB Point: 20 MHz typical.

Differential Gain: 0.5% typical.

Differential Phase: 0.6 degrees typical.

Video Loss Output: Relay contact pair.

Rating: 1 ampere at 40 volts AC/DC maximum.

Indicators:

POWER on LED (green).

VIDEO presence LED (green).

Mechanical

Connectors Video: BNC (5).

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal.

Size: 223 W x 280 D x 40 H mm (8.77 in x 11 x 1.59 in).

Weight: Approximately 2 kg (4.5 lb).

Environmental

Operating Temperature Range: 0 °C to 50 °C (32 °F to 122 °F).

Humidity: 10% to 80% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.

LTC 5234 Series 4-Channel

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5234/60	120 VAC, 50/60 Hz	105 to 130	6 W
LTC 5234/50	230 VAC, 50/60 Hz	198 to 264	6 W

Video Inputs: Four (4).

Signal Range: 0.5 Vp-p to 2.0 Vp-p.

Video Outputs: Twelve (12), 75 ohm.

Video Gain: Unity.

Signal-to-Noise: 65 dB typical.

Bandwidth -3 dB Point: 25 MHz typical.

Differential Gain: 0.5% typical.

Differential Phase: 1.2 degrees typical.

Video Loss Output: 4 relay contact pairs.

Rating: 1 ampere at 40 volts AC/DC maximum.

Indicators:

POWER on LED (green).

VIDEO 1/2/3/4 presence LEDs (green).

Connectors Video: BNC (16).

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal.

Size: 223 W x 280 D x 40 H mm (8.77 in x 11 x 1.59 in).

Weight: Approximately 3 kg (6.5 lb).

Environmental

Operating Temperature Range: 0 °C to 50 °C (32 °F to 122 °F).

Humidity: 10% to 80% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



LTC 2210 Series Digital Motion Detectors

- **Designed for Indoor Detection**
- **User Customized Selectable Zones With 12 Sensitivity Settings**
- **Motion "Tracers"**
- **On-Screen Programming in Multiple Languages**
- **Auto-Terminating Looping Inputs**
- **Remote Arm Input**



The LTC 2210 Series video motion detectors utilize edge detection with digital tracing technology. Patented circuitry provides reliable security surveillance protection. These economical, full featured single channel detectors provide flexible operation to maximize performance and minimize false alarms.

Eight fully adjustable detection zones make these units versatile and adaptable to nearly any indoor surveillance situation. Microprocessor based on-screen setup menus allow easy adjustment of the detection areas. For ease of installation, on-screen menus can be viewed in any of six languages - English, French, German,

Spanish, Dutch, or Italian. Other controls include manual or auto reset, on/off tracer display, and alarm bypass. LEDs indicate alarm ready, alarm activation, and power on.

Upon detection of motion, the LTC 2210 Series units react with an audio beeper and a flashing LED alerting the operator; alerted cameras are called up on-screen (when used with a Sequential Switcher); contacts close for operation of master alarm or VCR operation; and tracers display detected motion.

Sensitivity settings can be adjusted for optimum performance under a variety of conditions. By adjusting the

sensitivity and percentage movement settings appropriately, the LTC 2210 Series can effectively discriminate between a variety of background scenes and desired alarms.

Alarm outputs are available on a 15 pin connector at the rear of the unit. In addition, this connector provides an input which when active will arm the unit.

These units are available in 120 VAC or 230 VAC models, single looping video input, NTSC or PAL color compatibility, desk top or 1/2-rack mount versions, and a coordinated design which integrates well with other Philips switcher products.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 2210/60	120 VAC, 50/60 Hz	105 to 130	4 W
LTC 2210/50	230 VAC, 50/60 Hz	195.5 to 253	4 W

Video Inputs: One (1) looping.

Range: 0.5 V_{p-p} to 2.0 V_{p-p}.

Impedance: Automatically switching 75 ohm terminated or high impedance looping.

Video Outputs: One (1).

Video Gain: Unity.

Bandwidth (-3 dB point): 12 MHz typical.

Differential Gain: 3% typical.

Differential Phase: 3° typical.

Alarm Outputs: Open collector and/or normally open contact closure. The relay contacts are rated at 1.0 A at 40 V AC/DC and a resistive load of 10 VA maximum.

Controls:

ALM CLR/ESC Key: Clears an alarm. Cancels beeper, blinking alarm LED, and contact closure. Unit remains in the prealarm state (reset and arm are not changed).

When programming the system, this button can be used to exit from the programming menus.

ALARM LED: On when armed, blinks when alarm is triggered.

SETUP/ENTER Key: Pressing SETUP/ENTER places the on-screen programming menus on the video monitor. This key is also used to access sub-menus during programming.

Direction Keys: These keys are used to navigate through the programming options. They are also used to define the detection zones.

Detection Zones: Using the arrow keys, detection zones can be drawn anywhere over the full active video for PAL or NTSC. Minimum detection size is 15% H x 15% V (2% of screen area). Maximum size is the entire active video.

Detection zones are created on a 64 element (H) by 30 element (V) grid for NTSC and on a 64 element (H) by 36 element (V) for PAL.

Indicators:

POWER on LED (Green).

ALARM LED (Red).

Cable (Included): Cable with 15-pin connector on one end.

Mechanical

Finish: Charcoal.

Dimensions: 223 W x 280 D x 40 H mm (8.77 x 11.0 x 1.59 in).

Weight: 2 kg (4.5 lb).

Environmental

Temperature:

Operating: 0 °C to +50 °C (32 °F to +122 °F).

Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Humidity: 10% to 80% relative, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



LTC 2211 Series LTC 2212 Series Digital Motion Detectors

- **Designed for Outdoor Detection**
- **User Customized Selectable Zones**
- **Direction Sensing and Target Speed Settings**
- **On-Screen Programming in Multiple Languages**
- **Auto-Terminating Looping Inputs**
- **Timed or Manual Selection of Four Pre-Programmed Set-up Parameters**



The LTC 2211 Series and LTC 2212 Series are high sensitivity Digital Motion Detectors. Their ability to ignore environmental changes and camera vibration make them ideal for use outdoors as well as indoors. These detectors minimize false alarms through the use of image processing algorithms, which analyze movement, not just detect it.

The LTC 2211 Series have four camera inputs while the LTC 2212 Series have eight camera inputs. They are designed to be used as stand-alone units or in conjunction with a switcher/controller system. All include two monitor outputs. The main output is used for system set-up, alarm call-up, and system information monitoring. The second bridging output will sequence between cameras.

Both set-up and control are simple and easily accomplished through on-screen

menus which are displayed on the main monitor, and accessed with the front panel controls. For ease of installation, on-screen menus can be viewed in any of six languages - English, French, German, Spanish, Dutch, or Italian.

The LTC 2211/60 and LTC 2212/60 feature 1200 separate detection points per camera; the LTC 2211/50 and the LTC 2212/50 feature 1120 separate detection points per camera. All models provide for directional motion sensing. Each zone's direction sensitivity can be set for either up, down, left or right directions. The size of each zone may be adjusted to accommodate varying applications. Each unit features special circuitry which minimizes the effects of camera vibration, changes in cloud cover, and such extraneous activity as precipitation and leaf movement.

Four individual sets of system setup parameters may be stored and automatically recalled at pre-determined times. To prevent unauthorized access to the set-up parameters, a user-defined password control limits access to the system.

Upon alarm, the LTC 2211 Series and LTC 2212 Series provide the user with on-screen indications to identify the area of intrusion. External connections provide individual camera alarm outputs, plus one output common to all cameras. A selectable audible tone activates to alert the operator of alarm conditions, including loss of video. Individual camera titling with time/date is also provided.

These units can be rack mounted and their coordinated design allows integration with other Philips switcher products.

SPECIFICATIONS

Electrical

Model No	Rated Voltage	Voltage Range	Power at Rated Voltage
4 Channel Models			
LTC 2211/60	120 VAC, 60 Hz	105 to 130	10 W
LTC 2211/50	230 VAC, 50 Hz	195.5 to 253	10 W
8 Channel Models			
LTC 2212/60	120 VAC, 60 Hz	105 to 130	10 W
LTC 2212/50	230 VAC, 50 Hz	195.5 to 253	10 W

Detection Analysis: System algorithms utilized to pinpoint actual scene motion, help to eliminate false alarms. On-screen menu programming.

Video Inputs:

LTC 2211 Series: 4 looping; 8 BNC.
LTC 2212 Series: 8 looping; 16 BNC.
Range: 0.5 Vp-p to 2.0 Vp-p.
Impedance: Automatically switching 75 ohm terminated or high impedance looping.

Video Outputs: 75 ohm.

Video Out: 2; BNC.
MON A: Set-up, Call-up, or Alarm Call-up.
MON B: Sequence, Call-up.
Sensitivity: 100 levels, selectable per zone, time programmable.

Alarm Outputs: Normally open relay contact closure; one contact closure per camera and one common contact closure via a 25 pin D-connector. Relay contacts rated at 0.5 A at 40 V AC/DC and a resistive load of 10 VA maximum. Color coded alarm cable provided.

Alarm Setup Input: One setup input used to remotely change motion detector setups.

Serial Printer Port: 9 pin "D" Connector.

AC Power Cord: 3 wire with grounded plug.

Cable (Included): Cable with 25-pin D-connector on one end and break-outs for alarm outputs and 9-pin serial printer connector on other end.

Controls:

ALM CLR/ESC Key: Clears an alarm. Cancels beeper, blinking alarm LED, and contact closure. Unit remains in the prealarm state (reset and arm are not changed).
When programming the system, this button can be used to exit from the programming menus.

Controls (Cont'd):

ALARM LED: On when armed, blinks when alarm is triggered.

SETUP/ENTER Key: Pressing SETUP/ENTER places the on-screen programming menus on the video monitor. This key is also used to access sub-menus during programming.

Direction Keys: These keys are used to navigate through the programming options. They are also used to define the detection zones.

RUN Key: Starts sequence operation.

MON B Key: Toggles front panel control to/from Mon B.

Detection Zones: Using the arrow keys, detection zones can be drawn anywhere over the full active video for PAL or NTSC. Minimum zone size is 5% H x 6.6% V (0.3% of screen area). Maximum size is the entire active video.

Detection zones are created on a 40 element (H) by 30 element (V) grid for NTSC and on a 40 element (H) by 28 element (V) for PAL.

Mechanical

Finish: Charcoal.

Dimensions: 223 W x 362 D x 40 H mm (8.77 x 14.25 x 1.59 in).

Weight: 2.6 kg (5.7 lb).

Environmental

Temperature:

Operating: 0 °C to +50 °C (32 °F to +122 °F).
Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Humidity: 10% to 80% relative, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



LTC 2372 Series, LTC 2376 Series LTC 2375 Series, LTC 2377 Series VidQuad® Video Processors

- **Basic or Full Featured**
- **Color or Monochrome**
- **Real-time Update Rate**
- **Sequencing or Quad Display**
- **Alarms and Video Loss**
- **Programmable Titles and Time/Date**
- **RS-232 or Remote Callup**
- **Zoom Playback**



VidQuad 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 and update rate without annoying on-screen flickering (aliasing) commonly associated with multiscreen displays. 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 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, and no user controls are required.

The LTC 2376 Series and LTC 2377 Series units are equipped with four digitizers (one for each camera) to provide true real-time updates that include a primary and a secondary output for quad displays only (VCR Out). The primary output can be set to display:

- Quad display (all four cameras)
- Full screen display (any camera)
- Sequencing with programmable dwell time

Both of the outputs that display time/date are programmable. Camera titles can accept eight different characters per camera.

These video processors always record in Quad mode, but recorded images can be viewed "full screen" using the built-in 4X electronic zoom playback.

These units allow user-friendly controlling and on-screen programming for quick-and-easy programming and operation of programmable alarm contacts (N/O or N/C). In addition, remote control of the unit may be accomplished through 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.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 2372/50	230 VAC, 50/60 Hz	195.5 to 253	6 W
LTC 2372/60	120 VAC, 50/60 Hz	108 to 132	6 W
LTC 2376/50	230 VAC, 50/60 Hz	195.5 to 253	6 W
LTC 2376/60	120 VAC, 50/60 Hz	108 to 132	6 W
LTC 2375/50	230 VAC, 50/60 Hz	195.5 to 253	12 W
LTC 2375/60	120 VAC, 50/60 Hz	108 to 132	12 W
LTC 2377/50	230 VAC, 50/60 Hz	195.5 to 253	12 W
LTC 2377/60	120 VAC, 50/60 H	108 to 132	12 W

¹ At rated voltage.

Synchronization: No external synchronization required.

LTC 2372/50	Monochrome	CCIR	625 lines
LTC 2372/60	Monochrome	EIA, RS-170	525 lines
LTC 2376/50	Monochrome	CCIR	625 lines
LTC 2376/60	Monochrome	EIA, RS-170	525 lines
LTC 2375/50	Color	PAL	625 lines
LTC 2375/60	Color	NTSC	525 lines
LTC 2377/50	Color	PAL	625 lines
LTC 2377/60	Color	NTSC	525 lines

Digital Memory:

LTC 2372 Series: 640 ↔ 576 CCIR; 640 ↔ 484 EIA, RS-170.

LTC 2376 Series: 640 ↔ 576 CCIR; 640 ↔ 484 EIA, RS-170.

LTC 2375 Series: 720 ↔ 576 PAL; 720 ↔ 484 NTSC.

LTC 2377 Series: 720 ↔ 576 PAL; 720 ↔ 484 NTSC.

16 bit, 256 grey steps, 16 million color palette.

Controls & Indicators (LTC 2376, LTC 2377 Series):

MENU: One pushbutton for Menu access.

SEQ/ALARM CLR: One pushbutton, starts/stops sequencing, and alarm clear function.

QUAD/SELECT: One push button used for quad display callup on MON A and menu operation.

Camera (Arrow) Keys: Four pushbuttons. Selects control and full screen callup of inputs 1, 2, 3, or 4. Used as directional keys during programming.

VCR: One pushbutton, selects the VCR as an input for display.

Connectors:

Video Inputs:

LTC 2372 Series, LTC 2375 Series: 4; BNCs.

LTC 2376 Series, LTC 2377 Series: 4; 4 loop through Auto Terminated BNCs.

Video Outputs: 1; BNC.

VCR Input: 1; BNC.

Video/VCR Out: 1; BNC (Secondary Monitor Output).

Alarms (LTC 2376, LTC 2377 Series): Screw Terminals.

Alarm Inputs: 4. Can be configured as normally open (NO) or normally closed (NC) momentary or continuous contacts to ground.

Alarm Output: Isolated relay, normally open contacts, closes upon alarm input. 3 A, 40 V AC/DC.

RS-232 Remote Callup (LTC 2376, LTC 2377 Series):

15-pin D.

Power Cord: 3-wire with grounded plug; 1.8 m (6 ft).

Mechanical

Construction: Steel chassis with sheet metal cover.

Finish: Charcoal colored case.

Dimensions: 440 W x 300 D x 44 H mm (17.3 x 11.8 x 1.73 in).

Weight: 4.5 kg (9.9 lb).

Rack Kit: Included.

Environmental

Temperature:

Operating: 0 °C to +40 °C (32 °F to +104 °F).

Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Humidity: 10% to 90% relative, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 30 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

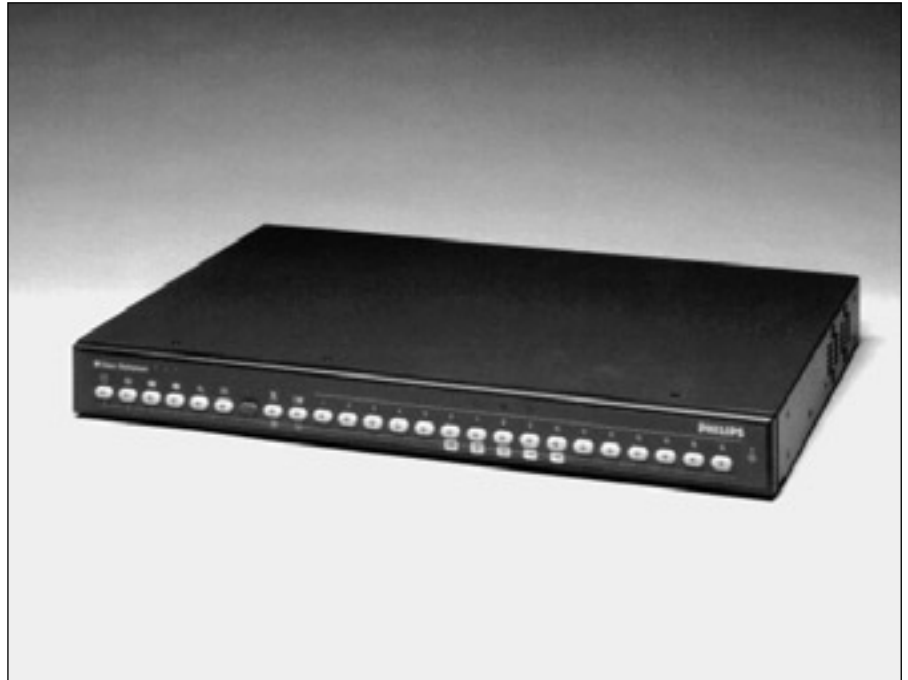
Safety: CE, UL, cUL.



Video Multiplexers

9-, 16-channel *UniversalMux* Video Multiplexers

- n **User-friendly**
- n **AutoSet® Startup**
- n **High Quality Video Image**
- n **Digital Motion Detection**
- n **Timed Events Feature**
- n **Camera Display Lockout**
- n **Compatible with All VCR Types**
- n **Decodes Multiple Recording Formats**



16-channel *UniversalMux* shown

The *UniversalMux* 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.

Furnished with a switching power supply, the *UniversalMux* 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 pre-programmed set up parameters, including the record functions, to be activated based on the time of day. Up to 6 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.

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.
Color: 625 line, 50 Hz, PAL.
Color: 525 line, 60 Hz, NTSC.

Digital Memory:

720 H x 576 V.
AGC: Automatic or manually adjust for each video input.
Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Operating Modes:

Simultaneous record and multiscreen viewing.
Simultaneous playback and multiscreen viewing.

Display Modes:

Live:
Monitor A and B: Full, quad, or multiscreen display.
Monitor B: Full screen video viewing or sequence or alarm call-up monitors (during recording).

Playback:

Full, quad, or multiscreen display.
4X electronic zoom and freeze capability.

Inputs:

Camera: 9 (16) inputs; 18 (32) BNC connectors. Automatic looping termination BNC.
VCR IN: One BNC.

Outputs:

Monitor A: One BNC.
Monitor B: One BNC.
VCR OUT: One 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 for action/alarm.
One for video loss (The relay contacts handle up to 1 A at 40 VAC/VDC).

Next Input: One.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal case.

Dimensions: 440 W x 305 D x 40 H 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 19-inch 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, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

Safety: CE, UL, cUL.



9-, 16-channel *MonochromeMux* Video Multiplexers

- **User-friendly**
- **AutoSet® Startup**
- **Duplex Operation**
- **Digital Motion Detection**
- **Timed Events Feature**
- **Camera Display Lockout**
- **Compatible with All VCR Types**
- **Decodes Multiple Recording Formats**



The **MonochromeMux** displays any camera to either monitor A or B and includes 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 play back previously recorded tapes from 6 different manufacturers.

Furnished with a switching power supply, the **MonochromeMux** intelligently detects the input signal and input voltage and automatically sets the unit for 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 pre-programmed setup parameters, including the record functions, to be activated based on the time of day. Up to 6 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.

SPECIFICATIONS

Electrical

Model No.	Description	Voltage Range	Power/Current
LTC 2632/90	9-channel, Duplex	105 to 253, 50/60 Hz	30 W/0.3 A
LTC 2652/90	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.

Digital Memory:

720 H x 576 V.
AGC: Automatic or manually adjust for each video input.
Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Operating Modes:

Simultaneous record and multiscreen viewing.
Simultaneous playback and multiscreen viewing.

Display Modes:

Live:
Monitor A and B: Full, quad, or multiscreen display.
Monitor B: Full screen video viewing or sequence or alarm call-up monitors (during recording).
Playback:
Full, quad, or multiscreen display.
4X electronic zoom and freeze capability.

Inputs:

Camera: 9 (16) inputs; 18 (32) BNC connectors. Automatic looping termination BNC.
VCR IN: One BNC.

Outputs:

Monitor A: One BNC.
Monitor B: One BNC.
VCR OUT: One 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 for action/alarm.
One for video loss (The relay contacts handle up to 1 A at 40 VAC/VDC).
Vext Input: One.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal case.

Dimensions: 440 W x 305 D x 40 H 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 19-inch 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, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

Safety: CE, UL, cUL.



LTC 2660 Series 16-channel Color Video Multiplexers

- **User-friendly**
- **QuickSet™ Startup**
- **High Quality Video Image**
- **Digital Motion Detection**
- **Time Event Function**
- **Compatible with All VCR Types**
- **Decodes Multiple Recording Formats**
- **Simplex Operation**



The LTC 2660 Series sixteen channel video multiplexers incorporate state-of-the-art technology, advanced circuitry, and a large capacity of video memory to provide high video quality images and faster update. Annoying on-screen flickering (aliasing) is also eliminated. Featuring single screen, quad, and multiscreen viewing, these units allow monitoring of multiple camera sites without the need for extra monitors and VCRs.

When either recording or multiscreen viewing is required, but not both simultaneously, the LTC 2660 Series simplex multiplexers may be used. During live viewing, recording, or playback, the models can display full-screen, quad-screen, or multiscreen views.

These multiplexers are designed with the installer and operator in mind. All models include on-screen menus with two options: QuickSet™ for fast setup and Advanced SetUp for customized applications. The individual camera

select buttons allow for fast and easy setup of the multiplexer operation parameters. When the AutoSet® feature is enabled, depending upon the number of cameras connected to the unit, the system will automatically configure itself for recording, sequence, video loss lists, and the best multiscreen display. For specific setup parameters, the advanced setup is available to guide the operator step-by-step through the setup process. Help screens are available to provide instructions and explanations of any function.

These multiplexers also include a Time Event function which allows pre-programmed setup 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 motion detection, "exclusive" and "interleave," which is also operational under alarm conditions. In addition, the Digital Motion Detection feature also provides four levels of sensitivity to reduce the effects of false alarms. An audible buzzer is selectable in these modes.

Additionally, these units include a wide selection of features such as front panel controls, synchronization with VCR head switching (which improves update rate), freeze and 2X zoom capability, loss of sync signal 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.

SPECIFICATIONS

Electrical

Model No.	Mode	Rated Voltage	Voltage Range	Power/Current
LTC 2661/50	Simplex	230 VAC, 50/60 Hz	206 to 253	30 W/0.3 A
LTC 2661/60	Simplex	120 VAC, 50/60 Hz	105 to 132	30 W/0.5 A

Synchronization:

Full time based correction. No external sync. required.

/50: 625 line, 50 Hz, PAL system compatible.

/60: 525 line, 60 Hz, EIA NTSC system compatible.

Digital Memory:

/50: 720 H × 576 V.

/60: 720 H × 484 V.

AGC: Individually adjusted for each input.

Operating Modes:

Simplex Models: Select either Encode recording or Multiscreen viewing.

Display Modes:

Full Screen (Individual Sequencing).

Live Quad Display (Individual, Dual Quad, or Custom Sequencing) or Multiscreen mode.

Decode Full, Quad, or Multiscreen display.

Positional 2× electronic zoom.

Freeze capability.

Connectors:

Power: 3-wire power cord with grounded plug; 1.8 m (6 ft).

Video Inputs: 0.5 Vp-p to 2.0 Vp-p to composite video signal.

CAMERA: 16 inputs; 32 BNC connectors. Automatic switching 75 ohm to high impedance looping.

VCR IN: One input; one BNC.

Video Outputs:

MON-A: Main display output, Full, Quad, Multiscreen.

MON-B: Full screen video viewing or sequence or alarm call-up monitors.

VCR OUT: One BNC.

Accessory Inputs/Outputs: One 25-pin D-type connector for alarms and accessories: 16 individually selectable NO or NC alarm inputs; two relay outputs (selectable NO or NC), one for action/alarm and one for video loss. VEXT pulse input. The relay contacts for action/alarm can handle up to 1 A at 40 VAC/VDC.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal case.

Dimensions: 440 W × 305 D × 40 H mm (17.3 × 12 × 1.7 in).

Weight: 5 kg (11 lb).

Rack Mount Kit (Included): For mounting one unit in an EIA 19-inch rack included.

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, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

Safety: CE, UL, cUL.



Multiplexer Control Systems

6Plex

Video Management Systems

- n **Six Channel Duplex Multiplexer**
- n **User-friendly**
- n **5 + 1 Viewing Mode**
- n **AutoSet® Startup**
- n **Digital Motion Detection**
- n **Timed Events Feature**
- n **Decodes Multiple Recording Formats**
- n **Optional Remote Keyboard with P/T/Z Control**
- n **Camera Display Lockout**



The **6Plex** Video Management System 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 be used as matrix switchers, displaying any camera to either monitor A or B and include camera sequencing and alarm display with pre-position call up.

With an additional unique display, 5+1 mode, the +1 viewing quadrant is used for alarm call-up so there is no need for an extra monitor. These video controllers let you simultaneously record and view multiscreen and are compatible with VCRs from other manufacturers.

Furnished with a switching power supply, the **6Plex** intelligently detects the input signal 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. An AutoSet 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.

With a unique camera display lockout feature, the **6Plex** will not display any selected camera on both monitors. However, the hidden video will record in the background. Also, this unit provides digital motion detection circuitry to intelligently analyze the motion content of all camera inputs and ensures 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 including direction sensing and a special walk-through setup to eliminate false alarms. A selectable audible buzzer is available in this mode.

Preprogrammed setup of parameters may be achieved using the Timed Events feature. This feature allows several

configurations for system operation and recording. Up to 6 separate operational parameters may be programmed and stored in the system memory for manual call-up or timed activation.

These units include front panel controls, synchronization with VCR head switching, image freeze and 4X digital zoom, sync signal loss indicators, alarm capture, password security, multirelay outputs, full function time/date, and 16 character camera titling record. These controllers are compatible with VHS, S-VHS, normal, and high density VCRs. They do not require external synchronization of camera inputs, since integrated time-based correction is included.

These video controllers allow a user-friendly design which no longer requires multiple systems. They are capable of handling up to 6 video inputs while switching, multiplexing, and controlling with remote keyboards for P/T/Z functions. These units intelligently provide a multifunction system in one compact unit.

SPECIFICATIONS

Electrical

Model No.	Description	Voltage Range	Power/Current
LTC 2622/90	6-channel, Duplex	108 to 253 VAC, 50/60 Hz	30 W/0.3 A

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 484 V.
AGC: Automatic or manually adjusted for each video input.
Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Display Modes:

Live:
Monitor A and B: Full, quad, or multiscreen display (5+1 mode).
Monitor B: Full screen video viewing or sequence or alarm call-up monitors (during recording).
Playback: Full, quad, or multiscreen display.

Inputs:

Camera: 6 inputs; 12 BNC connectors. Automatic looping termination BNC.
VCR IN: One BNC.

Outputs:

Monitor A: One BNC.
Monitor B: One BNC.
VCR OUT: One BNC.

Controls & Indicators:

Front Panel.

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: 6 individually selectable NO or NC alarm inputs.
Relay Output: Two relay outputs (selectable NO or NC).
One for action/alarm.
One for video loss (The relay contacts handle up to 1 A at 40 VAC/VDC).
Vext Input: One.
Biphase Output: 4.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal case.

Dimensions: 440 W x 305 D x 40 H 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 19-inch 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, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

Safety: CE, UL, cUL.

Options

LTC 2601/00 Keyboard: Full function keyboards designed for system control, programming, and pan/tilt/zoom operation in Philips Allegiant® receiver/drivers or AutoDome systems.

LTC 2602/00 Keyboard: Same as LTC 2601/00, except includes variable speed joystick for pan/tilt/zoom control.

LTC 8558/00 Keyboard Extension Cable: Six conductor extension cable provides data/power for remote keyboard operation up to 30 m (100 feet) away from controller.

LTC 8557 Series Keyboard Extension Kits: Interface kit to permit remote operation of keyboards up to 1.5 km (5000 feet) from controller.

LTC 8557/50: 230 V, 50 Hz.
LTC 8557/60: 120 V, 60 Hz.

S1383: Vext Cable for using with LTC 3924, LTC 3960, LTC 3962, LTC 3963, LTC 3990, and LTC 3991 series VCRs.



Video Management Systems

- **TrueTriplex Operation**
- **Simultaneous Playback & Live View Multiscreen Display**
- **Playback 6 Recording Formats**
- **Timed Events Feature**
- **Log Events Feature**
- **Custom Alarm Display with Multiple Presets**
- **Full Duplex VCR Controls with On-line Status & Time/Date/Search**
- **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 circuitry allows increased image accuracy and faster display rates without annoying on-screen 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.

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 Philips AutoDome® systems and receiver/drivers for Pan/Tilt/Zoom control. The **System4** remote keyboards control all primary functions of any

selected Philips VCR. Up to 30 **System4** units and 30 VCRs can be programmed and controlled by one keyboard. With Master Clock Synchronization, the **System4** automatically syncs all of the clocks together. 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 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 are capable of playing 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 on-screen menu for programming which is available in English, French, German, Spanish, Dutch, or Italian. Programming allows for either AutoSet® or customized system configuration through 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 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 pre-programmed 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, multirelay outputs, and full function time/date with 16 character titling record capability. All units are

compatible with standard VHS and S-VHS 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 Philips 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.

SPECIFICATIONS

Electrical

Model No.	Description	Voltage Range	Power/Current
LTC 2672/90	9-channel, Triplex	108 to 253 VAC, 50/60Hz	30 W/0.3 A
LTC 2682/90	16-channel, Triplex	108 to 253 VAC, 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.
 Color: 625 line, 50 Hz, PAL.
 Color: 525 line, 60 Hz, NTSC.

Digital Memory:

720 H x 576 V.
 AGC: Automatic or manually adjust for each video input.
 Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Operating Modes:

Simultaneous record **and** multiscreen viewing on both monitors.
 Simultaneous record **and** playback **and** multiscreen viewing.

Display Modes:

Live:
 Monitor A: Full, quad, or multiscreen display.
 Monitor B: Full (alarm or action call-up only), quad, or multiscreen display.
 Playback:
 Monitor A: Full, quad, or multiscreen display.
 Monitor B: Full

Controls & Indicators: Front panel.

Inputs:

Camera: 9 (16) inputs; 18 (32) BNC connectors. Automatic looping termination BNC.
 VCR IN: One BNC.
 VCR IN: One Y/C.

Outputs:

Monitor A: One BNC.
 Monitor B: One BNC.
 VCR OUT: One BNC.
 Monitor A: One Y/C.
 Monitor B: One Y/C.
 VCR OUT: One Y/C.

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: Three relay outputs (selectable NO or NC).
 One for action/alarm (VCR # 1).
 One for action/alarm (VCR # 2).
 One for video loss (These relay contacts handle up to 1 A at 40 VAC/VDC).
 SDA: 15 Pin D type for 5 Biphase outputs.
 Console: 9 Pin D type for RS-232 controls.
 VEXT inputs: Two.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal case.

Dimensions: 440 W x 305 D x 40 H 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 19-inch 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, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class A, FCC Class A.

Safety: CE, UL, cUL.

Options

LTC 2601/00 Keyboard: Full function keyboards designed for system control, programming, and pan/tilt/zoom operation in Philips Allegiant® receiver/drivers or AutoDome systems.

LTC 2602/00 Keyboard: Same as LTC 2601/00, except includes variable speed joystick for pan/tilt/zoom control.

LTC 8558/00 Keyboard Extension Cable: Operation up to 30 m (100 feet) away from controller.

LTC 8557 Series Keyboard Extension Kits: Operation of keyboards up to 1.5 km (5000 feet) from controller.
 LTC 8557/50: 230 V, 50 Hz.
 LTC 8557/60: 120 V, 60 Hz.

LTC 2604 Series Keyboard Port Expander Unit:

Allows the use of four keyboards.
 LTC 2604/50: 230 V, 50 Hz.
 LTC 2604/60: 120 V, 60 Hz.

LTC 2609/00 System4 Extension Kit: Used to connect up to six **System4** Video Controllers in a daisy chain configuration. A total of thirty **System4** Video Controllers can be linked using additional LTC 2609/00 kits.

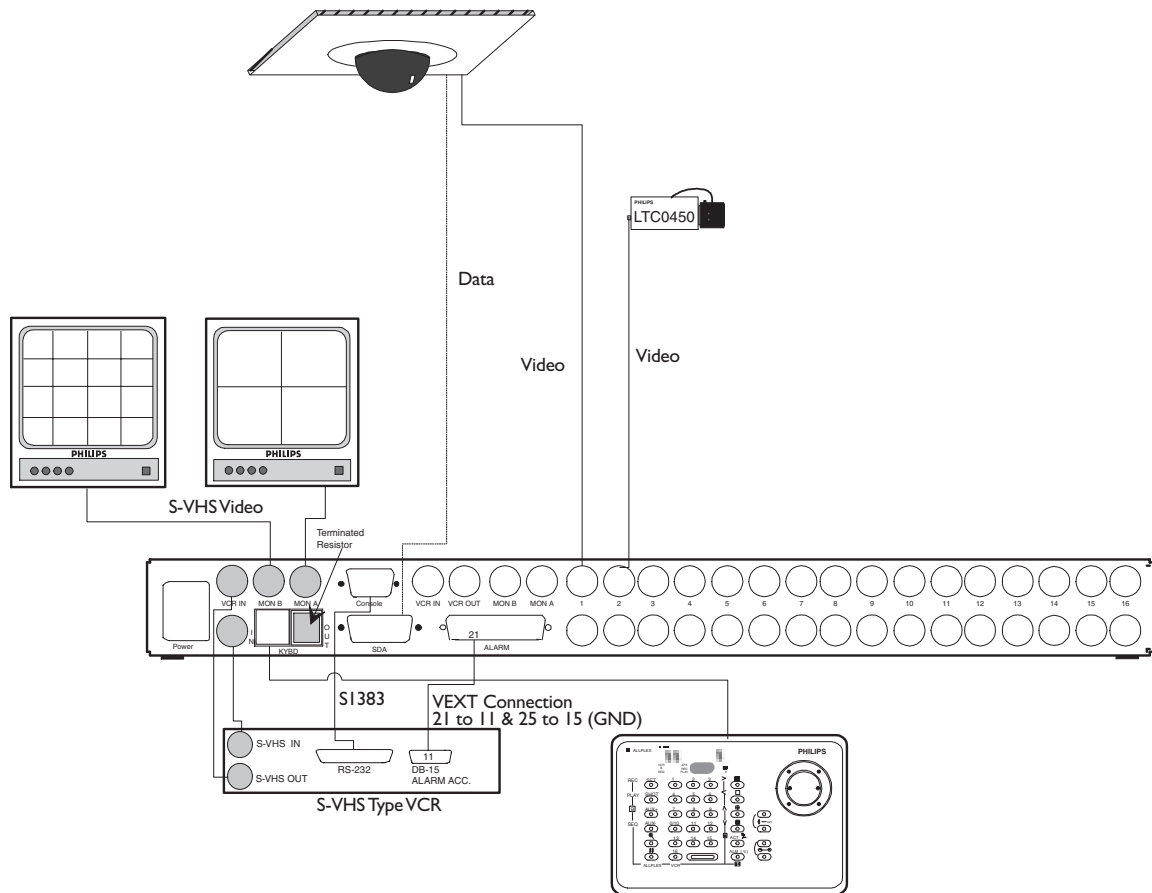
LTC 2650/00 GUI: Graphical User Interface package for programming and control of controller.

LTC 2605/90 System4 Video Manager: Display up to 16 mux to six monitor outputs.

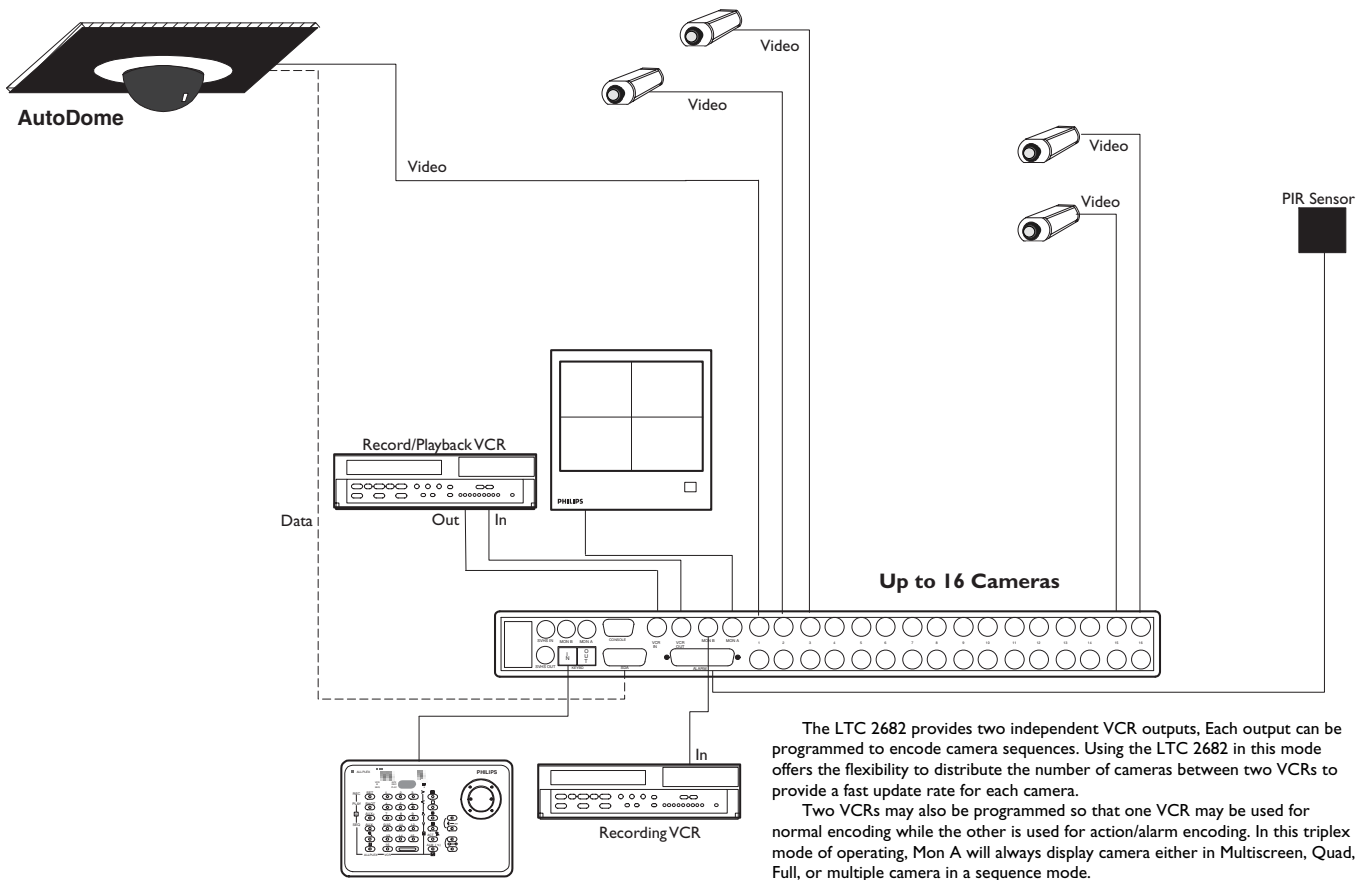
VCR Controls:

S1383: Vext cable for using with LTC 3924, LTC 3960, LTC 3962, LTC 3963, LTC 3990, and LTC 3991 series VCRs.

S1385: VCR controls.



System4 Triplex Typical Operation



Simultaneous Recording To Two VCRs (Triplex operation)

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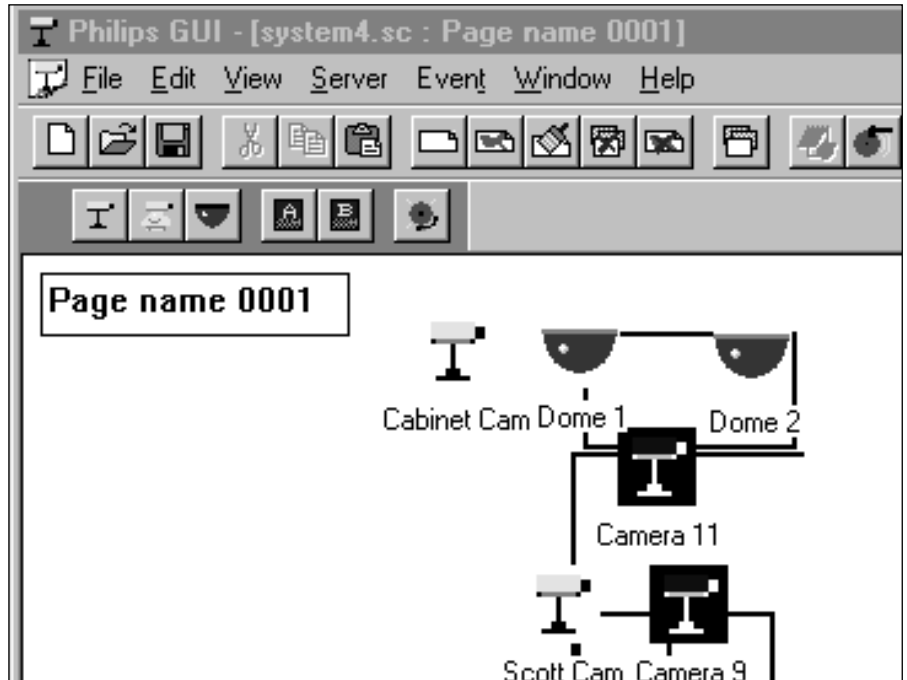


PHILIPS

Let's make things better.

LTC 2650/00 Philips System4 GUI

- **Interfaces with All System4 Series Systems**
- **Capable of Running Several System4 & Allegiant® Systems on One Map**
- **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 VCRs Equipped with RS-232**



The Philips System4 Graphical User Interface (GUI) interfaces directly to the System4 series of video management control systems to provide complete control and programming of all System4 features. It is a software package that runs on standard PCs and incorporates Microsoft® OLE (Object Linking and Embedding) technology to harness the full 32-bit power of the Windows NT, Windows 98, and Windows 95 Operating Systems.

The GUI software modules 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. Different levels of accessibility are available for users (Installer, Administrator, and Operator) to determine the set of features presented to each user. Site maps or other drawings (DXF, HPGL,

BMP, etc.) are easily loaded directly into the GUI, where they can be "seeded" with special "link icons" to maneuver between map pages. With a mouse click, icon configuration menus are then presented, allowing quick association of the icon with a hardware device. 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 2650/00 software packages include a VCR interface program known as the VCR server which can operate multiple Philips VCRs directly from the GUI by using an RS-232 interface. With the use of the configuration tables, monitor, and alarm handler applications, anything that can be accomplished through the System4 front panel or LTC 2600 keyboards can be easily executed through the GUI by the use of "pop up" control panels. 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.

Since the LTC 2650/00 is a part of the Philips map application, it is also capable of running several System4/Allegiant systems on one map which 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, giving the user the ability to identify and control the system's response to that condition or event.

Microsoft® and Windows® are registered trademarks of Microsoft Corporation. Pentium® is a registered trademark of Intel Corporation.

SPECIFICATIONS

LTC 2650/00 Philips System4 GUI

Format: Software supplied on 3.5-inch floppy disk. Software security provided by means of parallel port key.

Minimum System Requirements -

PC Platform

Pentium® 120 MHz CPU and SVGA Monitor.

8 MB RAM (with Windows 95).

16 MB RAM (with Windows NT).

250 MB Fixed Drive.

3.5-inch High Density Floppy Disk Drive.

Windows NT version 4.0 (Service Pack 3 or later) or

Windows 95 Operating System (Windows 95 compatible with GUI release version 2.0 or greater).

Ports Required (Minimum): 1 Parallel, 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 to be controlled.

Pointing Device: Mouse, Trackball, or Touch Screen.

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 preexisting site maps and building drawings without the need to recreate new drawings and building plans. Site maps may be easily linked to allow the user to move seamlessly from top level site drawings to individual low level locations and back again.

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.



System4 Video Manager

- **Centralized Monitor & Multiplexer Operation**
- **Controls up to 16 System4 Multiplexers**
- **Uses up to Four Keyboards with Port Expander**
- **Easy Installation**



The **System4** Video Manager provides advanced automatic switching technology that enables more efficient control of monitor outputs and keyboard operations. The Video Manager reduces the number of necessary monitors in the system and allows greater flexibility in the system configuration. It provides a centralized control station with up to 6 monitors and up to 4 keyboards (with optional keyboard port expander). VCR functions and sequential switching are easily controlled via the remote keyboard locations as programmed through the multiplexers and viewed from the **System4** Video Manager monitor(s).

Up to 16 **System4** multiplexers (any model) can be connected to the Video Manager and viewed on a single or pair of monitors. The LTC 2604 Keyboard Port Expander can be used to accommodate up to four keyboards for remote control over the multiplexers and the monitor(s) they are viewing. No additional user controls are

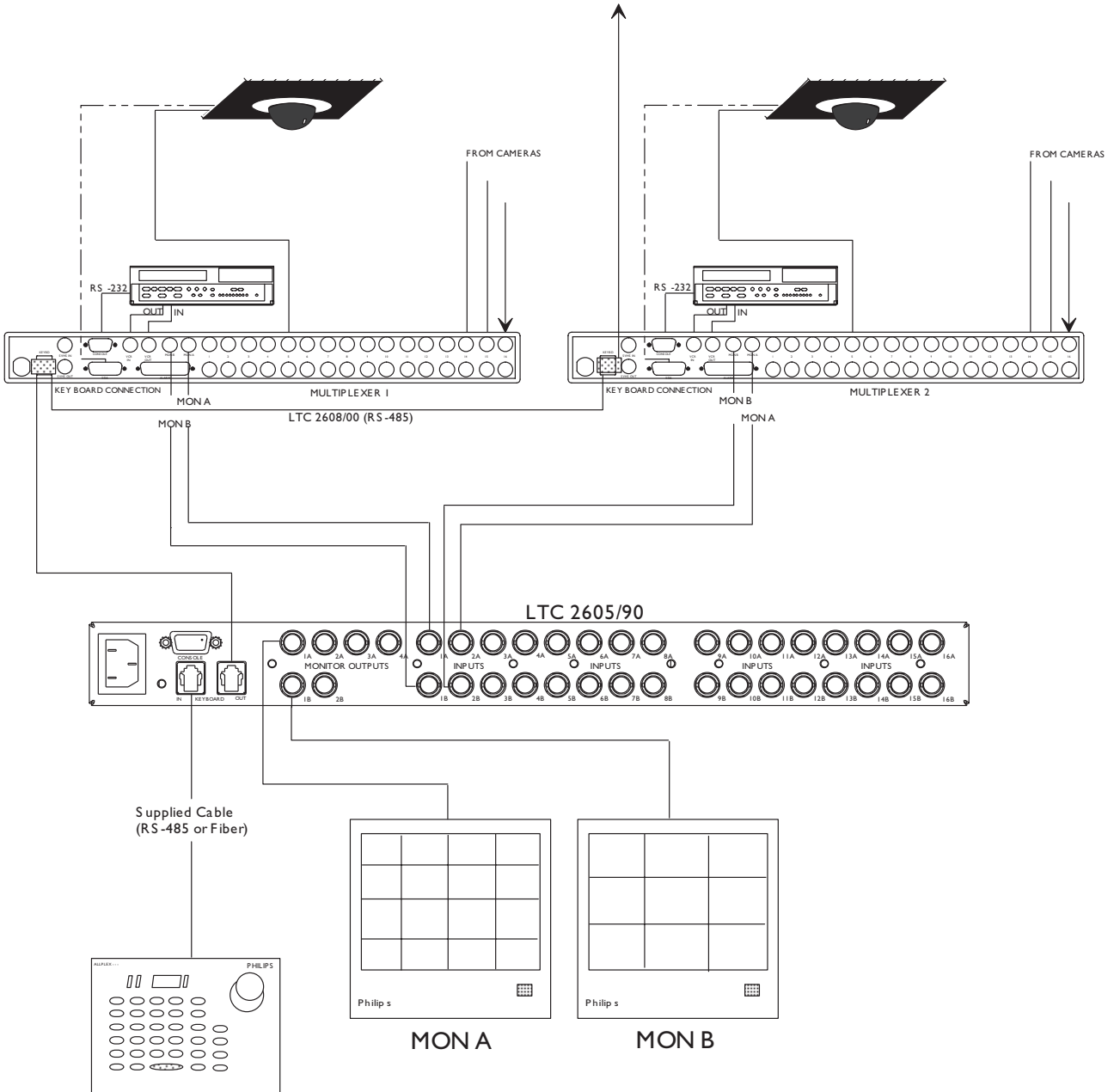
necessary for these operations.

By design, system setup of the Video Manager is quick and easy - just plug in and operate.

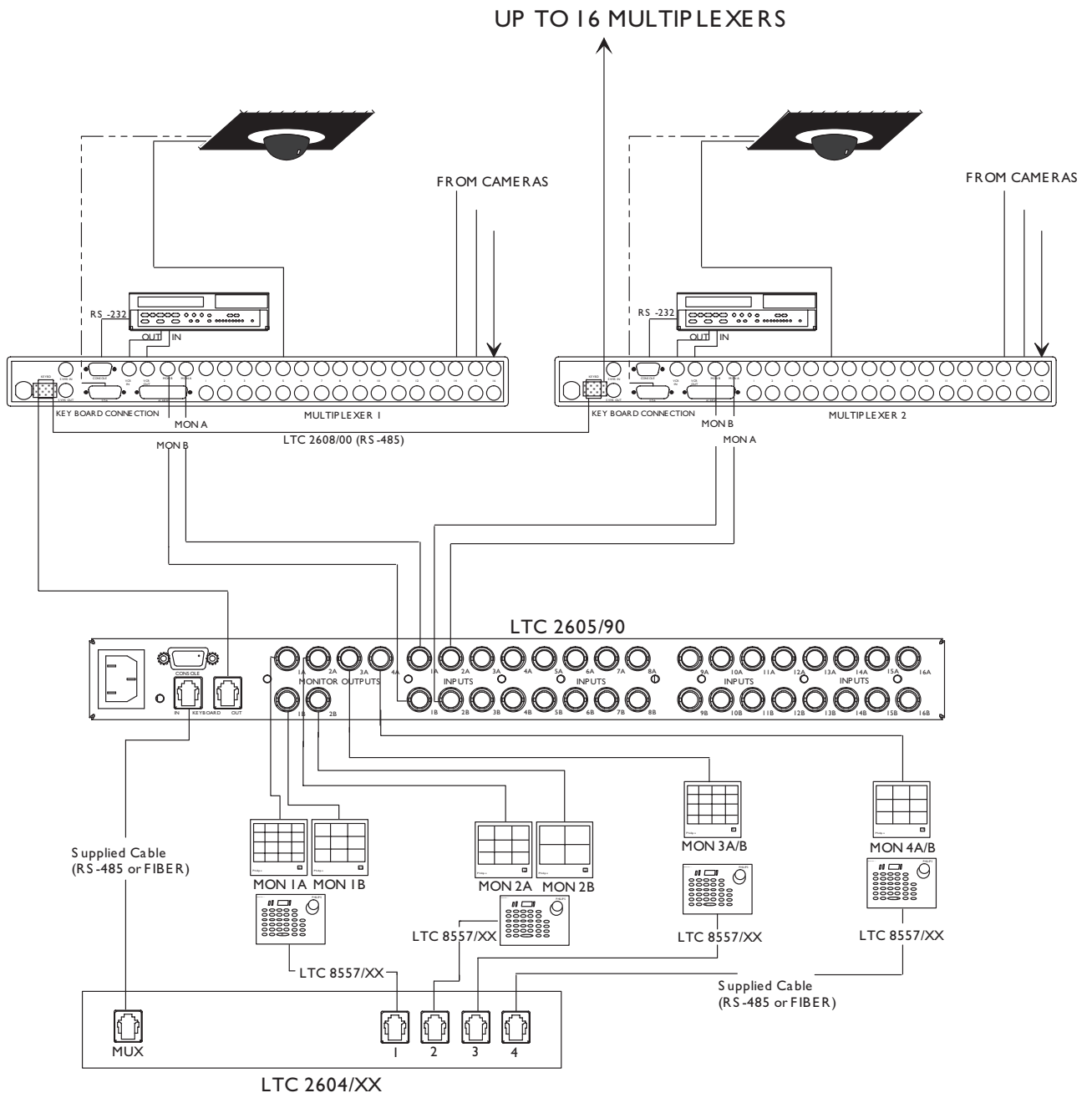
The **System4** Video Manager accepts monitor A and monitor B outputs from each multiplexer. When using a single keyboard with the Video Manager, the system intelligently routes the video output from any one of the 16 **System4** multiplexers to the first set of monitor outputs 1A and 1B, respectively. Likewise, when using two keyboards (port 1 and 2 of the keyboard port expander), the system intelligently routes the video outputs from any one of the 16 **System4** multiplexers to the second set of monitor outputs 2A and 2B, respectively.

When using three or four keyboards with the Video Manager and Keyboard Port Expander, the system automatically routes monitor A or B from any one of the 16 **System4** multiplexers to the dedicated monitor of those keyboards (either keyboard 3 or keyboard 4).

UP TO 16 MULTIPLEXERS



Typical Installation



Typical Installation - Fully Loaded

SPECIFICATIONS

Electrical

Model No.	Voltage Range ¹	Power W
LTC 2605/90	108 to 253 50/60 Hz	10

1. Unit contains a switching power supply.

Synchronization: Accepts PAL, CCIR, NTSC, and EIA RS-170.

Connectors:

Video Inputs and Monitor Outputs: 32 BNC.
Monitor Connections: 6 BNC.

External Accessory Interfaces:

Console: Not Used.
Keyboard: 2 RJ-11.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal.

Dimensions:

440 W x 305 D x 44 H mm (17.3 x 12 x 1.73 in).

Weight: 4 kg (8.8 lb).

Environmental

Temperature:

Operating: +4 °C to +55 °C (+40 °F to +131 °F).
Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Humidity: 0% to 95% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Accessories

Rack Mount (Integral): Brackets for mounting one unit in an EIA 19-inch rack included. One standard rack unit high.



System4[®] Server

- Digital Interface for the System4 Multiplexers
- Digital Duplex Operation with 16- or 32-camera Multiplexed Viewing
- Independent Camera Selections for Recording Rate and Resolution
- Video Authentication
- Long Term Digital Recording
- Network Viewing of Live or Recorded Images and PTZ Control (Software Included)
- Advanced Image Search
- Automatic Bandwidth Management



The **System4** Server provides a powerful, affordable, high-performance digital surveillance solution offering video streaming and control over LAN, WAN, or the Internet.

This system enables you to view recorded images without interrupting recording as well as remotely manage your system over a network connection, including remote control of pan/tilt and zoom features, using a PC or optional desktop keyboard.

Local live viewing of video is via the **System4** Multiplexer's Monitor A and Monitor B video outputs (BNC and Y/C video connectors). The **System4** Server allows full or multiscreen live viewing of cameras 1 to 16 on Monitors A and B on the **System4** multiplexer (16 channels) and full or multiscreen live viewing of cameras 17 to 32 on Monitors A and B on the second **System4** multiplexer.

Digital recording can be activated manually, by timer, by alarm input, or by internal motion detection. There are 3 recording modes: free (continuous)

recording, which records all video all the time; motion recording, which only records when motion is detected on a specified channel; and alarm recording, which records upon the trigger of an alarm. Each camera can be set up with activity zones for motion recording.

With the **System4** Server, recording frame rates and resolution can be selected globally for the entire system or individually for each camera. Recording rates can be set from 1 image every 10 seconds to real time recording.

Images can be retrieved using the advanced search features by time, date, text title, camera number, alarm, or pixel change (via the SmartSearch capability).

Other advanced features of the **System4** Server include three password protected user access levels, selectable or automatic bandwidth management, and Advanced Intelligence Encryption (AIE) to ensure the video has not been altered.

SPECIFICATIONS

Electrical

Video:

Display Memory: 720 H x 484 V for NTSC, 720 H x 596 V for PAL.

Video Input Level: 0.5 Vp-p to 2.0 Vp-p composite video signal.

Compression: WAVELET.

SVGA: One (1) DB 15.

Recording Speed:

Selectable from 0.1 IPS to real time recording.
 Continous recording at 16 IPS, at medium resolution = one week recording for 150 GB version.
 7–60 days of normal recording capacity in activity/alarm detection mode.

Alarm Handling:

Inputs:

Sixteen (16) fixed programmable NC or NO.

Thirty-two (32) fixed programmable NC or NO.

Outputs: Two (2) form C relays, each NC and NO, rated 1.0 A at 40 VAC/DC.

SDA: DB15 for 5 biphase outputs for each mux.

Environmental

Temperature: 10°C to 32°C (50°F to 89.6°F), operating.

Humidity: 0% to 90% relative, noncondensing.

All **System4** Server models include an LTC 2682/90 **System4** Multiplexer, black PC keyboard and mouse, network interface, documentation, and setup guide.

	MODEL NO.					
	S4SVR	S4SVRLP	S4SVRSLP	S4SVREP	S4SVR2	S4SVR2EP
Electrical						
Inputs with Automatic Looping, BNC	16	16	16	16	32	32
Analog Monitor Outputs	2	2	2	2	4	4
Hard Drive Size (GB)	150	240	320	640	320	640
CD-RW	N/A	Included	Included	Included	Included	Included
Alarm Inputs	16	16	16	16	32	32
Alarm Outputs	2	2	2	2	4	4
Network Interface Card (Ethernet)	Included, RJ-45	Included, RJ-45	Included, RJ-45	Included, RJ-45	Included, RJ-45	Included, RJ-45
Remote Viewing Software	Included	Included	Included	Included	Included	Included
Rated Voltage	120/230 VAC, 50/60 Hz	120/230 VAC 50/60 Hz	120/230 VAC 50/60 Hz	120/230 VAC 50/60 Hz	120/230 VAC 50/60 Hz	120/230 VAC 50/60 Hz
Power at Rated Voltage	200 W	200 W	250 W	250 W	250 W	250 W
NTSC, EIA / PAL, CCIR	Selectable	Selectable	Selectable	Selectable	Selectable	Selectable
Mechanical						
Dimensions W x D x H (mm)	483 x 457 x 178	483 x 457 x 178	483 x 457 x 178	483 x 457 x 356	483 x 457 x 178	483 x 457 x 356
Dimensions W x D x H (inch)	19 x 18 x 7	19 x 18 x 7	19 x 18 x 7	19 x 18 x 14	19 x 18 x 7	19 x 18 x 14
Weight	37 lbs	38 lbs	40 lbs	82 lbs	41 lbs	83 lbs

* Add one U high (1.75-inch) for 16-channel and two U high (3.5-inch) for 32-channel.
 Each includes SVGA output via DB15.



Controls

IntuiKey Series Digital Keyboard

- **Control Multiple Products with One Keyboard**
- **“Soft Keys” Allow for User-friendly Menus**
- **Backlit Keys & Easy-to-read Displays**
- **Simplified System Programming with an Intuitive Interface**
- **Multilingual Support**
- **Plug & Play with Existing Philips Switchers & Multiplexers**
- **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 joystick and splash resistant design. An optional rack mount kit allows the IntuiKey to be mounted in a standard EIA 19-inch rack.

Power is provided by the main **Allegiant** or **System4**® Multiplexer CPU, or, when used at remote distances, by an optional auxiliary power supply (sold separately).

The keyboard is connected to the system using a supplied 3 m (10 ft) cable(s). Simply attach the keyboard, and you are up and running.

The IntuiKey digital keyboard comes in two models (KBD-Universal & KBD-Mux). The Universal version can be connected to an **Allegiant** switch

and the **System4** multiplexers at the same time, eliminating the need for multiple keyboards. The Mux version is used only with the **System4** Multiplexer.

The “soft” keys allow for a menu-driven system, which even the most inexperienced users can understand. This makes it easy for new operators to program and control even the largest systems without the need to memorize all of the system commands typically required.

The IntuiKey features a user-friendly menu tree approach for programming all advanced system and camera settings and is selectable between English, Spanish, French, German, Dutch, and Italian. Additional translations are possible through the use of the optional KBD-SFTCFG configuration software sold separately.

SPECIFICATIONS

Electrical

Operating Voltage: 12–15 VDC (supplied by any one or combination of **Allegiant**, **System4** Multiplexer, and/or optional power supply).

Power: 5 Watts Nominal

Signal:

Allegiant: 2 wire RS-485, 9600 Baud, 8 bits, no parity, 1 stop bit.

Mux/DVR: 2 wire RS-485, 19,200 Baud, 8 bits, no parity, 1 stop bit.

Console: RS-232 RTS/CTS handshaking, 19,200 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).

Connectors:

Allegiant: RJ11 data/power.

MUX/DVR: RJ11 data/power.

Aux Power (Optional): 12 VAC, bayonet plug.

Console: Male null modem, 9-pin D-sub, data only.

Compatibility

Allegiant: Backwards compatible with all systems utilizing variable speed protocol (CPU Firmware 5.3 and higher, released 6/94).

System4: Backwards compatible with all **System4** Multiplexers.

Ordering Information

Model No.	Description
KBD-Universal	IntuiKey Digital Keyboard for use with all Allegiant and System4 Multiplexers
KBD-Mux	IntuiKey Digital Keyboard for use with System4 Multiplexers only.

Accessories (Optional):

TC120PS: 120 V power supply.

TC220PS: 230 V power supply.

LTC 8558/00: 30 m (100 ft) keyboard cable.

LTC 8557/50: Keyboard Extension Kit – up to 1.5 km (5000 ft) – includes TC230PS.

LTC 8557/60: Keyboard Extension Kit – up to 1.5 km (5000 ft) – includes TC120PS.

KBD-RACK: EIA 19-inch rack mount kit designed to provide vertical, horizontal, or 45° inclined mounting.

Finish: Flat Black.

Dimensions:

Width: (1) 19-inch EIA standard rack unit.

Height: 5 EIA standard rack units 438 W x 220 H mm (19 x 8.75 in).

Weight: 1 kg (2 lbs).

KBD-SFTCFG: PC-based software package used for customizing keyboard's text displays and programming of softkeys to activate **Allegiant** command script macros.

Requirements:

Pentium® class PC.

3 1/2-inch floppy drive.

1 serial (com) port.

Windows NT® 4.0 (service pack 6 or greater).

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Windows NT® is a registered trademark of Microsoft Corporation.



LTC 5135 Series Controller/Followers

- Follows Camera Selected By Philips Switchers
- Communicates With Allegiant® Receiver/Drivers to Control Pan/Tilt and Lens Functions
- Compatible With AutoDome® Systems
- Provides Crosspoint Information to Allegiant® Accessories
- Four Auxiliaries and Two Pre-Positions
- Optional Rack Mounting



The LTC 5135 Series are controller/followers used with the 4-, 8-, 12-, and 24-position sequential switchers. They are used with Allegiant® series receiver/drivers units or AutoDome® systems to control the specific camera selected by the video switcher, i.e., it "follows" the video switching of the sequential switcher.

The LTC 5135 Series has the capability of two manual pre-positions; pre-position or shot-1 can be called up automatically with alarm call-up if desired when used with the appropriate switcher. These units can be used to control up to 24 Allegiant series receiver/driver units or AutoDome systems using shielded twisted pair cable in either a "star" or "daisy chain" configuration. These controller/followers have the capability of activating the "Dither" feature in the Allegiant system receiver/drivers. They can also provide crosspoint information to the receiver/drivers and TC8770 Series switcher/followers. This crosspoint information can be used to activate certain functions in other compatible devices.

SPECIFICATIONS

Electrical

Model No. ¹	Rated Motor Voltage And Voltage Range
LTC 5135/60	120 VAC, 50/60 Hz, 105 to 130
LTC 5135/50	230 VAC, 50/60 Hz, 198 to 264

1. Power at rated voltage is 6 W.

Outputs: 25. Signal cable length 1500 m (5000 ft) maximum over shielded twisted pair cable (Belden 8760 or equivalent).

Controls:

ZOOM: Lens in/out momentary rocker switch.
 FOCUS: Lens near/far momentary rocker switch.
 IRIS: Lens open/close momentary rocker switch.
 SHOT 1-2: Momentary rocker switch.
 SET/SEL-AUX: Select and Auxiliary on/off momentary rocker switch.
 Pan/Tilt: Joystick.

Indicators:

Red LEDs: Auxiliary select (4).
 Green LEDs: Auxiliary on/off.

Connectors:

Connectors: Seven 15-pin.
 ALARM INPUT (1).
 DATA INPUT (1).
 CODE OUTPUT (5).
 Cables: Six 60 cm (24 in) interconnecting cables with connectors.
 Power Cord: Three-wire with grounded plug; 1.8 m (6 ft).
 LTC 5135/60: NEMA 5-15P/C22.2, No. 42 plug.
 LTC 5135/50: CEE 7/7 plug.

Mechanical

Construction: Steel chassis with sheet metal cover and plastic bezel.

Finish: Charcoal.

Dimensions: 223 W x 280 D x 40 H mm (8.77 in x 11 x 1.59 in).

Weight: 2 kg (4.4 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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

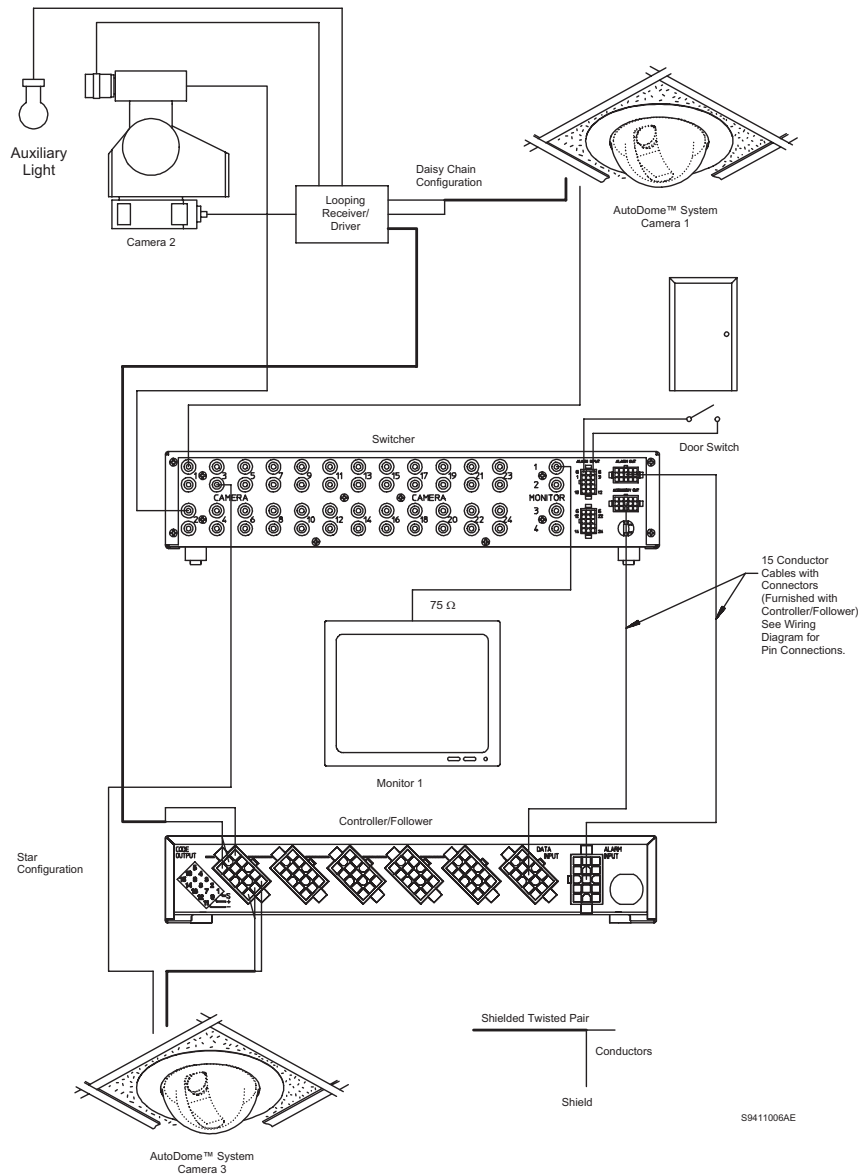
Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



Typical Installation Using LTC 5124 Series Switcher and Allegiant Series Receiver/Driver

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PHILIPS

Let's make things better.

LTC 5136 Series AutoDome® Controllers

- **Controls a Single AutoDome® Camera System or Standard Allegiant® Receiver/Drivers**
- **Operates up to 8 Controllable Cameras In a Daisy-Chain Configuration**
- **Controls All AutoDome® System Features Including Auto Playback**
- **Small, Compact Design**
- **Ergonomic Layout For Single-Handed Control**



The LTC 5136 Series AutoDome® Controllers provide complete control of the AutoDome system's advanced features including variable speed, auto tour, 99 presets, and full pan/tilt/zoom operation - all from a single one-handed control unit.

Compact in size and user-friendly, the LTC 5136 Series Controllers provide control of a single AutoDome Camera system, or up to eight AutoDome units when used in a daisy-chain configuration. The LTC 5136 Series are also compatible with the standard

Allegiant® LTC 8560 Series Receiver/Drivers, using Allegiant biphasic control code.

The LTC 5136 Series include a 22-key control unit with integral vector-solving pan/tilt/zoom joystick, interface box, and appropriate power supply.

SPECIFICATIONS

System

Includes Control Unit and Interface Box with applicable power supply.

Model No.	Rated Voltage	Voltage Range	Power at Rated Voltage
LTC 5136/50	230 VAC, 50/60 Hz	195.5 to 253	6 W
LTC 5136/60	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).

Operating Temperature: 0 °C to +40 °C (+32 °F to +104 °F).

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: 220 W x 51 D x 6.11 H mm (8.67 x 2.00 x 6.11 in).

Weight: 0.55 kg (1.2 lb).

Interface Box

Indicator: Green data LED.

Connectors:

Biphase Output: 4-pin screw terminal for code output.

Control Unit Connection: RJ-11.

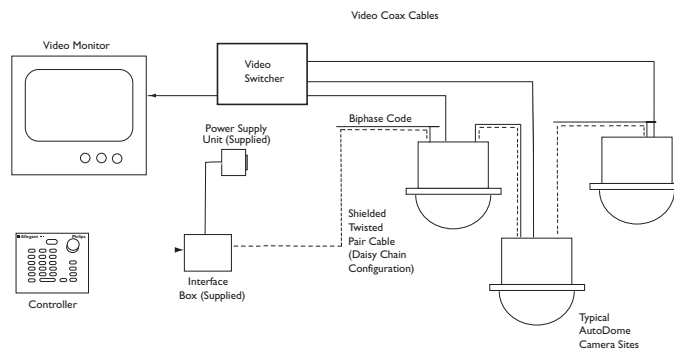
Control Unit to Interface Box Cable: 3.6 m (12 ft) with RJ-11 connector.

Power Connector: Bayonet type.

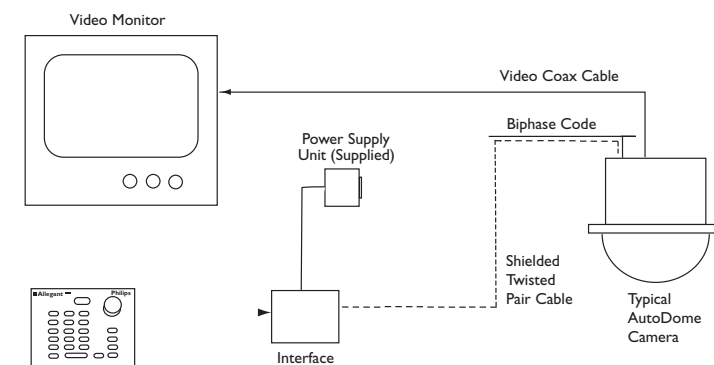
Finish: Charcoal.

Dimensions: 82 W x 57 D x 25 H mm (3.25 x 2.25 x 1 in).

Weight: 0.17 kg (0.4 lb).



Typical Installation



Typical Multiple Camera Sites Using Daisy Chain Biphase Control Code Wiring Configuration

9498 961 01613 98-27

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PHILIPS

Let's make things better.

LTC 5138 Series Virtual Keyboards

- n **PC Control of AutoDome® Cameras or Allegiant® Receiver/Drivers**
- n **Excellent Installation Tool - No Need to Carry Monitors to Camera Site**
- n **Controls All AutoDome® System Features**
- n **Simple Easy-To-Use Menus**
- n **Windows® 95, 98, and NT Compatible**



The LTC 5138 Series Virtual Keyboards let you control AutoDome® cameras or receiver/drivers from your PC. Your PC can be used in place of your keyboard to provide complete control of AutoDome systems and Allegiant® Receiver/Drivers allowing full access to advanced features including variable speed, auto tour, presets, and full pan/tilt/zoom operation.

Camera functions can be controlled by new easy-to-read pull down menus or by the traditional auxiliary commands. Its user-friendly graphics lets you add titles to pre-positions and call them up by name.

When used with a recommended video capture card, the Virtual Keyboard lets you view and control your cameras from a desktop or laptop PC. It will also automatically enable InWinPTZ.

The Virtual Keyboard can transform your laptop PC into a time and labor saving installation and diagnostic tool.

The Virtual Keyboard software is Windows® 95, 98, and NT compatible. Installation is easy; simply connect to your PC COM PORT and the AutoDome camera or receiver/driver and you're ready to go. The LTC 5138 Series Virtual Keyboards are available as complete packages or as software only.

SPECIFICATIONS

Models Available

LTC 5138/00 Virtual Keyboard Software Package:
Software package only.

LTC 5138 Series Virtual Keyboard Kits:
Includes software, interface box, power supply, and cables.
LTC 5138/50: 230 VAC, 50 Hz power supply.
LTC 5138/60: 120 VAC, 60 Hz power supply.

Format: Software supplied on two 3.5-inch floppy disks.

Compatibility: Compatible with AutoDome systems and receiver/drivers purchased in 1996 or later.

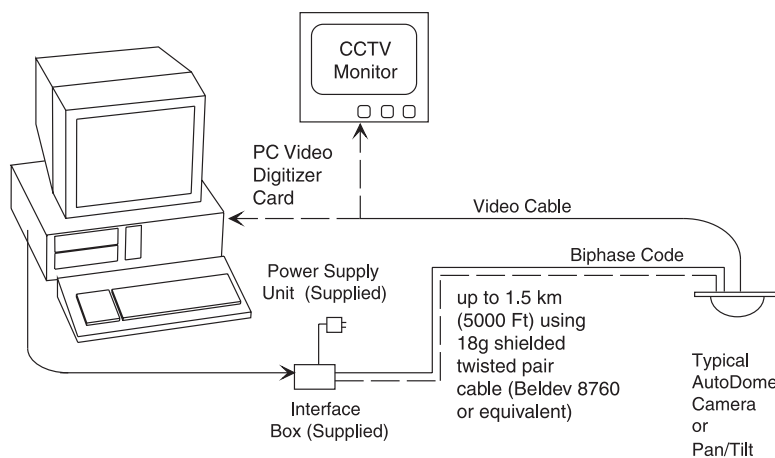
Minimum PC Requirements

Pentium® CPU and SVGA Monitor.
1 Mbyte free disk space.
3.5-inch High Density Floppy Disk Drive.
Window NT version 4.0 (Service Pack 3 or later) or
Windows 95 or 98 Operating System.
Ports Required (Minimum): 1 Serial.
Pointing Device: Mouse, Trackball, or Touch Screen.

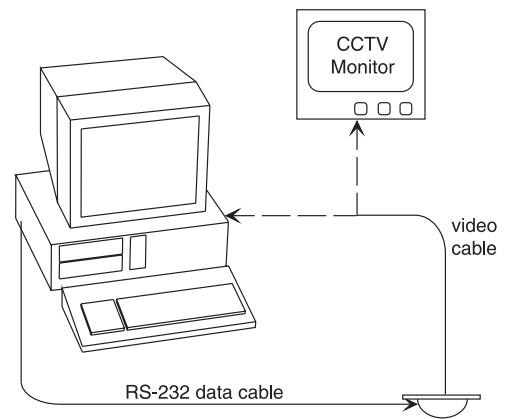
Note: For a live video display on the PC monitor, a Windows compatible video capture card must be used. The "Flashpoint 128 Lite" (part 3085) supplied by Integral Technologies, Inc. may be used. For availability and your nearest distributor, contact Integral Technologies, Inc at 317-845-9242 or www.integraltech.com.

Windows® is a registered trademark of Microsoft Corporation. Pentium is a registered trademark of Intel Corp.

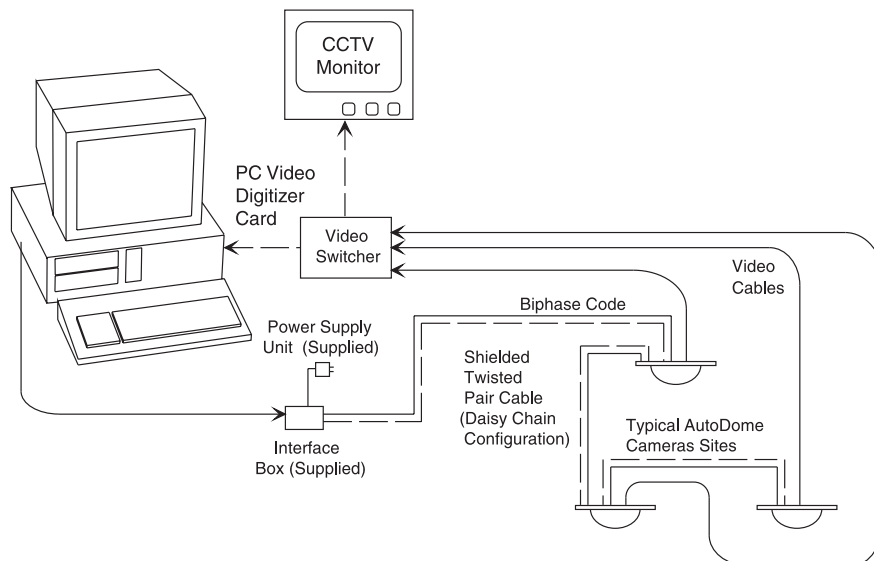
Typical Applications



Control of a Single AutoDome or Receiver/Driver Unit



Control of AutoDome or Receiver/Driver Unit Via Direct Connection



Control of Multiple AutoDome Units and/or Receiver/Driver Units

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PHILIPS

Let's make things better.

Video Switchers

LTC 512I Series, LTC 514I Series 2- and 4-Position Economical Sequential Switchers

- **Automatic Sequencing & Adjustable Dwell**
- **Vertical Interval Switching**
- **Instant Homing and Automatic Skip**
- **LED Indicators**
- **Optional Rack Mounting**
- **Color Compatible**



The LTC 512I Series and LTC 514I Series are automatic sequential video switchers. The LTC 512I Series have 2-camera inputs and 1-monitor output; the LTC 514I Series have 4-camera inputs and 1-monitor output. The LTC 512I/60 and LTC 514I/60 operate from 120 VAC, 50/60 Hz; the LTC 512I/50 and LTC 514I/50 operate from 220-240 VAC, 50/60 Hz. These switchers feature automatic sequencing, adjustable dwell time,

vertical interval switching, instant homing, camera indicators, and automatic skip. These units will 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 514I 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 desk-top units, these switchers can also be mounted with a rack-mount kit.

SPECIFICATIONS

Electrical

Model No.	Rated Motor Voltage And 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

Synchronization:

LTC 5121/60, LTC 5141/60: 525 line, 60 Hz. EIA, NTSC system compatible.

LTC 5121/50, LTC 5141/50: 625 line, 50 Hz. CCIR, PAL system compatible.

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 V_{p-p} to 2 V_{p-p}. 75 ohm.

LTC 5121 Series: 2; BNC.

LTC 5141 Series: 4; BNC.

Video Outputs: 1; BNC, 75 ohm.

Mechanical

Finish: Charcoal.

Dimensions:

Height: 1 standard rack unit; width: 1/2 standard rack unit. 223 W x 280 D x 40 H mm (8.77 x 11.0 x 1.59 in).

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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Humidity: 10% to 80% relative, noncondensing.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

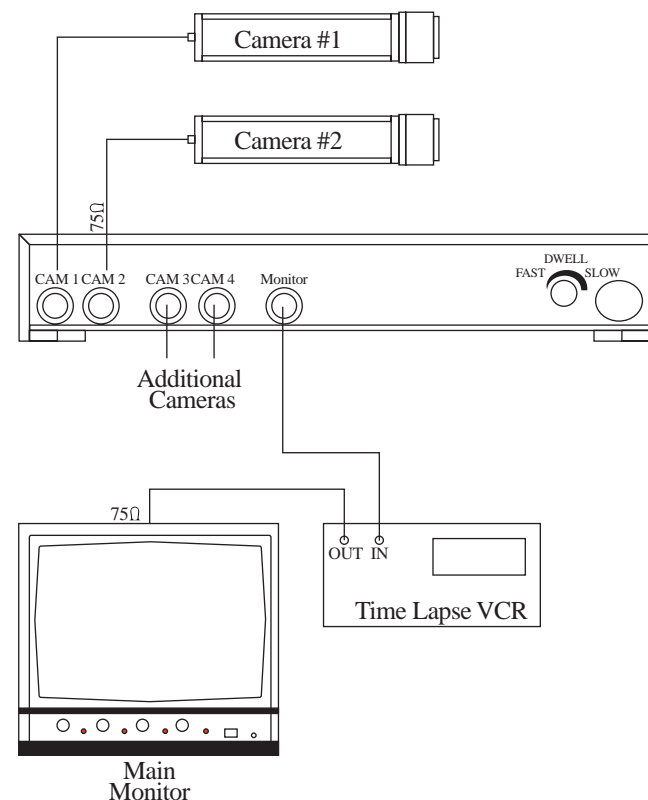
Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



Typical Installation



PHILIPS

Let's make things better.

LTC 5104 Series, LTC 5108 Series 4- and 8-Position Premium Sequential Switchers

- **Microprocessor-Based**
- **On-Screen Status Line & Setup Menus**
- **16 Character Camera Titles**
- **Programmable Dwell Times & 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.

The auto-terminating BNC connectors eliminate the need for the user to select a 75-ohm terminated video input or a high impedance (unterminated 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 Titler, 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 (5) operation status notations: S -- skipped camera displayed, RUN -- sequence running, MA -- monitor armed, ALARM -- alarm closure call-up, and 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 Titler. 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 callup 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.

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

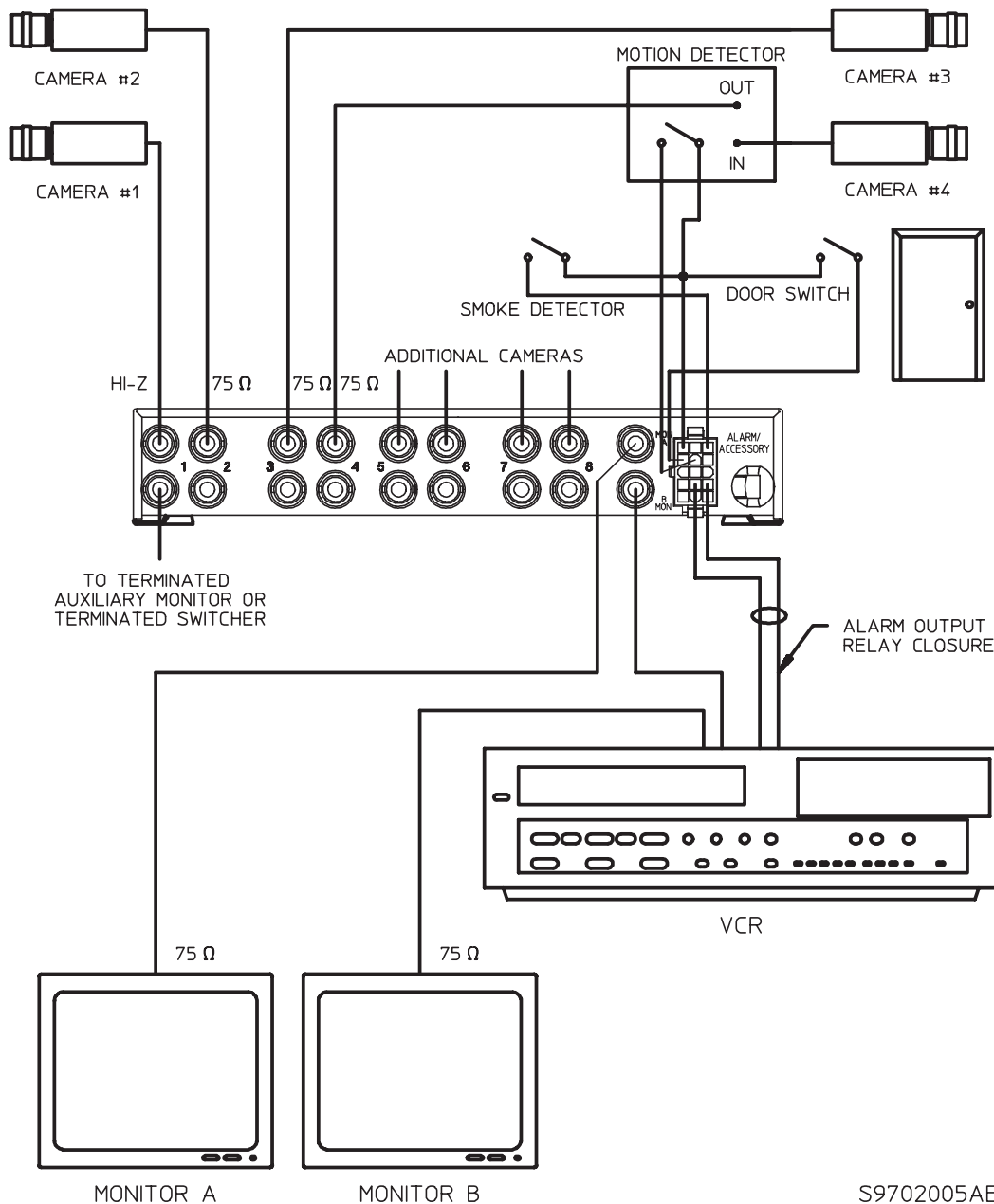
- 1. Blank screen.
- 2. "HOLD" condition.
- 3. "ALARM" condition.

These switchers are compatible with the LTC 5135 Series Controller/Followers allowing control of pan and tilt, zoom and focus as well as auxiliary relays when used with Allegiant® receiver/drivers.

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

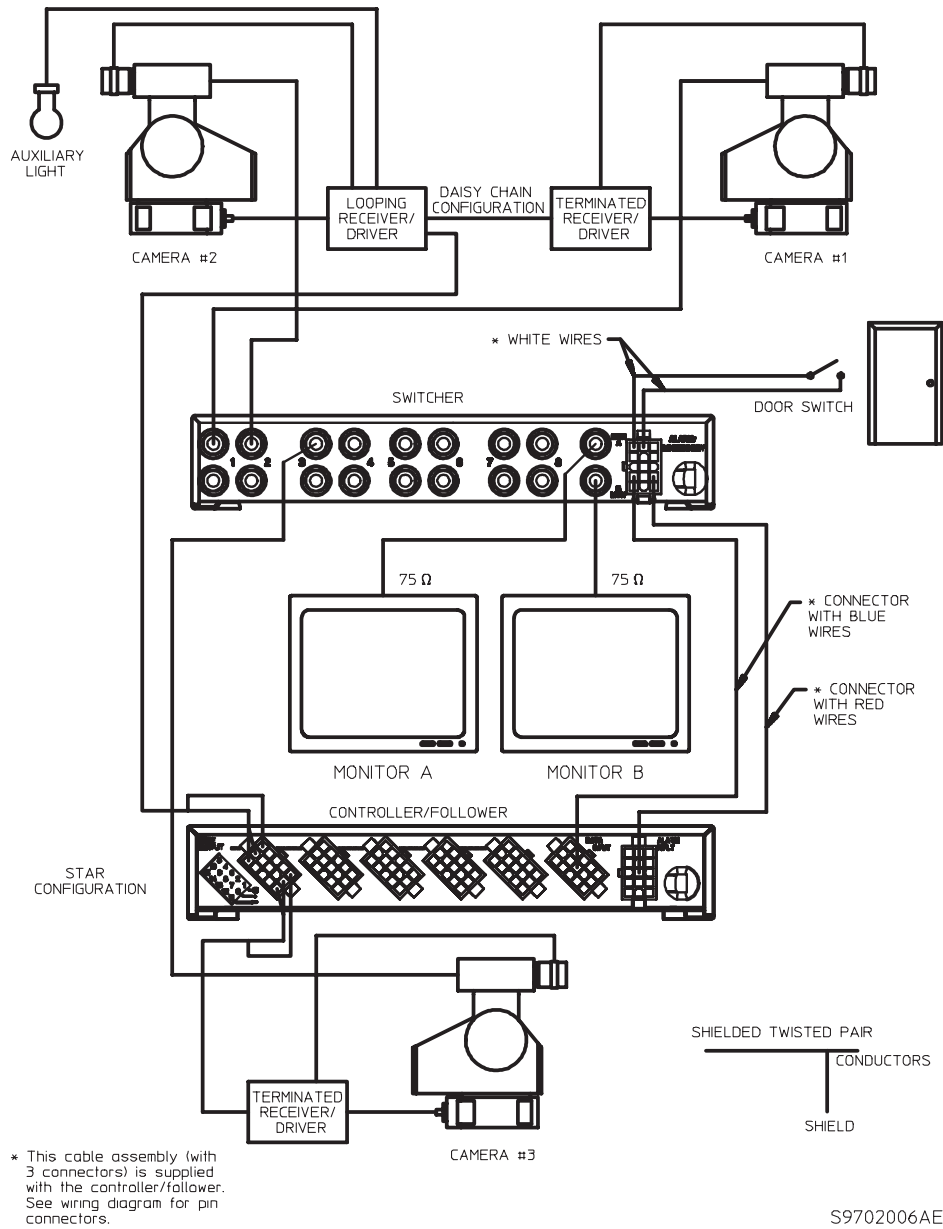
arm the monitor (Monitor B for the LTC 5108 Series); and a run button to initiate auto-sequencing or to select the next camera in the sequence.

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.



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Typical Installation Using LTC 5108 Series Switcher



Typical Installation Using LTC 5108 Series Switcher With a LTC 5135 Series Controller/Follower

SPECIFICATIONS

Electrical

Model No.	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
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

Models shown are for English on-screen menus model.

Switching Time: Less than 1 microsecond.

Dwell Time: Each camera individually or globally set from 1 to 64 seconds.

Alarm Dwell Time: 1 s to 64 s.

Alarm Capture Time: 1 s to 63 s.

Video Gain: Unity.

Bandwidth (-3 dB point): 15 MHz minimum.

Differential Gain: 1% typical.

Differential Phase: 1° typical.

Video Crosstalk (Input to input isolation): -50 dB typical at 3.58 MHz.

Video Feedthrough (Input to output isolation): -65 dB typical at 3.58 MHz.

Memory Back-Up: Nonvolatile memory back-up.

Controls:

Front Panel: Momentary Push Button Controls: DWELL, SKIP/clr, ALARM, RUN/next, each video input.

Internal: Video input has automatic termination.

Indicators: ALARM, RUN/next, each video input.

Titling: 16-character camera titling.

Connectors:

Video Inputs:

0.5 Vp-p to 2 Vp-p.

LTC 5104 Series: 4 inputs; 8 BNC connectors.

LTC 5108 Series: 8 inputs; 16 BNC connectors.

Video Outputs:

LTC 5104 Series: 1; BNC (75 ohm).

LTC 5108 Series: 2; BNC (75 ohm).

Alarm Inputs:

LTC 5104 Series: 4.¹

LTC 5108 Series: 8.¹

Alarm Outputs:

Isolated contact closures 1 A, 40 V AC/DC.

Accessory Output:¹

1. One 15-pin alarm/accessory connector.

Mechanical

Cable (Included): One cable with 15-pin connector.

Finish: Charcoal.

Dimensions: 223 W x 280 D x 40 H mm (8.77 x 11.0 x 1.59 in).

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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Options

LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 9-inch rack.

Height: 1 standard rack unit.

Width: 1 standard rack unit.



Matrix Switcher/Control Systems

LTC 8100, LTC 8200, LTC 8300 Series Allegiant® Microprocessor-Based Video Switcher/Control Systems

- n **Models From 8 Camera by 2 Monitor to 32 Camera by 6 Monitor**
- n **Compact Single Bay Construction**
- n **Integral Alarm Interface and Signal Distribution**
- n **Powerful Alarm Handling Features**
- n **SalvoSwitching® and SatelliteSwitch® Capability**
- n **PC Based Software Package Available**



LTC 8300 Series Shown

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 Philips Graphical User Interface (GUI) Allegiant Server, 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.

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 VersAlarm™ -- a new dimension in alarm handling. VersAlarm has 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 standard IBM* compatible 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 titles, operator names, 64 timed events, change system parameters, program camera sequences, install lockouts, and access the advanced VersAlarm 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 Philips 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 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 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.

These systems provide powerful macro capabilities. The macros can be activated using LTC 8554 Series and LTC 8555 Series type 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 system or LTC 5112 Series and LTC 5124 Series programmable sequential switcher can serve as a 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.

* IBM is a registered trademark of IBM Corp.

SPECIFICATIONS

System

Capacities

Model No.	LTC 8100 Series	LTC 8200 Series	LTC 8300 Series
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
Biphase 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 V_{p-p} to 2 V_{p-p} (Composite Negative Sync).

Gain: Unity ± 2% (75 ohm terminated).

Pulse/Bar Ratio:¹ 94% to 106%.

2T Pulse K Factor:¹ 2.5% maximum.

Bar Amplitude:¹ 96% to 104%.

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): 25 MHz.

Frequency Response: ± 1.0 dB to 12 MHz.

Signal-to-Noise:¹ 60 dB at 3.58 MHz unweighted minimum.

Crosstalk (Typical at 3.58 MHz):
Adjacent Channel: -55 dB.

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: 0V.

¹. Meets EIA/TIA - 250C Medium Haul Standard.

Environmental

Temperature:
Operating: +4 °C to +55 °C (+40 °F to +131 °F).
Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Altitude: 4500 m (15,000 ft).

Humidity: 0% to 95% relative, noncondensing.

LTC 8100, LTC 8200, LTC 8300 Series Bay

Electrical

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8100/50	230 VAC, 50/60 Hz	195.5 to 253	10 W
LTC 8100/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8200/50	230-240 VAC, 50/60 Hz	195.5 to 253	10 W
LTC 8200/60	120 VAC, 50/60 Hz	108 to 132	10 W
LTC 8300/50	230-240 VAC, 50/60 Hz	195.5 to 253	10 W
LTC 8300/60	120 VAC, 50/60 Hz	108 to 132	10 W

¹. 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 in conjunction with the LTC 8808/00 video interconnect panel (not included).

LTC 8300 Series: Two 34-pin ribbon connectors used in conjunction 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 = 1.5A at 30 VDC).

PRINTER (LTC 8300 Series only): RS-232 port for system logging printer (Default = 19,200 baud). 9-pin D-type connector.

BIPHASE OUT: Multiple ports provide receiver/driver connections when used in daisychain 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: 440 W x 305 D x 40 H mm (17.3 x 12 x 1.7 in).

LTC 8300 Series: 440 W x 305 D x 89 H 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 an EIA 19-inch rack.

LTC 8100, LTC 8200 Series: One standard rack unit high.

LTC 8300 Series: Two standard rack units high.

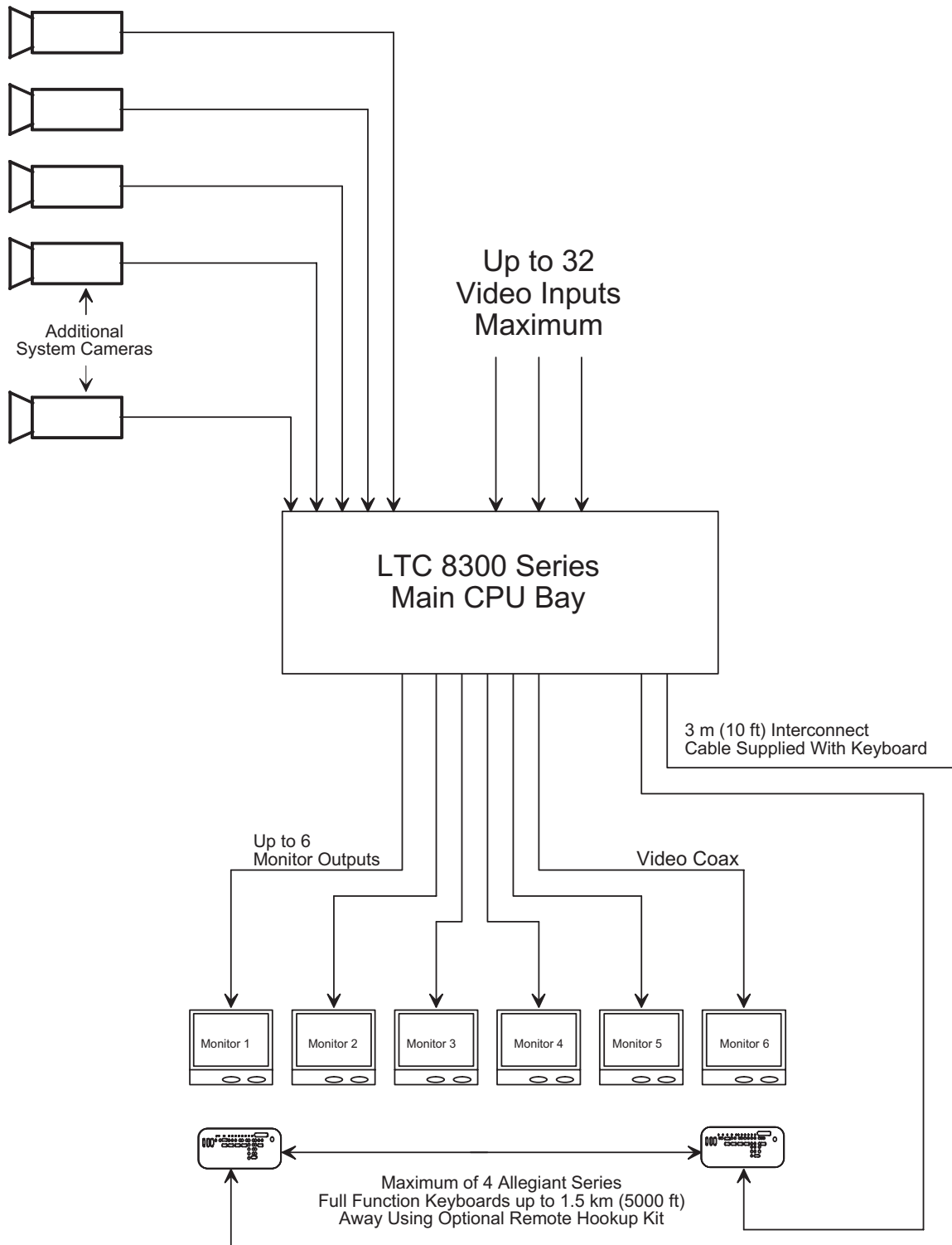
Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

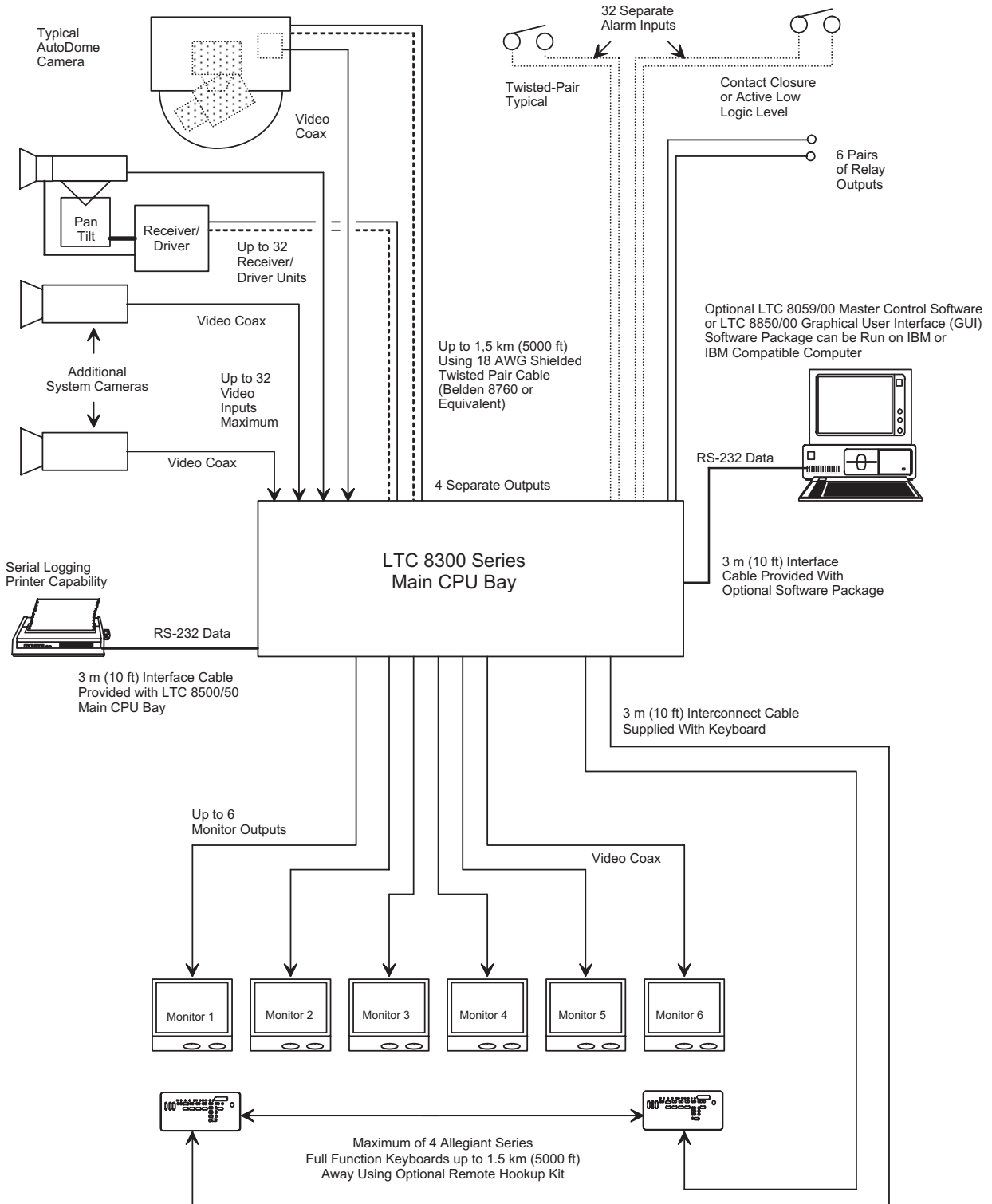
Allegiant Accessories

The Allegiant accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboards, 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. See Allegiant accessories data sheet.



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Typical LTC 8300 Series Configuration Diagram

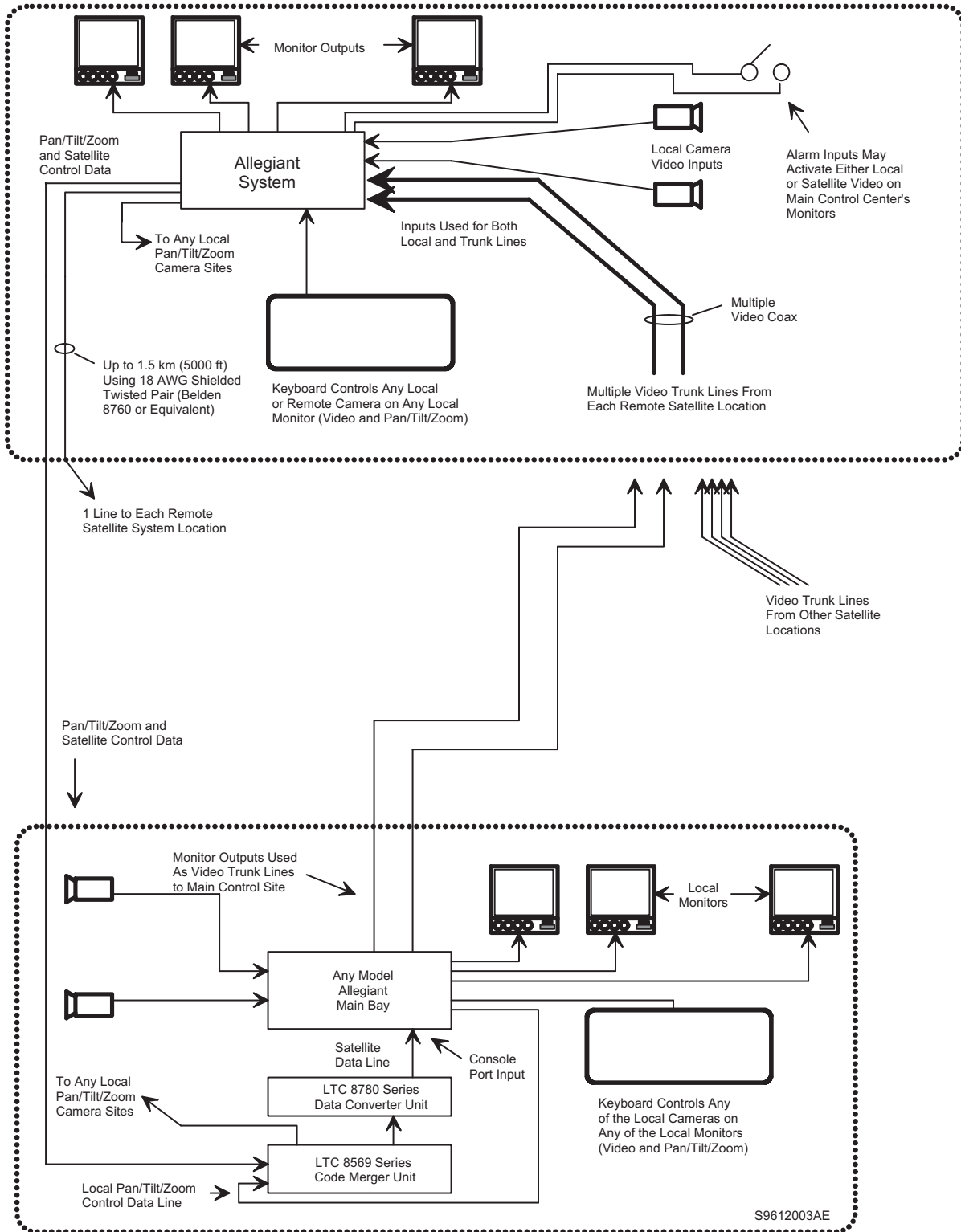


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**LTC 8300 Series Full Capacity Configuration Diagram
(32 Cameras by 6 Monitors)**

Conceptual Diagram of Allegiant Satellite Switching System

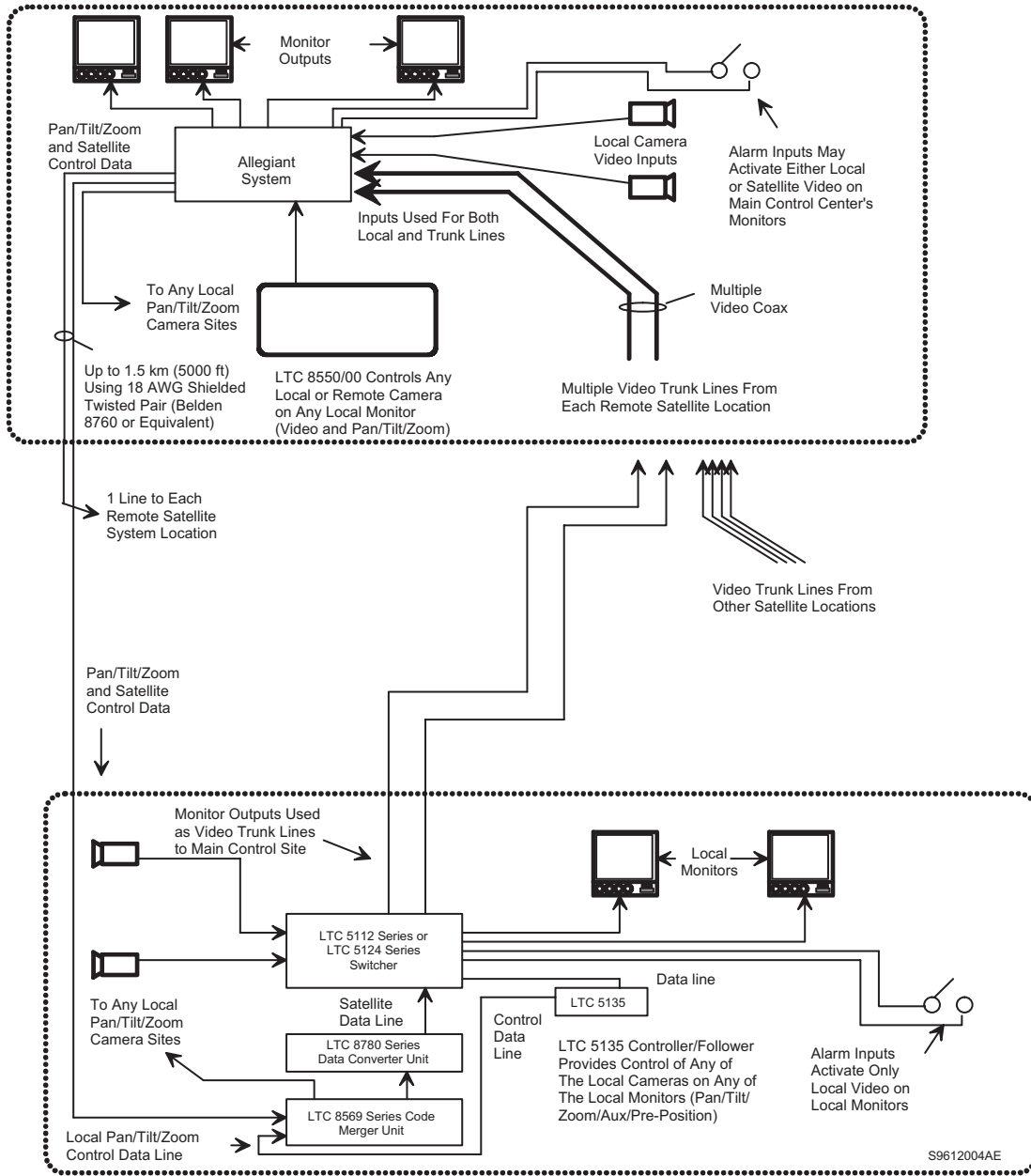
Typical Main Control Center (Allegiant Series Switcher)



Allegiant Satellite Switching System

Conceptual Diagram of Allegiant & LTC 5124 Satellite Switching System

Typical Main Control Center (Allegiant Series Switcher)



Satellite System Using LTC 5112 Series or LTC 5124 Series Switchers

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Let's make things better.

LTC 8500 Series Allegiant[®] Microprocessor-Based Video Switcher/Control Systems

- **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.

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 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.

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.

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 & display. In addition to these three modes, the PC based software packages now includes VersAlarm[™] - a

new dimension in alarm handling. VersAlarm has 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 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.

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 standard IBM* compatible PC and the LTC 8559/00 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 VersAlarm 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 Philips 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.

The LTC 8500 system provides powerful macro capabilities. The macros can be activated using LTC 8554/00 and LTC 8555/00 type system keyboards, system time event functions, alarm activations, and via special function icons in the LTC 8850/00 GUI software.

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 or LTC 5112 Series and LTC 5124 Series programmable sequential switcher 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.

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SPECIFICATIONS

LTC 8500 Series System 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 to input isolation): -70 dB typical at 3.58 MHz.

Feedthrough (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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine wave.

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50082-1.

Emission: EN50081-1 Class B.

60 Hz Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60065.

60 Hz Models: UL and cUL.

UL: UL 1409.

cUL: CSA 22.2 No.1.

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 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, hi-speed control data output (biphase) 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 (LTC 8501/00)

Size: EIA 19-inch rack:

483 W x 356 D x 178 H mm (19 x 14 x 7 in).

Weight: 8.2 kg (18.2 lb).

Construction/Finish:

Top and Bottom: Steel.

Front, Sides, and Back: Aluminum.

Finish: Charcoal.

Microprocessor Module (LTC 8511/00)

Size: 290 D x 160 H 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: 90 W x 335 D x 160 H 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 Video Input Module

Use up to eight per equipment bay.

Camera Inputs: 8.

Size: 290 D x 160 H mm (11.5 x 6.25 in).

Weight: 0.23 kg (0.5 lb).

LTC 8532/00 Video Output Module

Use up to four per equipment bay.

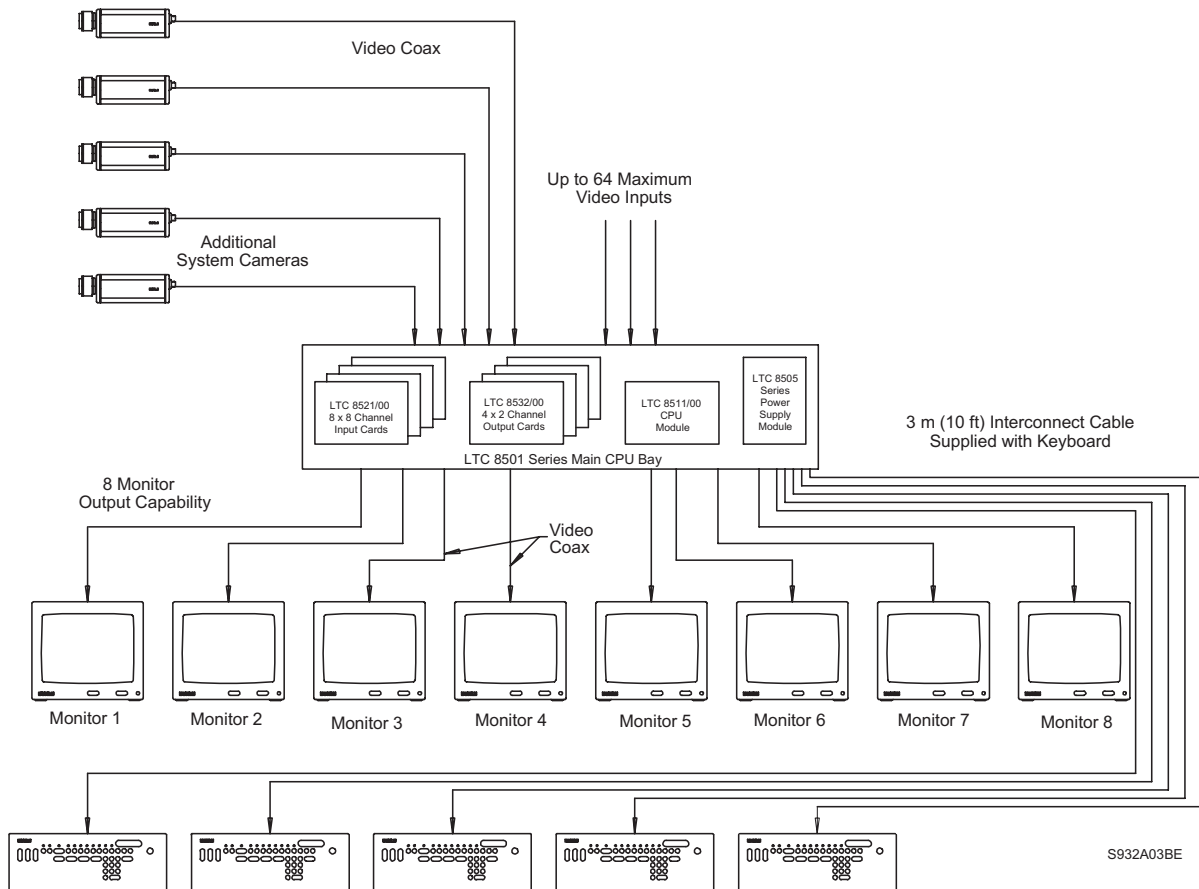
Monitor Outputs: 2.

Size: 290 D x 160 H mm (11.5 x 6.25 in).

Weight: 0.27 kg (0.6 lb).

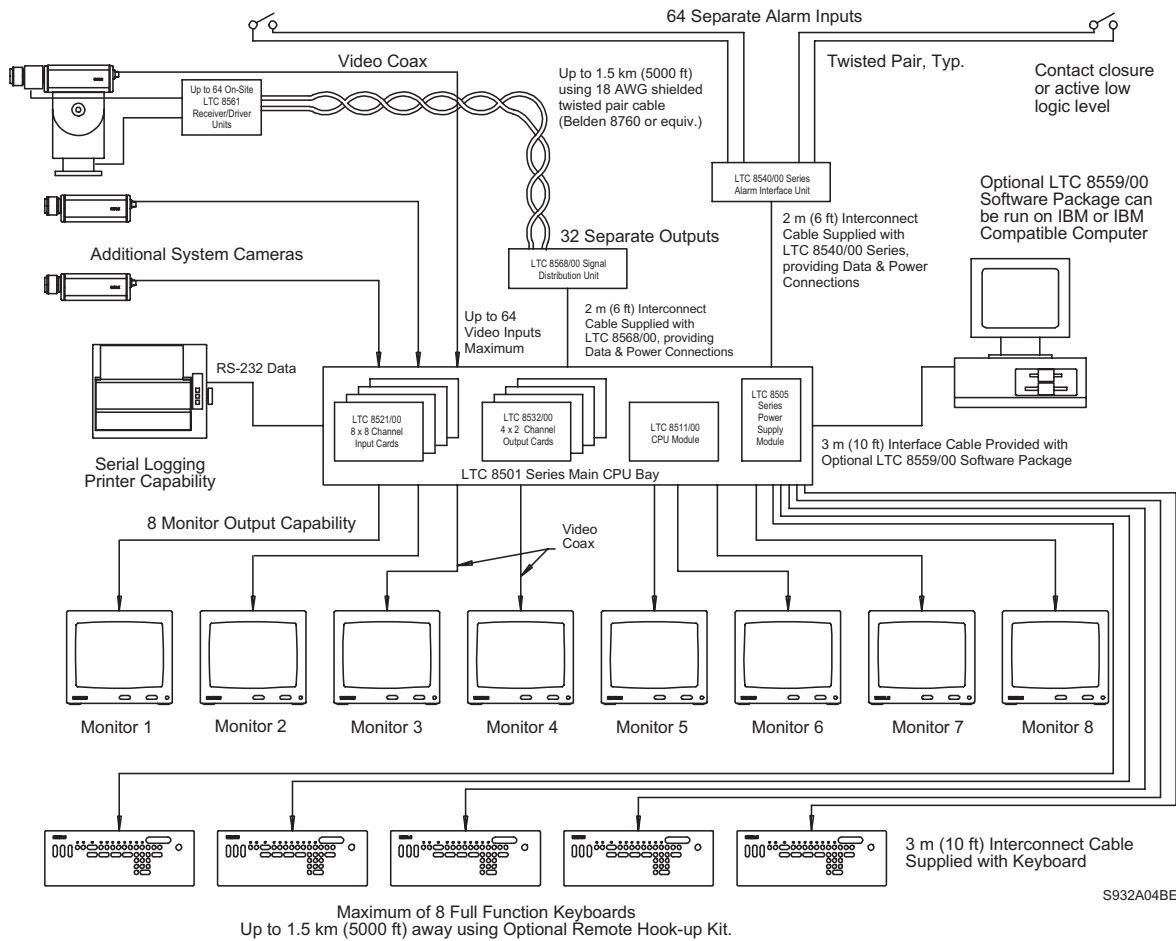
ALLEGIANT ACCESSORIES

The LTC 8500 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboards, 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 Allegiant Accessories data sheet for complete details.



Maximum of 8 Full Function Keyboards
 Up to 1.5 km (5000 ft) away using optional remote hook-up Kit

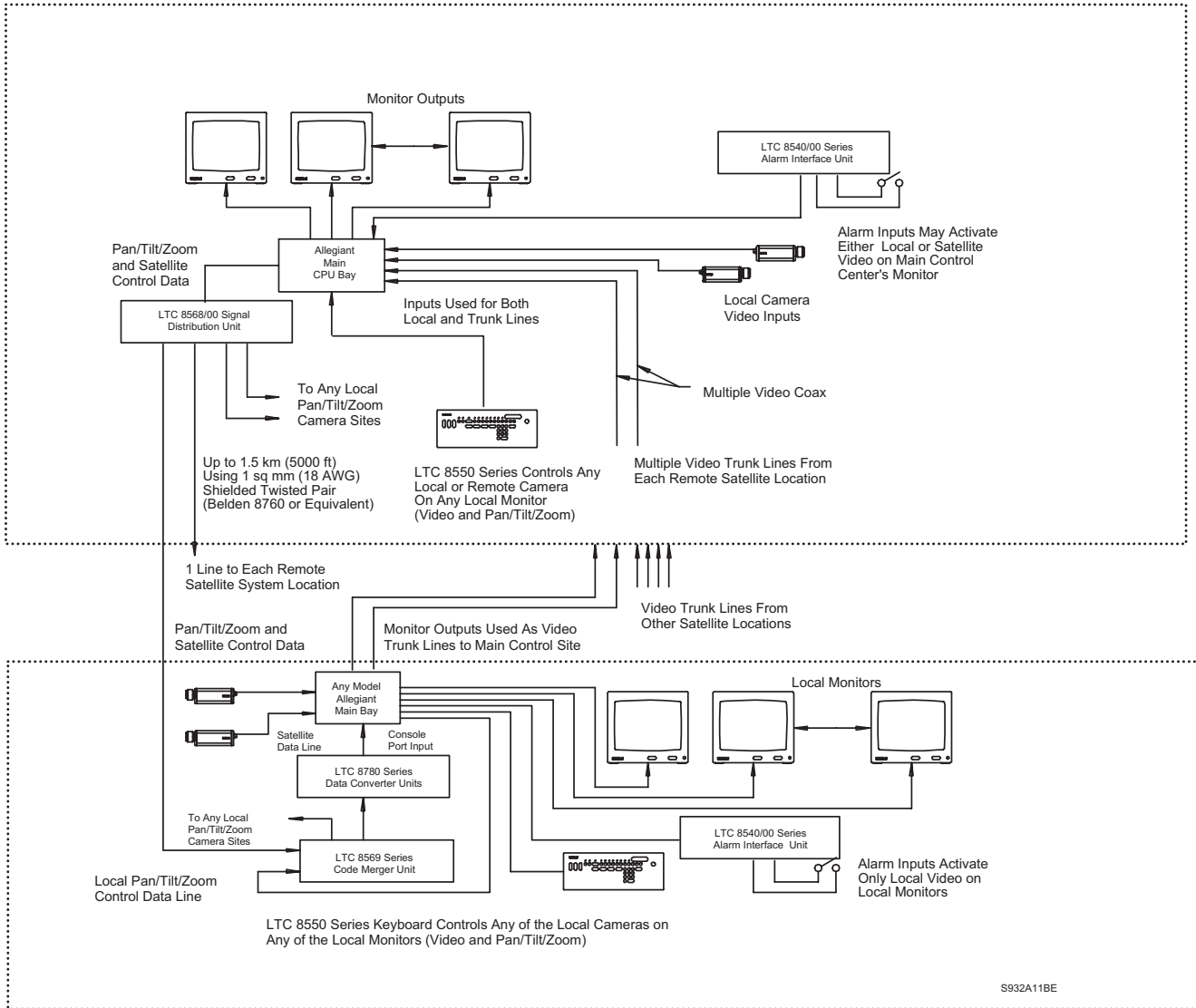
**LTC 8500 Series Configuration Diagram
 (64 Cameras by 8 Monitors)**



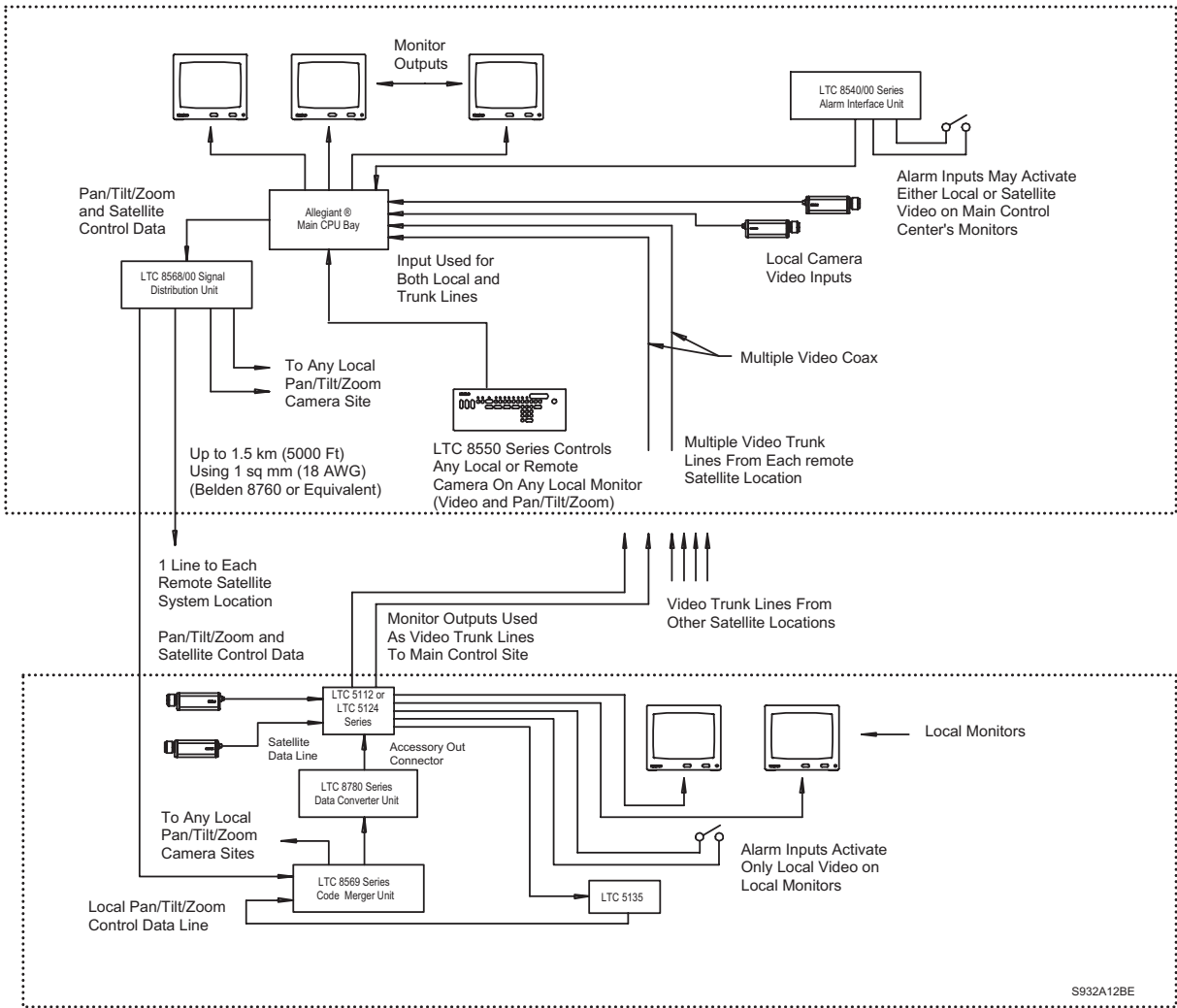
S932A04BE

Maximum of 8 Full Function Keyboards
 Up to 1.5 km (5000 ft) away using Optional Remote Hook-up Kit.

LTC 8500 Series Full Capacity Configuration Diagram



Allegiant Satellite Switching System



S932A12BE

Satellite System Using LTC 5112 Series or LTC 5124 Series Switchers

9498 961 02411 98-18

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Let's make things better.

LTC 8600 Series Allegiant[®] Microprocessor-Based Video Switcher/Control Systems

- 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.

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.

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 8659/00 master

control software package, or the 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.

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.

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 & display. In addition to these three modes, the PC based software packages now includes VersAlarm[™] - a

new dimension in alarm handling. VersAlarm has 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.

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 IBM1 compatible PC and the optional LTC 8659/00 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 VersAlarm 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 Philips 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 LTC 8554/00 and LTC 8555/00 type system keyboards, system time event functions, alarm activations, and via special function icons in the LTC 8850/00 GUI software.

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 or LTC 5112 Series and LTC 5124 Series programmable sequential switcher can serve as a 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.

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SPECIFICATIONS

LTC 8600 Series System Specifications

Capacities

Video Inputs:

Standard: 128.

Satellite Configuration: 1024.

Video Outputs: 16.

Keyboards: 16.

Alarm Inputs: 512.

Receiver Drivers:

Standard: 128.

Satellite Configuration: 1024.

Electrical

Video Bandwidth (-3 dB): 12 MHz typical.

Differential Gain: 1% typical.

Differential Phase: 2° typical.

K Factor: 0.5%.

Signal-to-Noise Ratio: 70 dB.

Crosstalk (Input to input isolation): -50 dB typical.

Feedthrough (Input to output isolation): -45 dB typical.

Gain: Unity (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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine wave.

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50082-1.

Emission: EN50081-1 Class B.

60 Hz Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60065.

60 Hz Models: UL & cUL.

UL: UL 1409.

cUL: CSA 22.2, No.1.

LTC 860I Series Equipment Bay

Includes LTC 8601/00 equipment rack, LTC 8610/00 microprocessor module, and LTC 8805 Series power supplies.

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, 1 Sync Input, and 16 Monitor Outputs: BNC.

Video Connections 97 to 128: Two 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel.

Looping Video Connections 1-128: Eight 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel.

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 (biphase) for interface to Allegiant series signal distribution units (Data clock rate = 31.25 kHz).

COMM PORT 1: RS-485 port for external Allegiant accessory use.

COMM PORT 2: RS-485 port for external Allegiant accessory use.

Keyboards: Eight 6-pin RS-485 ports for Allegiant keyboard use.

Equipment Rack (LTC 8601/00)

Size: EIA 19-inch rack, 483 W x 420 D x 267 H 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 8610/00)

Size: 300 D x 250 H 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: 67 W x 360 D x 247 H 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 Video Input Module

Use up to eight per equipment bay.

Camera Inputs: 16.

Size: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.41 kg (0.9 lb).

LTC 8834/00 Video Output Module

Use up to four per equipment bay.

Monitor Outputs: 4.

Size: 300 D x 250 H 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: EIA 19-inch rack. 483 W x 42 D x 44 H mm (19 x 1.65 x 1.75 in).

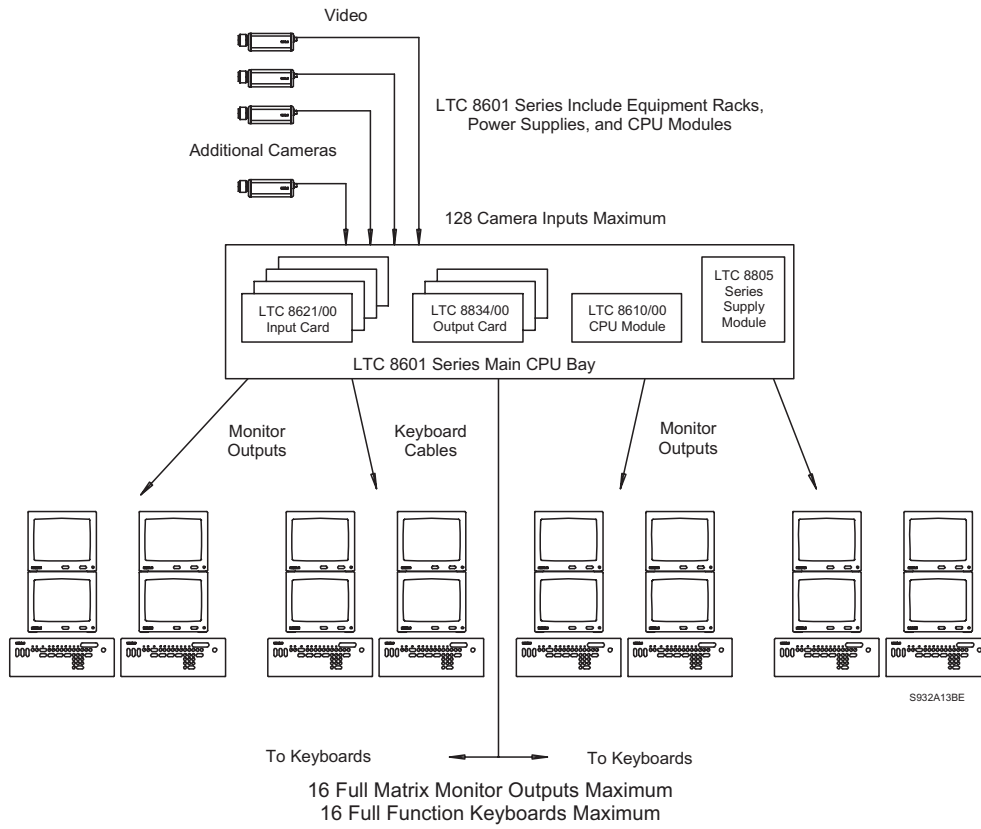
Weight:

Panel: 0.54 kg (1.2 lb).

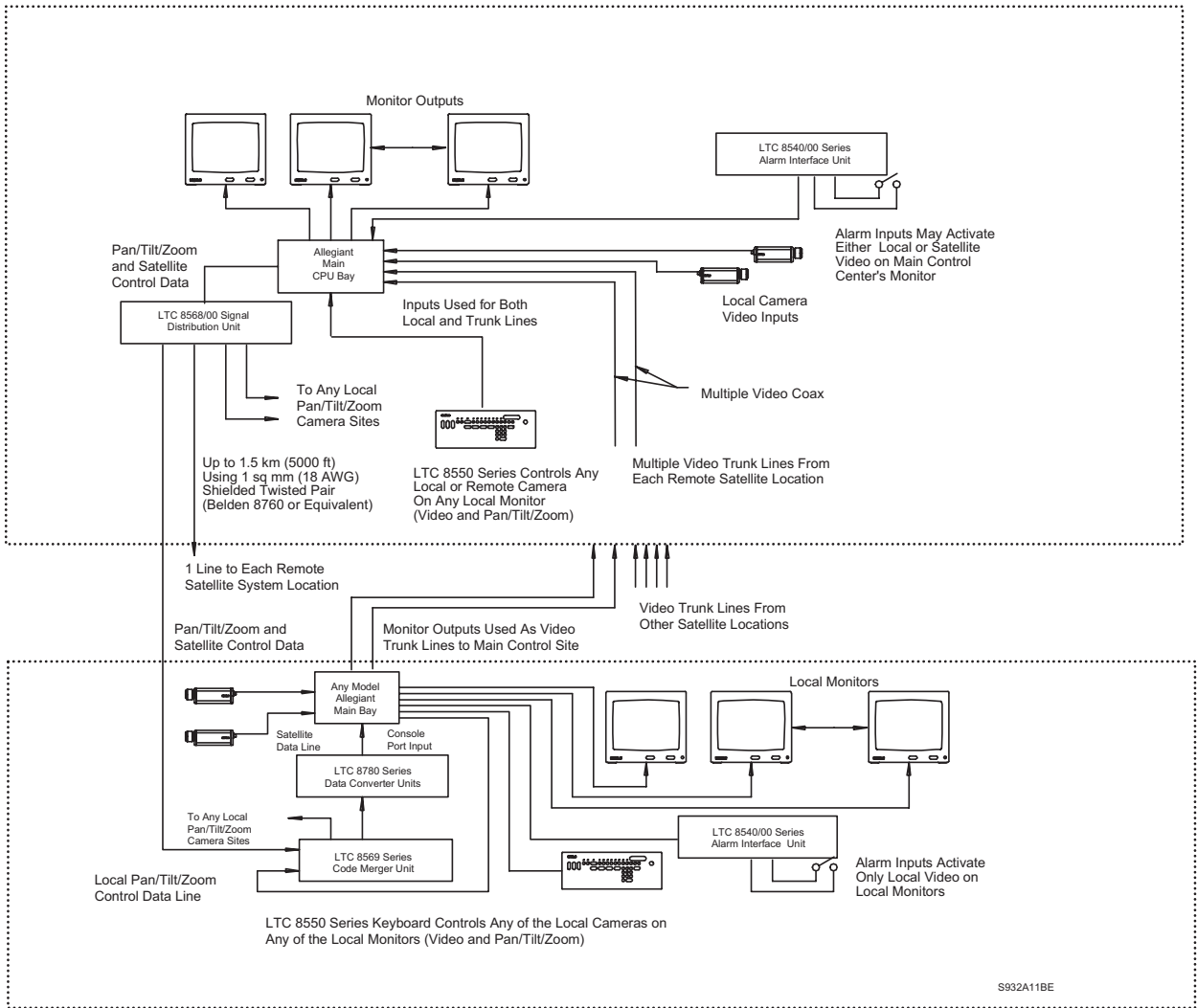
Ribbon Cables (2): 0.3 kg (0.7 lb).

ALLEGiant ACCESSORIES

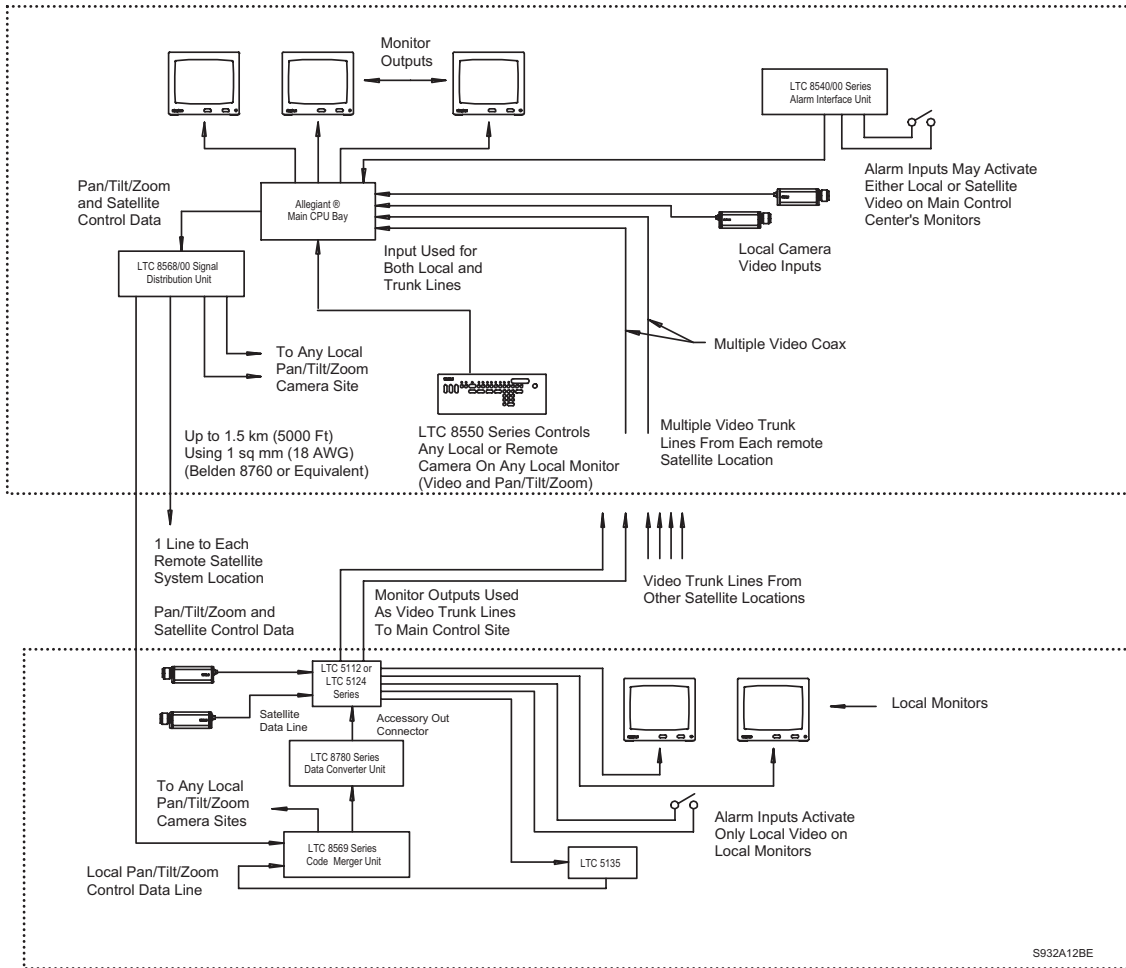
The LTC 8600 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboards, keyboard extension kits, receiver/driver units, switcher/followers, code merger units, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See Allegiant accessories datasheet.



**LTC 8600 Series Configuration Diagram
(128 Cameras by 16 Monitors)**



Allegiant Satellite Switching System



Satellite System Using LTC 5112 Series or LTC 5124 Series Switchers

9498 961 00611 98-27

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LTC 8800 Series Allegiant® Microprocessor-based Video Switcher/Control Systems

- **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.

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 Allegiant Server, 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.

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 &

display. In addition to these three modes, the PC-based software packages now include VersAlarm - a new dimension in alarm handling. VersAlarm has 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 IBM® compatible 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 VersAlarm 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.

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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, and 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.

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SPECIFICATIONS

LTC 8800 Series System Specifications

Capacities

Video Inputs:

Standard: 256.

Satellite Configuration: 2048.

Video Outputs: 64.

Keyboards: 32.

Alarm Inputs: 1024.

Receiver Drivers:

Standard: 256.

Satellite Configuration: 2048.

Electrical

Input Voltage Level: 0.5 V_{p-p} to 2 V_{p-p} (Composite Negative Sync).

Gain: Unity ± 4% (75 ohm terminated).

Pulse/Bar Ratios: ¹	Min.	Nom.	Max.
	94%	98%	106%
2T Pulse K Factor: ¹	Min.	Nom.	Max.
	---	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 Distortion:¹ 2% maximum.

Line Time Waveform Distortion:¹ 1% maximum.

Short Time Waveform Distortion:¹ 2% maximum.

Long Time Waveform Distortion:¹ 0.8% maximum.

Video Bandwidth (-3 dB):² 15 MHz.

Frequency Response (± 0.5 dB):² 12 MHz.

Signal-to-noise:¹ 70 dB at 3.58 MHz unified unweighted minimum.

Crosstalk (at 3.58 MHz):

Input to Input: -61 dB.

Adjacent Channel: -50 dB (typical).

Hum: 60 dB below the composite 1 V_{p-p} video signal from 60 Hz to 6 MHz.

Differential Gain: ¹	Min.	Nom.	Max.
	---	0.6%	2%

Differential Phase: ¹	Min.	Nom.	Max.
	---	0.6°	1.3°

Chrominance Luminance Gain: ¹	Min.	Nom.	Max.
	96%	100%	104%

Chrominance Luminance Delay: ¹	Min.	Nom.	Max.
	-33 ns	+3 ns	+33 ns

Luminance Nonlinearity: ¹	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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine wave.

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50130-4.

Emission: EN55022 Class B.

60 Hz Models: U.S.A. and Canada.

FCC Part 15, Class B.

ICES-003.

Safety:

50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60065.

60 Hz Models: UL & cUL.

UL: UL 1409.

cUL: CSA 22.2 No. 1.

LTC 8801 Series Main CPU Bay

Includes LTC 8801 Series equipment rack, LTC 8810/00 microprocessor module, and LTC 8805 Series power supply.

Power

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
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

1. Power at rated voltage fully loaded.

Connectors:

Video Inputs 1 to 96, 1 Sync Input, and 32 Monitor Outputs: BNC.

Video Connections 97 to 256: Ten 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately).

Looping Video Connections 1 to 256: Sixteen 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 (biphase) 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).

COMM PORT 2: RS-485 port for external Allegiant accessory use (default = 125,000 baud).

Keyboards: Eight 6-pin RS-485 ports for Allegiant keyboard use (default = 9600 baud).

Equipment Rack (LTC 8801 Series)

Size: EIA 19-inch rack, 483 W x 420 D x 267 H 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 8810/00)

Size: 300 D x 250 H 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: 67 W x 360 D x 247 H 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 LTC 8802 Series equipment rack, LTC 8816/00 data receiver module, and LTC 8805 Series power supply.

Power

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
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

1. Power at rated voltage fully loaded.

Connectors:

Video Inputs 1 to 96, and 32 Monitor Outputs: BNC.

Sync Input: Not used.

Video Connections 97 to 256: Ten 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately).

Looping Video Connections 1 to 256: Sixteen 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel.

External Accessory Interfaces:

9-pin D-type connectors.

CONSOLE: Not used.

ALARM: Not used.

PRINTER: Not used.

SDA: Not used.

COMM PORT 1: RS-485 port for interbay communication use (default = 125,000 baud).

COMM PORT 2: Not used.

Keyboards: Eight 6-pin RS-485 ports for Allegiant keyboard use (default = 125,000 baud).

Equipment Rack (LTC 8802 Series)

Size: EIA 19-inch rack, 483 W x 420 D x 267 H 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 8816/00)

Size: EIA 19-inch rack, 483 W x 420 D x 267 H mm (19 x 16.5 x 10.5 in).

Weight: 0.5 kg (1.1 lb).

Power Supply (LTC 8805/60 - 120 VAC, LTC 8805/50 - 220-240 VAC)

Size: 67 W x 360 D x 247 H 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 Video 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: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.41 kg (0.9 lb).

LTC 8834/00 Video Output Module

Use up to eight per bay in main CPU or monitor expansion bay.

Monitor Outputs: 4.

Size: 300 D x 250 H 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 8809/01), designed especially for use with video signals, 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 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:

Number of System Cameras	Number of LTC 8808 Required for Camera Input Connections Only	Number of LTC 8808 Required for Inputs & 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: EIA 19-inch rack, 483 W x 42 D x 44 H mm (19 x 1.65 x 1.75 in).

Weight:

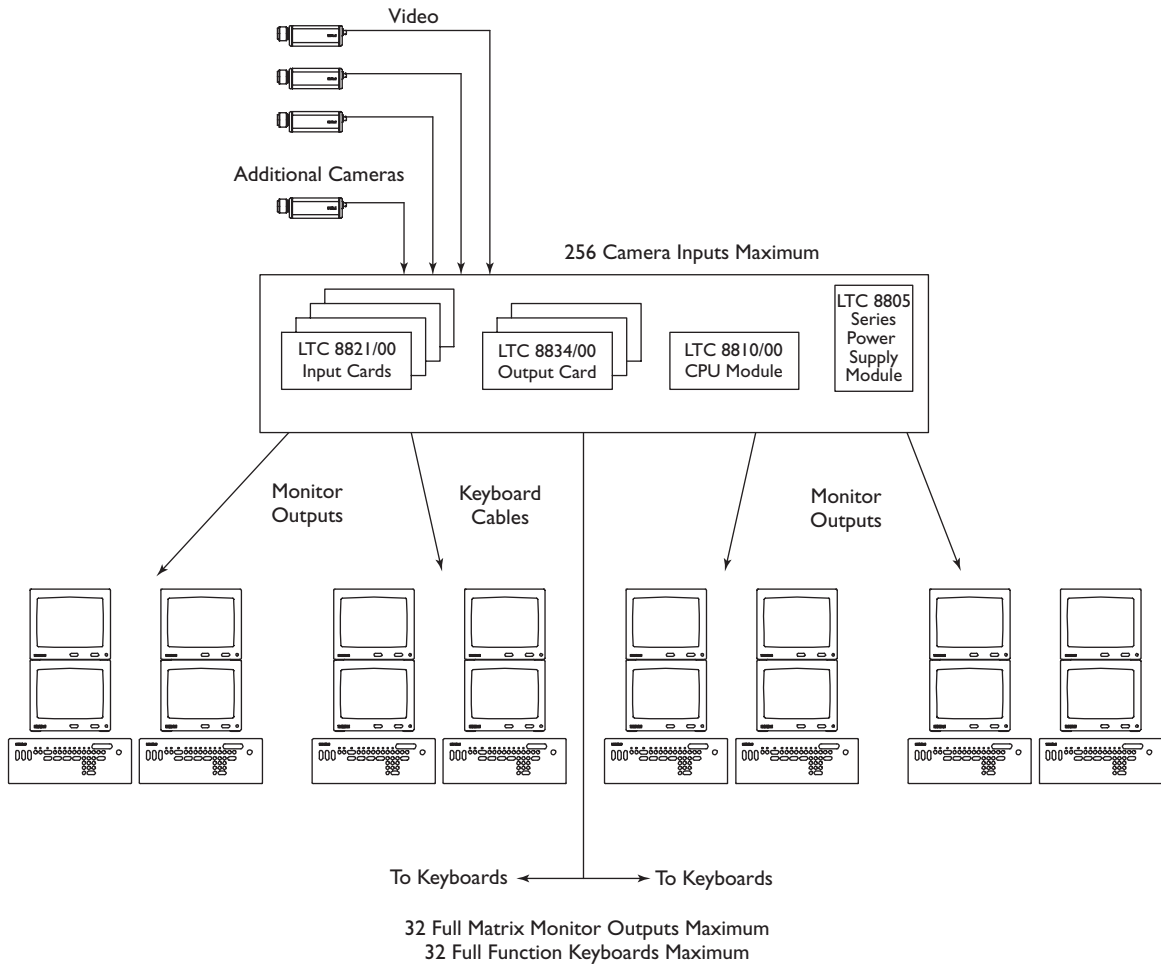
Panel: 0.54 kg (1.2 lb).

Ribbon Cables (2): 0.3 kg (0.7 lb).

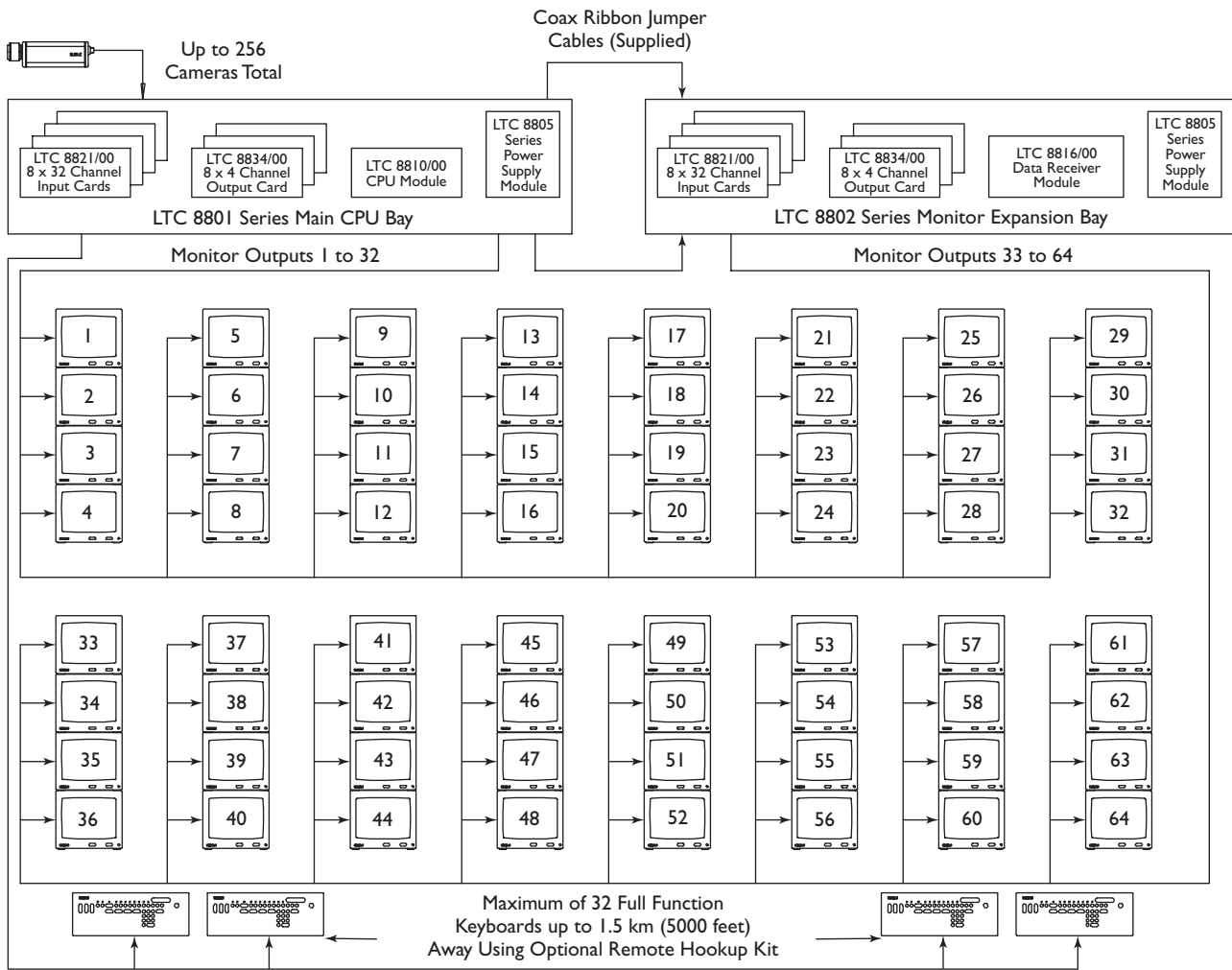
ALLEGIANT ACCESSORIES

The LTC 8800 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, receiver/driver units, switcher/followers, code merger units,

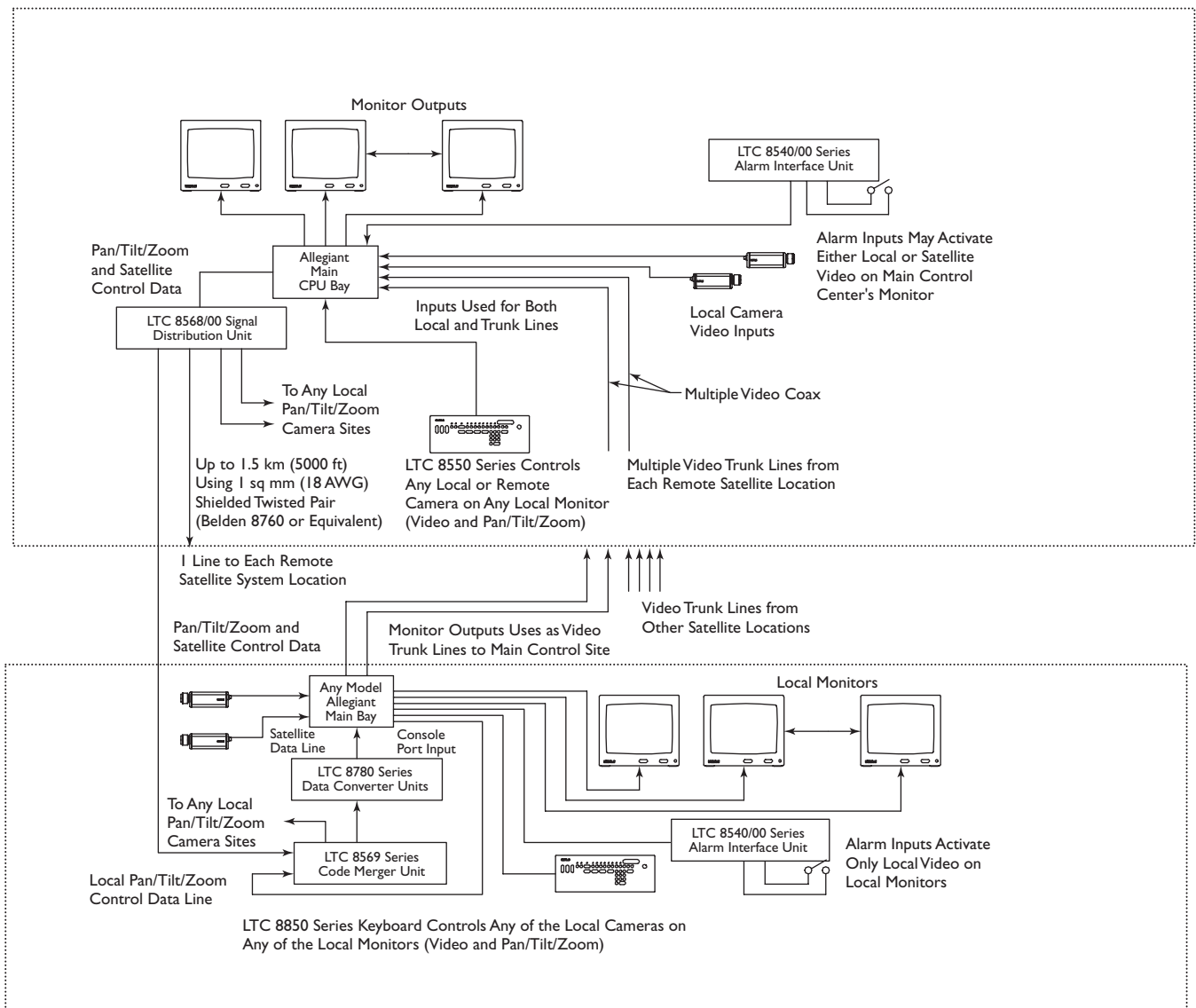
and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See Allegiant accessories datasheet.



**LTC 8800 Series Configuration Diagram
(256 Cameras by 32 Monitors)**



**LTC 8800 Series Dual-bay System
(256 Cameras by 64 Monitors)**



Allegiant Satellite Switching System

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PHILIPS

Let's make things better.

LTC 8900 Series Allegiant[®] Microprocessor-based Video Switcher/Control Systems

- 4096 Camera by 512 Monitor Switching
- Modular Construction
- Powerful Alarm Handling Capabilities
- SalvoSwitching[®] and SatelliteSwitch[®] Capability
- Includes Windows-based Configuration Software

ADDITIONAL FEATURES OF REDUNDANT SYSTEM CONFIGURATIONS

- Includes System Controller PC and SVGA Monitor
- Preloaded Programming and Diagnostic Software
- Dual/Redundant CPU/Power Supply



The LTC 8900 Series Allegiant Video Switcher/Control Systems are powerful full matrix switchers, capable of displaying video from any camera on any monitor, either manually or via independent automatic switching sequences. By using the LTC 8901 series CPU and the LTC 8943 series PC, the standard system can be enhanced to include dual/redundant CPU/Power supply with automatic "hot-switchover" capabilities.

General Construction

The LTC 8900 Series provides versatile modular construction accommodating up to 4096 camera inputs, 512 monitor outputs, 64 keyboards, 1024 alarm points, and a computer interface port. The robust

design utilizes a separate CPU bay with its own power supply.

Dual/Redundant System

For situations where complete system failure cannot be tolerated, we offer the dual redundant LTC 8901 CPU. This CPU unit incorporates a secondary CPU/power supply. In the event of a primary CPU or power supply failure, the system will automatically switch over to the backup CPU or power supply. The system utilizes an independent PC that continuously monitors the CPUs for failure and performs a hot-switchover if needed. You can also manually change CPUs using the preloaded software or via a front panel slide switch.

Sequencing Capabilities

These systems can be programmed with up to 256 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 supplied software, sequences can automatically activate and deactivate based upon the day or time of day.

Camera Control

On-site receiver/drivers permit control of pan, tilt, zoom, multiple pre-positions, four auxiliaries, autopan, and random scan. An integral local test function is also a standard feature, greatly simplifying installation.

The LTC 8900 Series also supports the AutoDome® series of integral pan/tilt/zoom dome cameras, providing full proportional variable speed control. In addition, all AutoDomes allow setup programming directly from the Allegiant system keyboards.

Macro Capabilities

The LTC 8900 system provides powerful macro capabilities. The macros can be activated using system keyboards, time event functions, and alarm activations. The macros can also be activated via function icons when using the optional LTC 8850/00 GUI Software.

Alarm Capabilities

The LTC 8540/00 alarm interface unit allows external contact closure or

logic level input to automatically display cameras on a monitor or group of monitors. The supplied PC software also includes VersAlarm. VersAlarm can combine multiple alarm operating modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, one can customize 16-character alarm titles to designate the specific alarm condition.

System Operation

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 64 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 8900 Series includes a black outlined 48-character on-screen display for time/date, camera number, camera ID (16-characters), and monitor (12-characters) or status information. Over 1,000 characters covering a multitude of languages, including several hundred Chinese symbols, are available to help program camera ID and monitor titles. Using the supplied PC software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format allows one to easily enter/change camera titles, operator names, timed events (128), system parameters, camera sequences,

lockouts, and VersAlarm programming. The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras. Another useful feature of the software is its ability to store or print (in real-time) programming information, system events, alarms, switching functions, sequence events, keyboard actions, and video loss information.

Expansion Capabilities

The LTC 8900 Series can serve as the Master or Slave Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8900 system to communicate with remotely located "Satellite" systems. Any Allegiant system can serve as a remote Satellite Switcher. This powerful feature permits the design of large distributed type systems. 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 8900 system can access up to 256 Satellite sites.

Configuration Ordering Information

Please contact your local Philips CSI Sales office.

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SPECIFICATIONS

LTC 8900 Series Systems

Capacities:

Video Inputs: 4096.

Video Outputs: 512.

Keyboards: 64.

Alarm Inputs: 1024.

Receiver Drivers: 4096.

Electrical:

Input Voltage Level: 0.5 Vp-p to 2 Vp-p (Composite Negative Sync).

Gain: Unity \pm 2% (75 ohm terminated).

Pulse/Bar Ratios: ¹	Min	Nom	Max
	94%	98%	106%
2T Pulse K Factor: ¹	Min	Nom	Max
	---	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 Distortion:¹ 2% maximum.

Line Time Waveform Distortion:¹ 1% maximum.

Short Time Waveform Distortion:¹ 2% maximum.

Long Time Waveform Distortion:¹ 0.8% maximum.

Video Bandwidth (-3 dB): 25 MHz.

Frequency Response: \pm 0.5 dB to 12 MHz.

Signal-to-noise:¹ 70 dB at 3.58 MHz unified unweighted minimum.

Crosstalk (at 3.58 MHz):

Typical: -72 dB.

Adjacent Channel: -50 dB (Typical).

Hum: 60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz.

Differential Gain: ¹	Min	Nom	Max
	---	0.6%	2%

Differential Phase: ¹	Min	Nom	Max
	---	0.6°	1.3°

Chrominance Luminance Gain:	Min	Nom	Max
	94%	100%	109%

Chrominance Luminance Delay: ¹	Min	Nom	Max
	-33 ns	+3 ns	+33 ns

Luminance Nonlinearity: ¹	Min	Nom	Max
	---	0.3%	4%

Switching: Crosspoint matrix.

DC Output: 0V.

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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, 1/2 sine wave.

LTC 8904 CPU Equipment Bay

The LTC 8904/60 and LTC 8904/50 include the equipment rack, LTC 8910/00 microprocessor module, LTC 8905/90 power supply, and LTC 8917/00 relay module.

Electrical:

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8904/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8904/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

1. Power at rated voltage fully loaded.

Connectors:

CONTROLLER PORT: RS-232 port for external PC or computing device.

CONSOLE: RS-232 port for external computer or computing device (Default = 19,200 baud).

ALARM: RS-232 port for Allegiant alarm accessory unit (Default = 19,200 baud).

BIPHASE: TTL level, hi-speed control data output (biphase) for interface to Allegiant series signal distribution units (Data clock rate = 31.25 kHz).

COM PORTS: Two RS-485 port for external Allegiant accessory use.

Keyboards: Eight 6-pin RS-485 ports for Allegiant keyboard use (Default = 9600 baud).

LAN: RJ-45 High-speed LAN port for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8946/90 LAN Hub.

Components

Equipment Rack:

Dimensions: EIA 19-inch rack. 440 W x 394 D x 86 H mm (17.3 x 15.5 x 3.4 in).

Weight: 7.2 kg (15.85 lb).

Construction: Metal case with plastic panel.

Finish: Charcoal.

Microprocessor Module (LTC 8910/00):

Dimensions: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.5 kg (1.1 lb).

Power Supply (LTC 8905/90).

Relay Module (LTC 8917/00):

Dimensions: 300 D x 250 H mm (11.8 x 9.8 in).

Front Panel Indicators:

Power

CPU Activity

1. Meets EIA/TIA - 250C Medium Haul Standard for 1024 cameras x 64 monitors.

LTC 8901 Series CPU Equipment Bay (Redundant System Configurations Only)

The LTC 8901/60 and LTC 8901/50 include the equipment rack, dual LTC 8910/00 microprocessor modules, dual LTC 8905/90 power supplies, and one LTC 8917/00 relay module.

Electrical:

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8901/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8901/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

1. Power at rated voltage fully loaded.

Connectors:

CONTROLLER PORTS: Two RS-232 ports for LTC 8943 PC controller interface.

CONSOLE: RS-232 port for external computer or computing device (Default = 19,200 baud).

ALARM: RS-232 port for Allegiant alarm accessory unit (Default = 19,200 baud).

SWITCH CTRL: Digital interface port for LTC 8943 PC controller.

BIPHASE: TTL level, hi-speed control data output (biphase) for interface to Allegiant series signal distribution units (Data clock rate = 31.25 kHz).

COM PORTS: Two RS-485 port for external Allegiant accessory use.

Keyboards: Eight 6-pin RS-485 ports for Allegiant keyboard use (Default = 9600 baud).

LAN: Two RJ-45 High-speed LAN ports for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8944/92 and LTC 8945/92 LAN Switches.

Components:

Equipment Rack:

Dimensions: EIA 19-inch rack. 440 W x 394 D x 86 H mm (17.3 x 15.5 x 3.4 in).

Weight: 8 kg (17.6 lb).

Construction: Metal case with plastic panel.

Finish: Charcoal.

Microprocessor Modules (Two - LTC 8910/00):

Dimensions: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.5 kg (1.1 lb).

Power Supplies (Two - LTC 8905/90).

Relay Module (LTC 8917/00):

Dimensions: 300 D x 250 H mm (11.8 x 9.8 in).

Front Panel Indicators:

Primary Power
 Primary Fault
 Back-up Power
 Back-up Fault
 Primary CPU In-use
 Controller Activity
 Back-up CPU In-use
 Auto-select Mode
 Primary CPU Activity
 Fault buzzer
 Back-up CPU Activity

Rear Panel Indicators:

Relay Outputs:¹
 Primary CPU Fault
 Back-up Power Supply Failure
 Back-up CPU Fault
 Any Failure
 Primary Power Supply Failure

1. Relay Contacts: 24 VAC, 40 V peak, 1 A.

LTC 8902 Series Monitor Output Bays

The LTC 8902/60 and LTC 8902/50 include the equipment rack, LTC 8916/00 data receiver module, and LTC 8906 Series power supply.

Electrical:

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8902/60	120 VAC, 50/60 Hz	100 to 140	160 W
LTC 8902/50	220-240 VAC, 50/60 Hz	198 to 264	160 W

1. Power at rated voltage fully loaded.

Connectors:

Video Outputs: Four 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel.

Video Bus Connections: Sixteen 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables.

CONSOLE: Port reserved for future use.

COMM 1: Port reserved for future use.

COMM 2: Port reserved for future use.

EXT SYNC: BNC input used to synchronize unit to external sync signal. Accepts composite video, composite sync, or the V SYNC output provided from another LTC 8900 Series matrix bay.

V SYNC: BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT SYNC input.

External Data Interface: Two RJ-45 High-speed LAN port for interface to LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use.)

Components:

Equipment Rack:

Dimensions: EIA 19-inch rack. 483 W x 420 D x 267 H mm (19 x 16.5 x 10.5 in).

Weight: 11.1 kg (24.5 lb).

Construction: Metal cabinet.

Finish: Charcoal.

Data Receiver Module (LTC 8916/00):

Dimensions: EIA 19-inch rack. 483 W x 420 D x 267 H mm (19 x 16.5 x 10.5 in).

Weight: 0.5 kg (1.1 lb).

Power Supply (LTC 8906/60 or LTC 8906/50):

Dimensions: 67 W x 360 D x 247 H mm

(2.63 x 14.2 x 9.7 in).

Weight: 5.2 kg (11.5 lb).

Indicators: Power On/Off, and fuse alert LEDs.

LTC 8903 Series Camera Input Bays

The LTC 8903/60 and LTC 8903/50 include the equipment rack, LTC 8918/00 data receiver module, and LTC 8805 Series power supply.

Electrical

Model No.	Rated Voltage	Voltage Range	Nominal Power ¹
LTC 8903/60	120 VAC, 50/60 Hz	100 to 140	85 W
LTC 8903/50	220-240 VAC, 50/60 Hz	198 to 264	85 W

1. Power at rated voltage fully loaded.

Connectors:

Video Inputs: Sixteen 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel.

Looping Video Input Connections: Sixteen 34-pin ribbon connectors used with LTC 8809/00 ribbon cables (supplied as required to loop to additional LTC 8903 Series bays).

Video Bus Connections: Four 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables.

CONSOLE: Port reserved for future use.

COMM 1: Port reserved for future use.

COMM 2: Port reserved for future use.

EXT SYNC: BNC input used to synchronize unit to external sync signal. Accepts composite video, composite sync, or the V SYNC output provided from another LTC 8900 Series matrix bay.

V SYNC: BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT SYNC input.

External Data Interface: Two RJ-45 High-speed LAN port for interface to LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use.)

Components:

Equipment Rack:

Dimensions: EIA 19-inch rack. 483 W x 420 D x 267 H mm (19 x 16.5 x 10.5 in).

Weight: 11.1 kg (24.5 lb).

Construction Metal cabinet.

Finish: Charcoal.

Data Receiver Module (LTC 8918/00):

Dimensions: EIA 19-inch rack.

Size: EIA 19-inch rack, 483 W x 420 D x 267 H mm (19 x 16.5 x 10.5 in).

Weight: 0.5 kg (1.1 lb).

Power Supply (LTC 8805/60 or LTC 8805/50):

Size: 67 W x 360 D x 247 H mm (2.63 x 14.2 x 9.7 in).

Weight: 5.2 kg (11.5 lb).

Indicators: Power On/Off, and fuse alert LEDs.

LTC 8921/00 Video Input Module

Use up to sixteen per LTC 8903 Series camera input bays.

Camera Inputs: 32.

Size: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.41 kg (0.9 lb).

LTC 8934/00 Video Output Module

Use up to eight per LTC 8902 Series monitor output bays.

Monitor Outputs: 8.

Dimensions: 300 D x 250 H mm (11.8 x 9.8 in).

Weight: 0.41 kg (0.9 lb).

LTC 8941/91 System Controller (Redundant System Configurations Only)

Includes LTC 8943/92 PC, LTC 8944/92 Primary LAN Switch and LTC 8945/92 Backup LAN Switch.

LTC 8943/92 PC: Rack-mount industrial-grade Pentium® PC, 120 MB RAM (minimum), 3.5 GB hard drive (minimum), CD-ROM drive, floppy drive, keyboard, mouse, keyboard/mouse rack-mount shelf, and Windows NT®; 120/220 VAC, 50/60 Hz.

Monitor: 14-inch SVGA with rack-mount hardware; 120/220 VAC, 50/60 Hz.

LTC 8944/92 Primary LAN Switch: 12 port 10/100BaseT Ethernet Switch with SNMP Module, programmed with Primary IP Address; 120/220 VAC, 50/60 Hz.

LTC 8945/92 Back-Up LAN Switch: 12 port 10/100BaseT Ethernet Switch with SNMP Module, programmed with Back-up IP Address; 120/220 VAC, 50/60 Hz.

LTC 8946/92 Expansion LAN Switch

12 port 10/100BaseT Ethernet Switch, no SNMP module; 120/220 VAC, 50/60 Hz.

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 coaxial 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 8900 system. Use of the LTC 8808/00 assemblies are required for all external video input and output connections. In addition to being used for video inputs and monitor outputs, the LTC 8808/00 assembly is also used to provide looping capability. One LTC 8808/00 (includes panel and two ribbon cables) is required for each group of 32 system cameras or 32 monitors.

Dimensions: EIA 19-inch rack. 483 W x 42 D x 44 H 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).

Construction: Metal.

Finish: Charcoal.

Allegiant Accessories

The LTC 8900 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, receiver/driver units, switcher/followers, code merger units, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See Allegiant accessories data sheet.

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50082-1.

Emission: EN50081-1 Class A.

60 Hz Models: U.S.A. and Canada.

FCC Part 15, Class A.

ICES-003.

Safety:

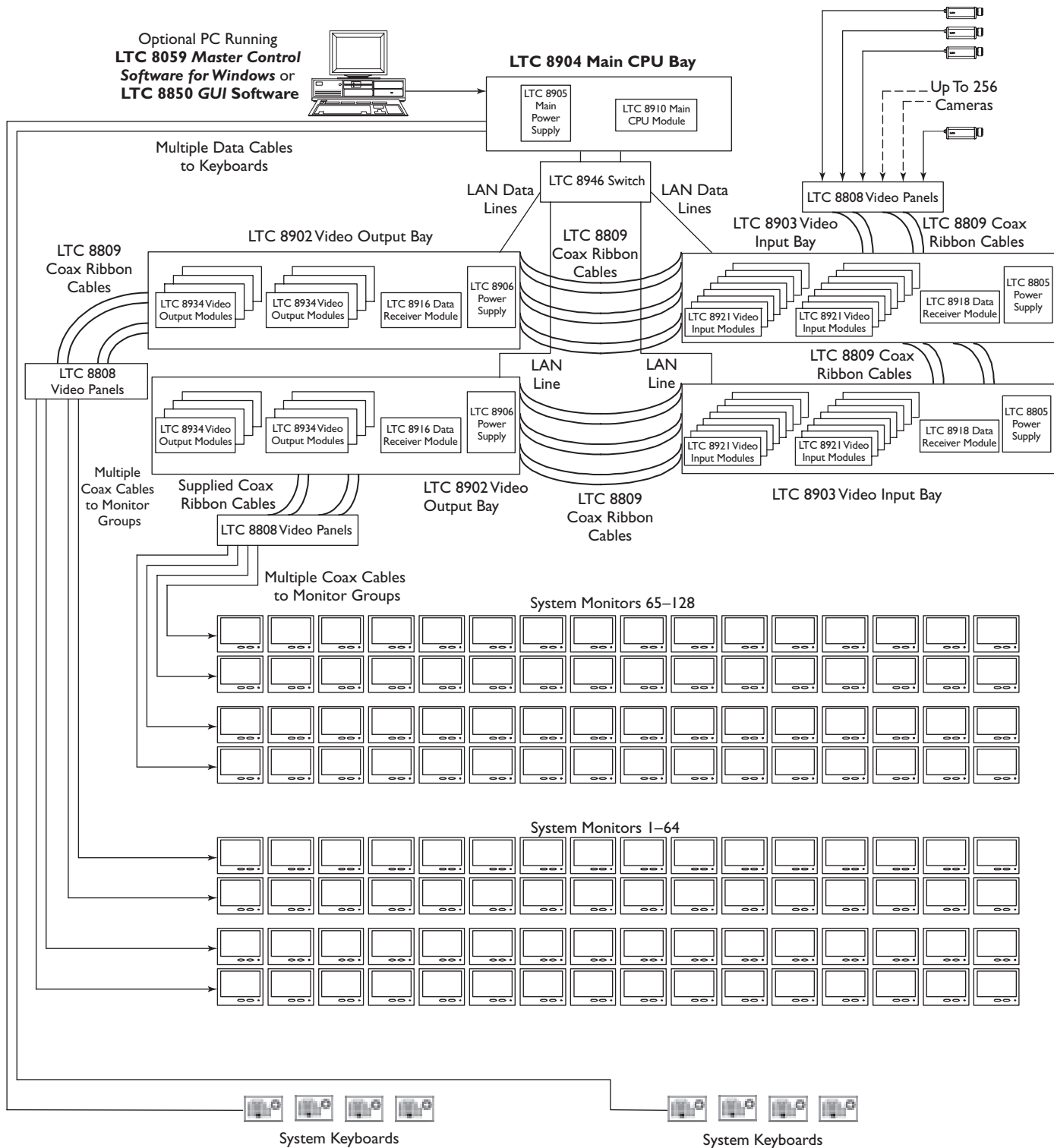
50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60065.

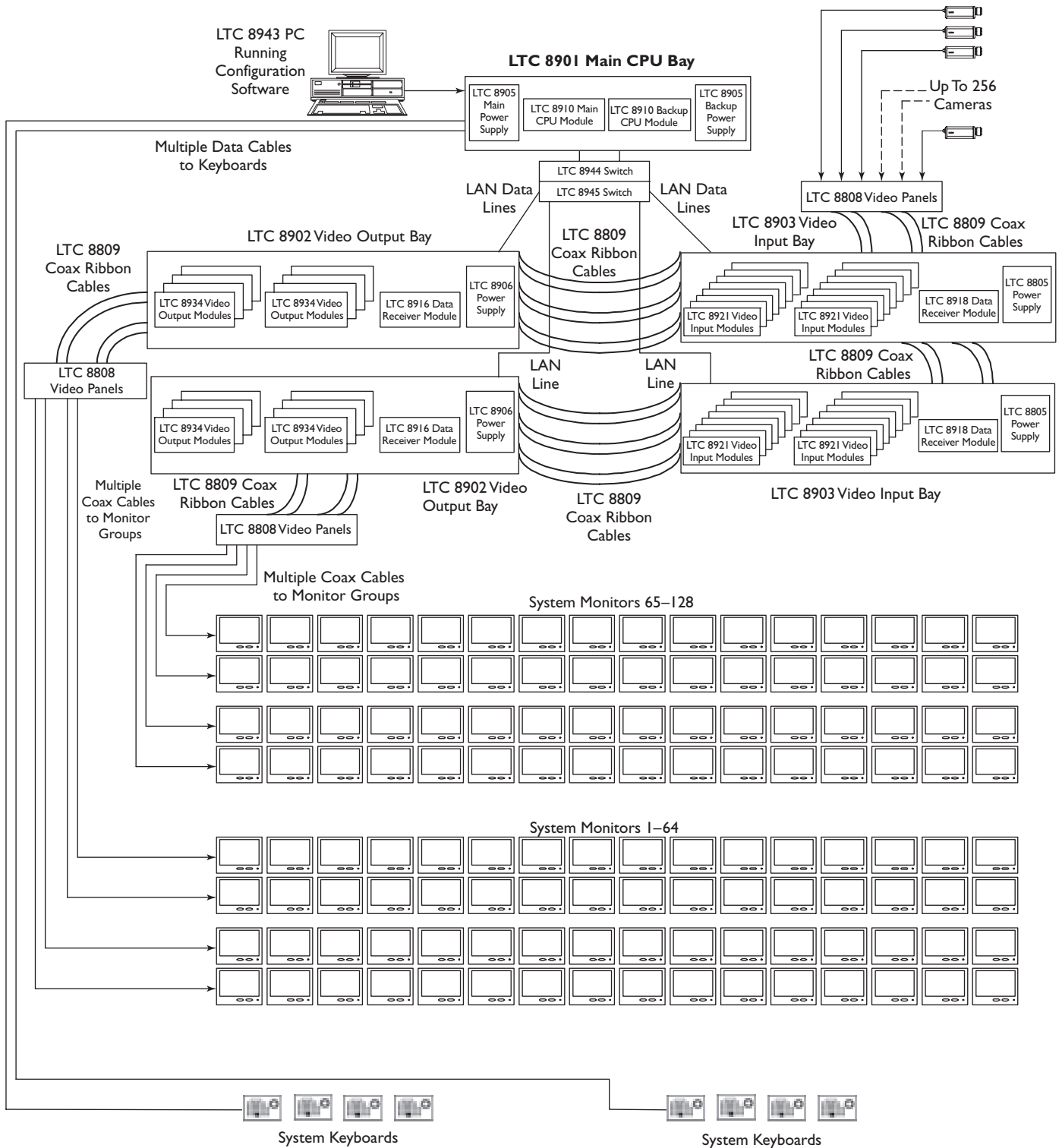
60 Hz Models: UL & cUL.

UL: UL 6500, UL 1950.

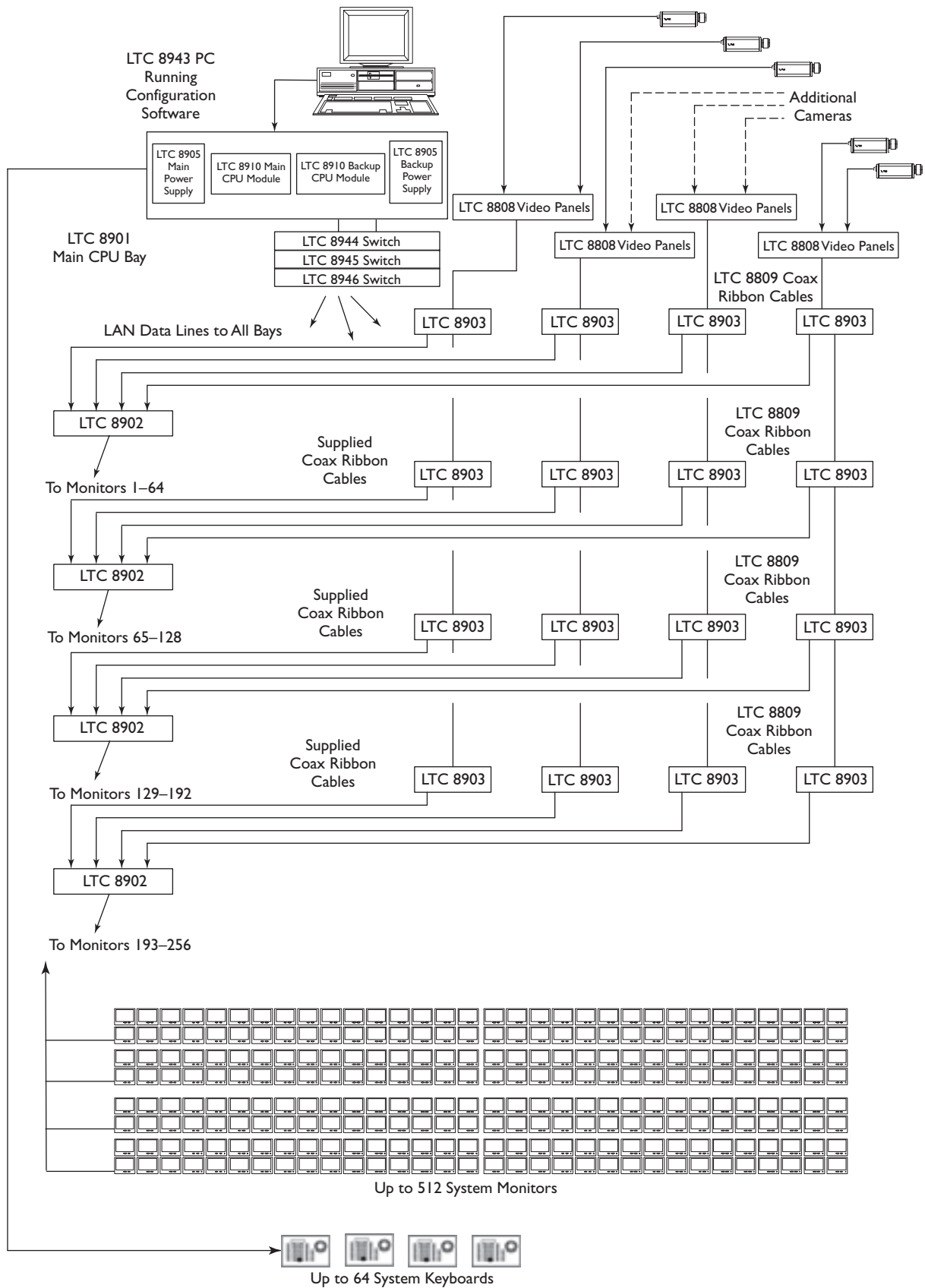
cUL: CSA E65, CSA 950.



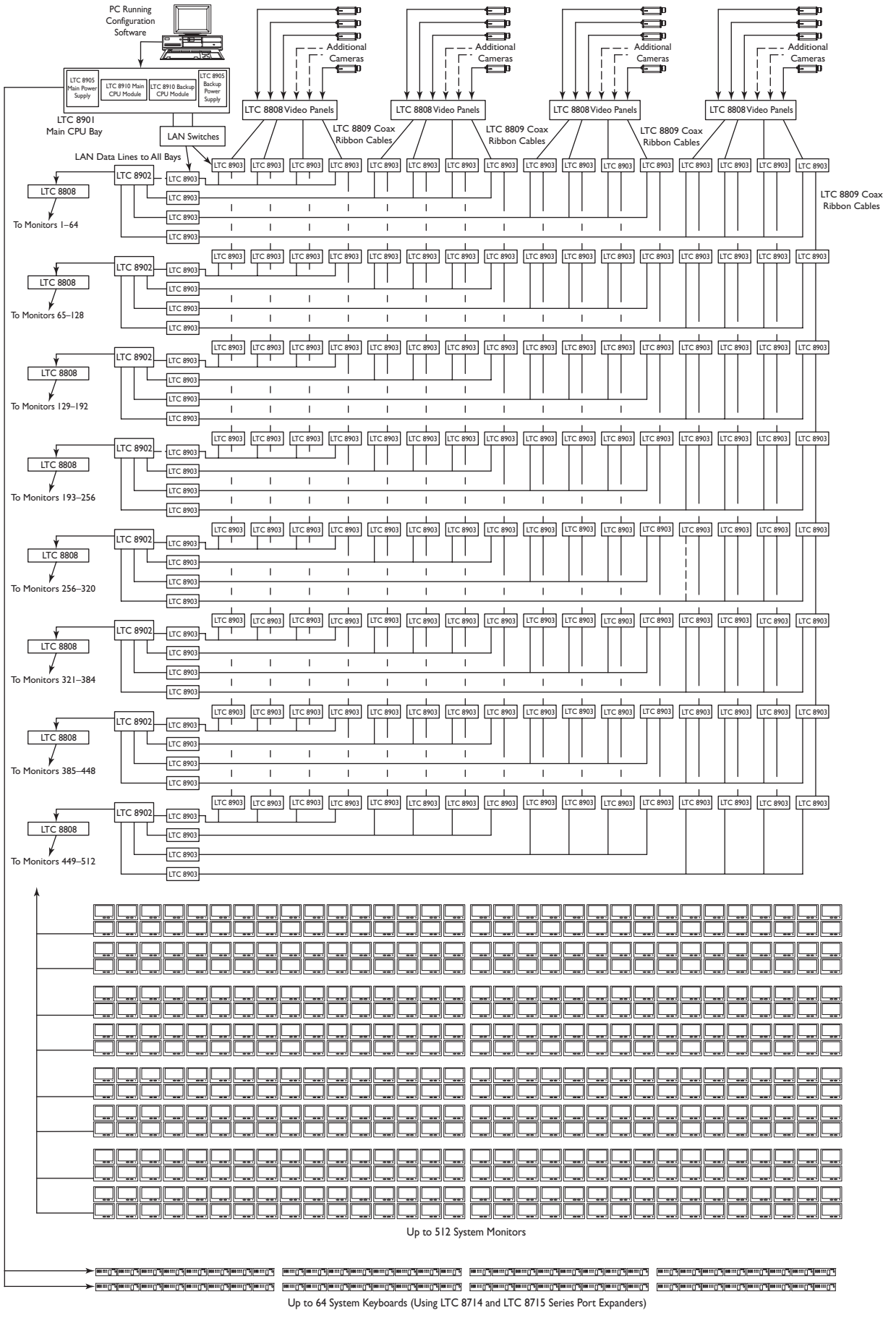
Typical Diagram of LTC 8904 Series System Configuration (256 Cameras by 128 Monitors)



Typical Diagram of LTC 8901 Series Redundant System Configuration (256 Cameras by 128 Monitors)

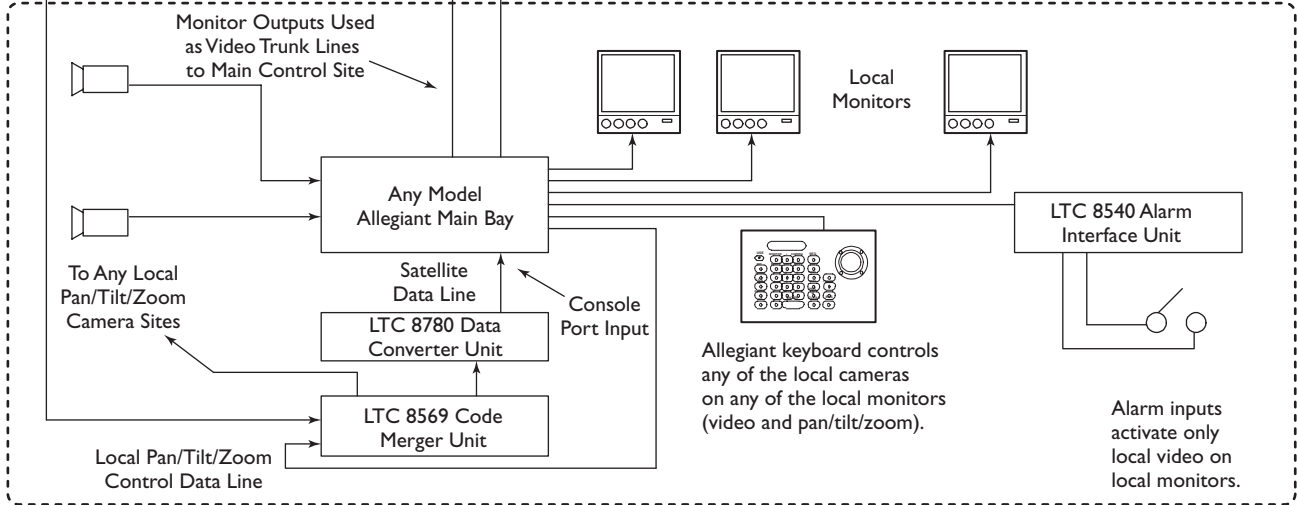
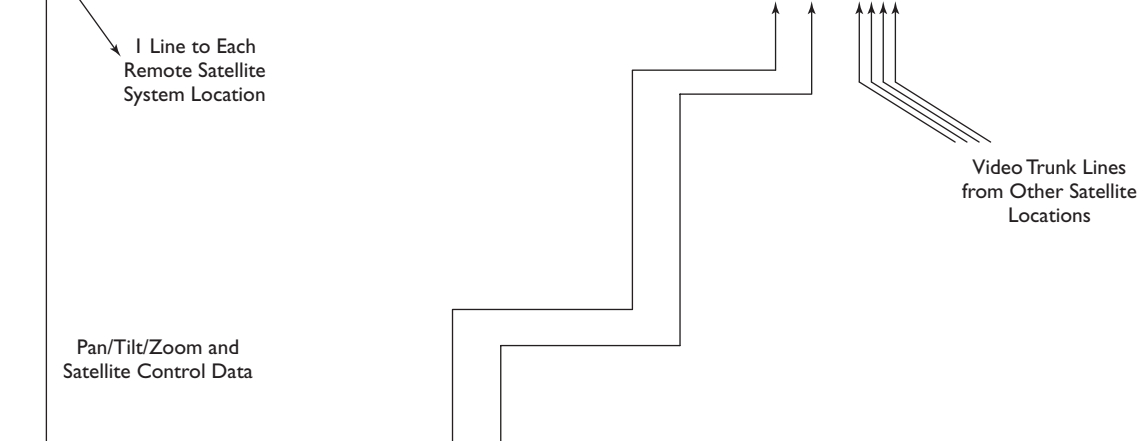
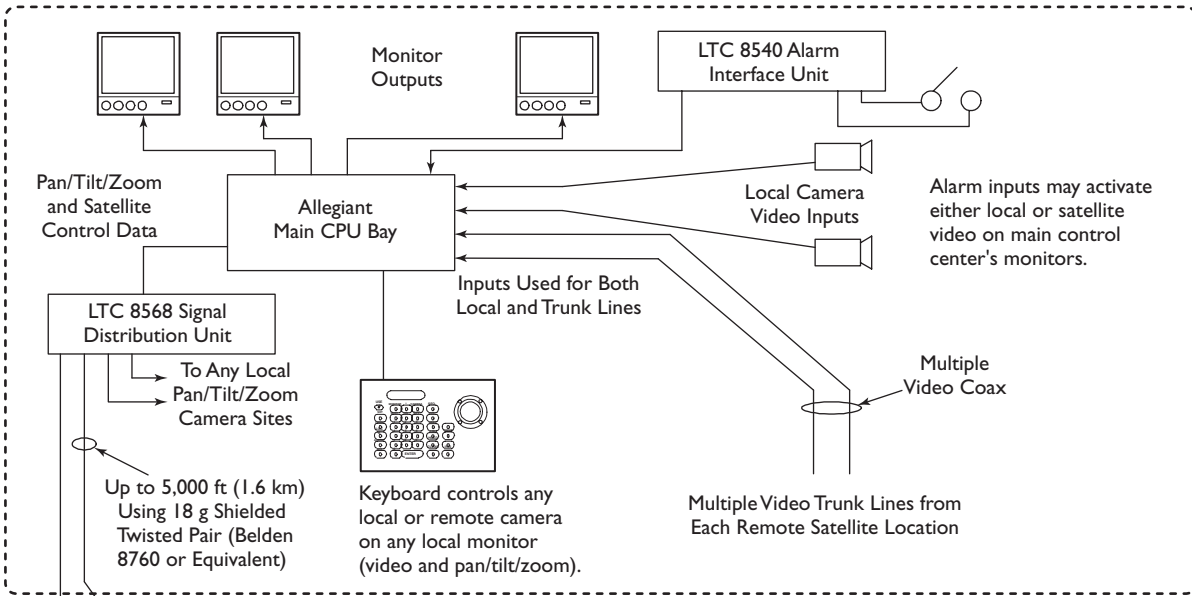


**Typical Diagram of LTC 8901 Series Redundant System Configuration
(1024 Cameras by 256 Monitors)**



**Typical Diagram of LTC 890I Series Redundant System Configuration
(4096 Cameras by 512 Monitors)**

Typical Main Control Center (Any Allegiant Model)



Allegiant Satellite Switching System

9498 961 00516 01-36

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PHILIPS

Let's make things better.

LTC 8850 Series Philips GUI Allegiant® Servers

- **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 P/T/Z Video Displays**
- **Supports Multiple GUI Workstations via 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 NT and Windows 95 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 then 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 3990, LTC 3991, and LTC 3963 Series. It is also possible to enter custom command strings to control other RS-232 equipped VCR 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 easily be called automatically into view with simple mouse clicks on the icon.

Anything that can be accomplished through the Allegiant keyboard can be easily 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 con-figuration 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.

SPECIFICATIONS

Software Models Available

LTC 8850/00: Single User Package.

LTC 8851/00: Multi- User Package (5 Station).

LTC 8852/00: Multi- User Package (10 Station).

Format: Software supplied on 3.5-inch floppy disks. Software security provided by means of parallel port key.

Minimum System Requirements - PC Platform

Pentium® 120 MHz CPU and SVGA Monitor.

8 Mbytes RAM (With Windows 95).

16 Mbytes RAM (With Windows NT).

250 Mbytes Fixed Drive.

3.5-inch High Density Floppy Disk Drive.

Window NT version 4.0 (Service Pack 3 or later) or Windows 95 Operating System (Windows 95 compatible with GUI release version 2.0 or greater).

Ports Required (Minimum): 1 Parallel, 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 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 "Flashpoint 128 Lite" (part 3085) 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.

External Systems Controlled

The LTC 8850 Series Graphical User Interface (GUI) are 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. Additional Product Server software modules for new products will be introduced as they become available.

Earlier versions of these systems may be upgraded to be compatible by the installation of current hardware or software upgrades. Contact your Philips Communication & Security Systems Inc. Sales Representative or Technical Support for details.

Future Product Server software modules for other security products can be added to existing software installations without reconfiguration of previously installed modules.

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.

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 be easily 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 by means of simple on-screen mouse operations.

Operates Using Existing PC Network

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, P/T/Z operation, and programming. Each workstation requires Windows NT 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

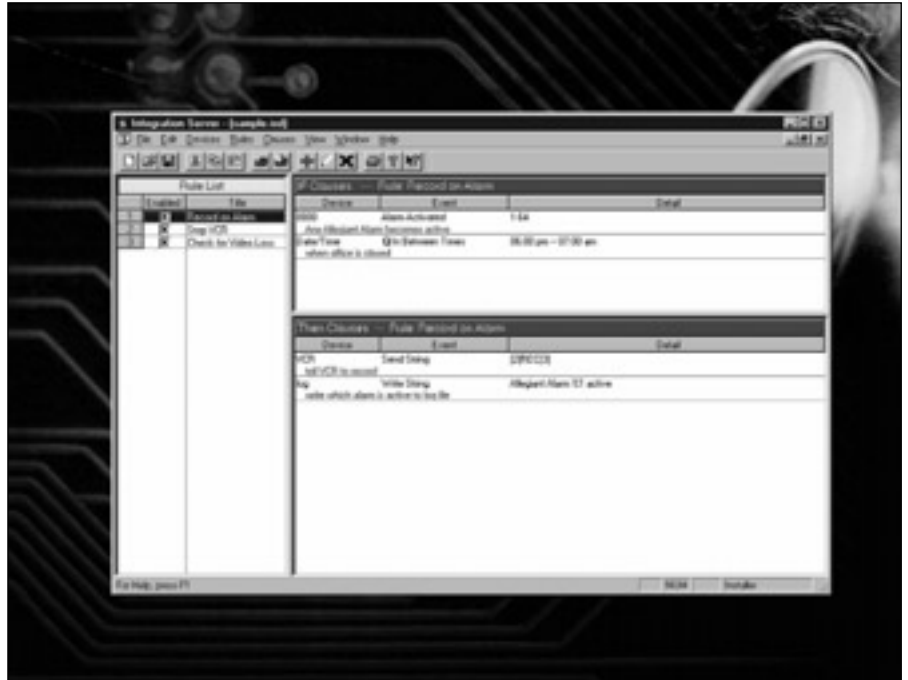
A complete Icon Library is available to the installer to seed graphical representations of system functions directly on the map displays.

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Integration Server PC Software

- n **Allows for Communication between Incompatible Systems**
- n **Communicates in a Variety of Methods Including RS-232, Digital I/O, and Direct with Allegiant® Server Software**
- n **Interfaces with All Allegiant Series Systems**
- n **Can Log Any or All Events onto a PC Hard Drive**
- n **Can Execute Commands Based on Date/Time Schedules**



The Integration Server is a software package used to integrate multiple systems which 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 to be controlled can communicate 3 ways:

1. RS-232. Up to 16 COM ports are currently 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 which the installer has told the server to react to. The server can also transmit preprogrammed strings of data onto the COM port in order to control devices.

2. Digital I/O. A digital I/O card (National Instruments™ # PCPIO-24) will need to 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, then 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 upon one of the three methods mentioned above, then react to those events by sending commands to another system. The programming takes place in the form of "Rules." Rules are easy to understand clauses that the installer writes and stores 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.

This software works on the Windows NT®, Windows 95®, and Windows 98® Platforms.

SPECIFICATIONS

System:

Format: Software supplied on CD ROM. Software security provided by means of parallel port key.

Order Part Number: **SFT-INTSRV**.

Includes CD, Quick Start guide, RS-232 Cable, and Security Dongle.

Minimum System Requirements:

PC Platform:

Pentium® 120 MHz CPU and SVGA Monitor.

8 Mbytes RAM (with Windows 95, 98).

16 Mbytes RAM (with Windows NT).

250 Mbytes Fixed Drive space.

CD-ROM Drive.

Operating System:

Windows NT version 4.0 (Service Pack 6 or later)

Windows 95

Windows 98

Ports required (Minimum): 1 Parallel, 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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For more information, contact:

National Instruments Corporate Headquarters

6504 Bridge Point Parkway

Austin, TX 78730-5039

(512) 794-0100



Accessories and Software Packages for the Allegiant® Switcher/Control Systems



The Allegiant® accessory products provide many optional features to the base Allegiant Video Switcher/Control System. Accessory products are used to provide camera pan/tilt/zoom control, alarm call-ups, relay outputs, and expansion of existing main CPU bay hardware ports. All accessory products are designed to be compatible throughout the Allegiant systems.

Accessory Items

Model No.	Description
LTC 8553 Series	Keyboard
LTC 8555 Series	Keyboard
LTC 9050/00	Keyboard Rack Mount Kit
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
LTC 8560 Series	Receiver/Drivers
LTC 8569 Series	Code Merger Units
LTC 8570 Series	Code Merger Units
LTC 8590 Series	Allegiant® Coaxial Transmission Systems
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

Model No.	Application
LTC 8785 Series	Code Converter Units
LTC 8808/00	Video Interconnect Panel
LTC 8770 Series	Relay Units
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 8506/00	Cable, PC-to-Console Port
LTC 8507/00	Cable, Printer Port
LTC 8809/00	Ribbon Cable. 1.8 m (6 ft).
LTC 8809/01	Ribbon Cable. 0.9 m (3 ft).

Windows®-based Software Packages

Model No.	Application
LTC 8059/00	Master Control Software
LTC 8850/00	Graphical User Interface

SPECIFICATIONS

Environmental

Note: Specifications as noted below unless otherwise specified in applicable accessory literature.

Temperature:

Operating: +4 °C to +50 °C (+40 °F to +122 °F).
Humidity: 0% to 95% relative, noncondensing.

Shock: 50 g, 11 ms, 1/2 sine.

Altitude: 3000 m (10,000 ft).

LTC 8550/00, LTC 8550/01 Keyboards

Full function keyboard used for system control and programming. Includes integral fixed speed pan/tilt joystick and zoom lens controls. Power provided by main CPU bay using supplied 4 m (12 ft) cable. All '01' keyboard models utilize icons to identify the keys in lieu of the English descriptions.

Electrical

Operating Voltage: 12 VAC (supplied by main CPU bay).

Power: 3.6 W nominal.

Signal: Two wire RS-485, 9600 baud.

Connectors: One 6 contact connector for data/power.

Mechanical

Construction/Finish: High impact polystyrene. Charcoal colored case with mushroom colored keys.

Dimensions: 483 W x 51 D x 178 H mm (19 x 2 x 7 in).

Weight: 1.24 kg (2.7 lb).

LTC 8551/00, LTC 8551/01 Keyboards

Same as LTC 8550 Series keyboards except contains four directional oriented, nonprotruding push buttons instead of joystick for applications where a flush mounted appearance is desired.

LTC 8554/00, LTC 8554/01 Keyboards

Reduced size version of LTC 8551 Series keyboards.

Dimensions: 220 W x 51 D x 155 H mm (8.67 x 2.00 x 6.11 in).

Weight: 0.5 kg (1.1 lb).

LTC 8553/00, LTC 8553/01 Keyboards

Similar to LTC 8550 Series keyboards except contains variable speed joystick for use in Allegiant systems where variable speed pan/tilt control is desired using AutoDome® pan/tilt/zoom/cameras.

LTC 8555/00, LTC 8555/01 Keyboards

Reduced size version of LTC 8553 Series keyboards.

Dimensions: 220 W x 51 D x 155 H mm (8.67 x 2.00 x 6.11 in).

Weight: 0.55 kg (1.22 lb).

LTC 9050/00 Keyboard Rack Mount Kit

Rack mounting kit designed to provide vertical, horizontal or 30° inclined mounting for LTC 8550, LTC 8551, LTC 8553, or LTC 8552 Series keyboards.

Finish: Flat black.

Dimensions: Width: 1 EIA standard rack unit; height: 5 EIA standard rack units.
483 W x 220 H mm (19 x 8.75 in).

Weight: 1 kg (2 lb).

LTC 8558/00 Keyboard Extension Cable

Six conductor extension cable carries data/power for remote LTC 8550, LTC 8551, or LTC 8553 Series keyboards up to 30 meters (100 ft) away from main CPU bay.

LTC 8557 Series Keyboard Extension Kits

Interface kit used to remote LTC 8550, LTC 8551, or LTC 8553 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:

4-position screw terminal block.
6-contact keyboard cable connector.

Mechanical

Construction/Finish: Surface mountable, flat black painted metal enclosure.

Dimensions: 82 W x 57 D x 25 H mm (3.25 x 2.25 x 1 in).

Weight: 170 g (6 oz).

LTC 8568/00 Signal Distribution Unit

Main site biphasic control code distribution and line driver unit for communicating to receiver/drivers, switcher/followers, and satellite systems. 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 CPU bay supplied. Not applicable to the LTC 8100, LTC 8200, & LTC 8300 Series systems.

Electrical

Operating Voltage: 12 VAC (supplied by main CPU bay).

Power: 3 W.

Indicators:

Power: LED.

Code: LED.

Connectors:

Input: 9-pin 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 mm² (18 AWG) shielded-twisted pair (Belden 8760 or equivalent).

Mechanical

Construction/Finish: Charcoal colored metal enclosure.

Dimensions: 445 W x 318 D x 89 H mm (17.5 x 12.5 x 3.5 in). Integral mounting flanges for EIA 19-inch 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, & 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 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 which operate 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, & 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: 64; twenty 6-contact removable screw terminal blocks for alarm inputs.

Alarm Outputs: Four 6-contact removable screw terminal block; relay outputs (100 VDC, 0.5 A, 10 W).

Data/Power: One 9-pin connector.

Mechanical

Construction/Finish: Charcoal colored metal enclosure.

Dimensions: 445 W x 318 D x 89 H mm (17.5 x 12.5 x 3.5 in). Integral mounting flanges for EIA 19-inch rack.

Weight: 1.8 kg (4 lb).

LTC 8560 Series, LTC 8561 Series, LTC 8562 Series, LTC 8563/20, LTC 8564/20, LTC 8566 Series

Receiver/Drivers

On-site receiver/drivers for control of pan/tilt, zoom lenses, auxiliary functions, etc. Refer to separate data sheets for complete specifications.

G3 AutoDome Series

The G3 AutoDome system integrates high speed panning and tilting, 360° continuous rotation, pre-positions, etc. in a small, easy-to-install lightweight package. Refer to separate datasheet for complete specification.

LTC 8569, LTC 8570, LTC 8571, LTC 8572 Series Code Merger Units

Control code merger and line driver units used to combine Allegiant biphasic control code from two (up to four with LTC 8570 and LTC 8572 versions) systems for communicating to receiver/drivers, switcher/followers, and 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 (four with LTC 8570 and LTC 8572) data cables for interface to Allegiant main CPU bays supplied. Unit will accept signal input either from Allegiant main CPU bay, LTC 8568/00 output, LTC 8780 biphasic 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
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 9-pin connectors (four with LTC 8570 Series and LTC 8572 Series).

Outputs: Sixteen (32 on LTC 8572 Series) 6 contact removable screw terminal blocks for code output. Maximum transmission distance is 1.5 km (5000 ft) using 1 mm² (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: 445 W x 318 D x 89 H mm (17.5 x 12.5 x 3.5 in). Integral mounting flanges for EIA 19-inch 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 biphasic control code. These devices include the Allegiant series of video matrix switcher/controllers, System4 series of multiplexers, LTC 5136 controller series, Phoneline Video Transmission Systems, Code Merger Series Units, and various Data Converter Series Units. The LTC 8770 receives biphasic control signals and opens or closes relays, depending upon the desired operating mode. There are 24 individually isolated relays in which to connect to various devices and there are six functional operating modes and one user test mode to aid installation.

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 3-pin removable screw terminal connector, located on the rear panel; communication port where biphasic commands are received.

Outputs: Four 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: 223 W x 280 D x 40 H mm (8.77 x 11 x 1.59 in).

Weight: 1.9 kg (4.3 lb).

Optional Rack Mount Kit: LTC 9101/00.

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 which 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 Philips Graphical User Interface (GUI), access control systems, LTC 8552/00 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 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 9-pin connector; provides RS-232 interface to Allegiant bay. Two meter (6 ft) interconnect cable to main bay supplied.

Outputs: Four 9-pin 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: 223 W x 280 D x 40 H mm (8.77 x 11 x 1.59 in).

Weight: 1.9 kg (4.3 lb).

Optional Rack Mount Kit: LTC 9101/00.

LTC 8713 Series Alarm Port Expander

The LTC 8713 Series interfaces to either a LTC 8560, 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 V AC or DC, 5 watt 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
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 9-pin connector; provides RS-232 interface to main Allegiant bay. Two meter (6 ft) interconnect cable to main bay supplied.

Outputs: Four non-powered 9-pin 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 V AC or DC, 5 watt 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: 223 W x 280 D x 40 H mm (8.77 x 11 x 1.59 in).

Weight: 1.9 kg (4.3 lb).

Optional Rack Mount Kit: LTC 9101/00.

LTC 8590 Series

Allegiant® Coaxial Transmission Systems (ACTS)

ACTS mixes and matches audio, video, data, and camera control and interfaces with other equipment like door strikes, request-to-exit switches and door contacts. Refer to the LTC 8590 Series data sheet for complete specifications.

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 kits are 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 9-pin connector provides data interface to COMM2 port of main Allegiant CPU bay or to expansion port of LTC 8715 Series. Two meter (6 foot) interconnect cable supplied.

Keyboard Data Ports: Eight 6-contact nonpowered Allegiant series keyboard cable connectors. An LTC 8557 Series keyboard hookup kits are required for each Allegiant series keyboard to be interfaced to LTC 8714 Series.

LTC 8715 Series Connectors:

Interface Data Ports: Five 9-pin connectors provide data interface to COMM2 port of main Allegiant CPU bay and data interface for up to four LTC 8714 Series units. Two meter (6 foot) 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: 223 W x 280 D x 40 H mm (8.77 x 11 x 1.59 in).

Weight: 1.9 kg (4.3 lb).

Optional Rack Mount Kit: LTC 9101/00.

LTC 8780 Series Data Converter Units

The LTC 8780 Series are accessory units that convert the Allegiant system's biphasic control code into RS-232, and converts RS-232 back to biphasic 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 biphasic control code generated by an Allegiant main CPU bay, a LTC 8568/00 Signal Distribution unit, a LTC 5135 Series Contoller Follower, 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 TC8780 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 data sheet 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 biphasic 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 are code translators which can convert Allegiant control code to and from other manufacturer code formats. Contact your local manufacturer's representative for additional information.

LTC 8785 Series Code Converters

LTC 8785 Series units are designed for use in existing Allegiant systems which have been upgraded to operate the new AutoDome series of cameras. 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. The LTC 8785 would receive the 'variable speed' control code from the Allegiant via its LTC 8568/00 Signal Distribution unit and convert 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 9-pin connector.

Outputs: Sixteen 6 contact removable screw terminal blocks for code output. Maximum transmission distance is 1.5 km (5000 ft) using 1 mm² (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: 445 W x 318 D x 89 H mm (17.5 x 12.5 x 3.5 in). Integral mounting flanges for EIA 19-inch rack.

Weight: 5.3 kg. (11.7 lb).

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 foot) 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 19-inch rack unit high and one unit wide. Integral mounting flange design.

Weight: 0.8 kg (1.8 lb).

LTC 8059/00 Allegiant Master Control Software for Windows®

The LTC 8059/00 Allegiant Master Control Software consists of a Windows NT®, 95, or 98 compatible program which allows quick and easy configuration of standard system features. The program provides advanced alarm and sequence programming in addition to other features which are not available using the system keyboard. An on-line real-time monitoring of system status is also included.

Other standard Master Control Software for Windows features include: user passwords, lockout tables, 64 programmable time event functions, and custom alarm responses using the VersAlarm alarm mode. In addition to the operational switching sequences normally entered from the standard keyboard, much more complex switching sequences may be programmed which incorporate remote control commands as part of the switching sequence. The ability to detect video loss (except in the LTC 8500 series Allegiant system) and to monitor the system operation in real-time on all systems is a standard feature of the Allegiant Master Control Software package.

The LTC 8059/00 Software packages includes 3 1/2-inch program disks containing Allegiant Master Control Software for Windows program, interface cable, and Users Manual for custom programming of Allegiant system.

The program requires a computer running Windows NT, Windows 95, or Windows 98, one serial port, and one parallel port.

LTC 8850 Windows Based Allegiant Software

The LTC 8850 is a software package utilizing a Graphical User Interface (GUI) to integrate and control security systems. Refer to the LTC 8850 data sheet for complete specifications.

Windows® and Windows NT® are registered trademarks of Microsoft Corporation.

IBM® is a registered trademark of IBM Corporation.

Hercules™ is a trademark of Hercules Technology.

Electromagnetic Compatibility

Model No.	EMC & Safety	Emission Class
LTC 8550 Series	CE	B
LTC 8551 Series	CE	B
LTC 8558 Series	CE	B
LTC 8554 Series	CE	B
LTC 8555 Series	CE	B
LTC 8568/00	CE	B
LTC 8768/00	CE	B
LTC 8540/00	CE	B
LTC 8560 Series	CE, UL, cUL	B
LTC 8562 Series	CE, UL, cUL	B
LTC 8563/20	CE, UL, cUL	B
LTC 8561 Series	CE, UL, cUL	B
LTC 8564/20	CE, UL, cUL	B
LTC 8566 Series	CE, UL, cUL	B
LTC 8569 Series	CE, UL, cUL	B
LTC 8570 Series	CE, UL, cUL	B
LTC 8571 Series	CE, UL, cUL	B
LTC 8572 Series	CE, UL, cUL	B
LTC 8590 Series	CE, UL, cUL	B
LTC 8770 Series	---	A
LTC 8712 Series	CE	B
LTC 8713 Series	CE	B
LTC 8714 Series	CE	B
LTC 8715 Series	CE	B
LTC 8780 Series	CE	B
LTC 8781 Series	CE	B
LTC 8785 Series	CE, UL, cUL	B

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Let's make things better.

LTC 8560 Series, LTC 8562 Series, LTC 8563/20 Economical Single Channel On-site Receiver/Drivers

- n **Pan/Tilt/Zoom Control**
- n **Biphase or RS-232 Data Input**
- n **Compatible with Allegiant® Systems**
- n **Variety of Input/Output Voltages**
- n **Integral Local Test Feature**
- n **Indoor/Outdoor Applications**



The LTC 8560 Series, LTC 8562 Series, and 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 Microprocessor-based Switcher/Controller Systems.

The receiver/driver decodes Allegiant biphasic control data from the switcher/controller system through the LTC 8568 Series Signal Distribution Unit into specific control codes. In addition, the receiver/driver will accept 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 volts or 12 volts 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.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage ¹	Voltage Range	Pan/Tilt and Auxiliary Supply
LTC 8560/60 ²	120 VAC, 50/60 Hz	100 to 130	120 VAC, 50/60 Hz
LTC 8562/60 ^{3,5}	120 VAC, 50/60 Hz	100 to 130	24 VAC, 50/60 Hz
LTC 8562/50 ^{4,5}	230 VAC, 50/60 Hz	198 to 264	24 VAC, 50/60 Hz
LTC 8560/50 ²	230 VAC, 50/60 Hz	198 to 264	230 VAC, 50/60 Hz
LTC 8563/20 ²	24 VAC, 50/60 Hz	20 to 28	24 VAC, 50/60 Hz

1. Power (all models): 15 W at rated voltage (not including pan/tilt).
2. Fuse protected at 2.0 A.
3. Fuse protected at 1.0 A.
4. Fuse protected at 0.4 A.
5. For the LTC 8562/60 and LTC 8562/50, the maximum total current output, including pan/tilt output and auxiliary supply output, is 2.0 A.

Pan/Tilt Output: 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: 295 H x 241 W x 165 D 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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 50 g, 11 ms, ½ sine.

Enclosure Protection: NEMA-4X, IP66.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.

Alternate Models

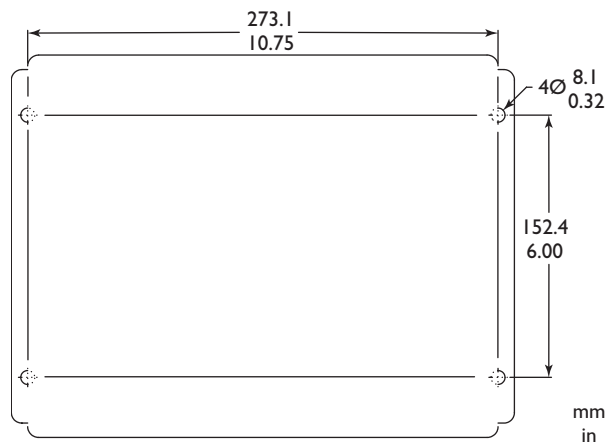
LTC 8561 Series, LTC 8564/20, and LTC 8566 Series:

For pre-position, auxiliary, and auto-pan functions, use the full-featured LTC 8561 Series, LTC 8564/20, or LTC 8566 Series receiver/drivers. Refer to data sheet for complete specifications.

LTC 8563/20 AC Supply Wiring Guide

Wire Size		0.5 A Load		1.0 A Load		1.5 A Load		2.0 A Load	
mm ²	AWG	m	ft	m	ft	m	ft	m	ft
0.5	20	30	100	20	70	15	50	12	40
1.0	18	50	150	30	100	25	75	20	70
1.5	16	80	260	50	150	40	130	30	100
2.5	14	130	420	90	290	60	200	50	150
4.0	12	200	650	140	460	110	350	90	290

Table is based on a nominal 24 VAC source with a 10% drop in voltage due to cable loss.



Mounting Hole Pattern

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Let's make things better.

LTC 856 I Series, LTC 8564/20, LTC 8566 Series Single Channel On-site Receiver/Drivers

- n **Full Featured Pan/Tilt/Zoom/Aux Control**
- n **Auto-pan/Random Pan**
- n **Biphase or RS-232 Data Input**
- n **99 Pre-positions with Tour Capability**
- n **Pre-positions Compatible with 360° Continuous Pan/Tilt Drives**
- n **Integral Local Test Feature**



The LTC 856 I Series, LTC 8564/20, and LTC 8566 Series 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 Microprocessor-based Switcher/Controller Systems.

The receiver/driver decodes Allegiant biphasic control data from the switcher/controller system through the LTC 8568/00 Signal Distribution Units into specific control codes. In addition, the receiver/driver will accept RS-232 control code data generated by the LTC 8780 Series 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 volts or 12 volts selectable) for focus, zoom, and iris with adjustable speed. There are also four auxiliary outputs. One is a solid state relay with zero crossing switching fixed to the

same voltage as the pan/tilt output. The others are relays which can supply voltage through contacts (normally open or normally closed) to control lights or other devices at the remote site. Auxiliary supply terminals provide power which is fuse-protected at the voltage of the pan/tilt output.

Advanced features include 99 pre-positions when using conventional 355° pan/tilt drivers, 82 pre-positions when using 360° continuous pan/tilt drivers, installer friendly connectors, lockable enclosure latches, 10-bit resolution for improved pan/tilt pre-position accuracy, and automatic pre-position tour capability.

Additional features include a full operating temperature range, an integral local test function, an unrestricted auto-pan feature for all models of pan/tilts, random pan, a unique dither feature, selectable latching or momentary auxiliaries, polarity reversible lens drive, convenient thumbwheel selectable camera addressing, and a NEMA-4X, IP66 rated environmental enclosure.

SPECIFICATIONS

Electrical

Model No.	Rated Voltage ¹	Voltage Range	Pan/Tilt, Aux 1, & Aux Supply
LTC 8561/60 ²	120 VAC, 50/60 Hz	100 to 130	120 VAC, 50/60 Hz
LTC 8566/60 ^{3,5}	120 VAC, 50/60 Hz	100 to 130	24 VAC, 50/60 Hz
LTC 8566/50 ^{4,5}	230 VAC, 50/60 Hz	198 to 264	24 VAC, 50/60 Hz
LTC 8561/50 ²	230 VAC, 50/60 Hz	198 to 264	230 VAC, 50/60 Hz
LTC 8564/20 ²	24 VAC, 50/60 Hz	20 to 28	24 VAC, 50/60 Hz

1. Power (all models): 15 W at rated voltage (not including pan/tilt).
2. Fuse protected at 2.0 A.
3. Fuse protected at 1.0 A.
4. Fuse protected at 0.4 A.
5. For the LTC 8566/60 and LTC 8566/50, the maximum total current output, including Pan/Tilt output, Auxiliary 1 output and Auxiliary Supply output, is 2.0 A.

Pan/Tilt Output: 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.

Auto-pan Auxiliary Output 1: Solid state drive with zero crossing turn-on; 1.0 A drive capability.

Auxiliary Output 2, 3, and 4: Relay contact rating 250 VAC, 5.0 A resistive, 0.25 hp.

Pre-positions: 99 with 4 functions each for use with 355° pan/tilt drivers or 82 with 5 functions each for use with continuous pan/tilt drivers. Pan/tilt positions sensed at 10-bit accuracy. Note that the maximum number of pre-positions available in the system is dependent on the type of control system employed. Refer to the applicable controller specification for exact pre-position capabilities.

Mechanical

Size: 295 H x 241 W x 165 D 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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

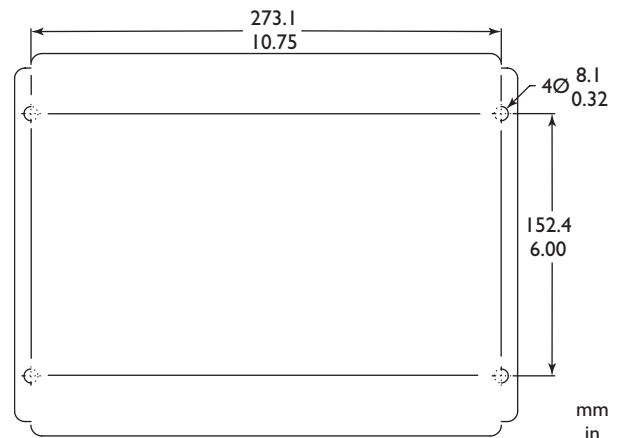
Shock: 50 g, 11 ms, ½ sine.

Enclosure Protection: NEMA-4X, IP66, Enclosure Type RJ 1008 HPL.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

Safety: CE, UL, cUL.



Mounting Hole Pattern

LTC 8564/20 AC Supply Wiring Guide

Wire Size mm ² AWG	0.5 A Load		1.0 A Load		1.5 A Load		2.0 A Load	
	m	ft	m	ft	m	ft	m	ft
0.5 20	30	100	20	70	15	50	12	40
1.0 18	50	150	30	100	25	75	20	70
1.5 16	80	260	50	150	40	130	30	100
2.5 14	130	420	90	290	60	200	50	150
4.0 12	200	650	140	460	110	350	90	290

Table is based on a nominal 24 VAC source with a 10% drop in voltage due to cable loss.



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Let's make things better.

LTC 8780 Series Data Converter Units

- **Designed for Various Applications Utilizing Allegiant® Series Switchers**
- **Converts Allegiant Biphase Control Code to RS-232 and RS-232 to Biphase**
- **Provides Satellite Address Decoding**
- **Signal Distribution Mode Provides 15 Separate Outputs**
- **Compatible with LTC 5135 Series Controller/Followers**



The LTC 8780 Series are accessory units that convert the Allegiant system's biphase control code into RS-232, or convert RS-232 back to biphase 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 will accept the biphase control code generated by an Allegiant main CPU bay, a LTC 8568/00 Signal Distribution unit, a LTC 5135 Series Controller/Followers, or an output from a LTC 8569 Series or 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 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 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).

SPECIFICATIONS

Electrical

Model No.	Rated Voltage	Voltage Range
LTC 8780/60	120 VAC, 50/60 Hz	108 to 132
LTC 8780/50	230 VAC, 50/60 Hz	198 to 264

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:
Biphase Control Code: One 15-pin connector (mating connector supplied).
RS-232: One 9-pin male connector (pin compatible with industry standard modem cable (mating cable not supplied).

Connectors (Cont'd):

Outputs:
Biphase Control Code: Three 15-pin connectors providing a total of 15 separate biphase outputs (mating connectors supplied).
Console: One 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: 223 W x 280 D x 40 H 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, noncondensing.

Vibration: 3 g swept sine wave, 15 Hz to 2000 Hz.

Shock: 30 g, 11 ms, 1/2 sine.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B, FCC Class B, ICES-003.

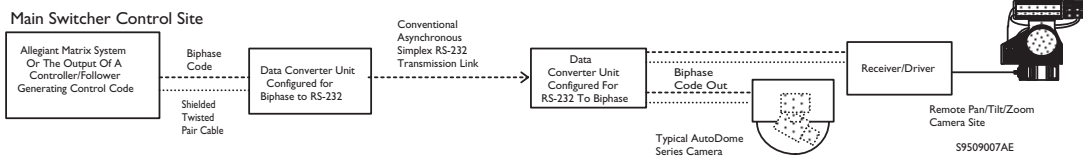
Safety: CE, UL, cUL.

Options

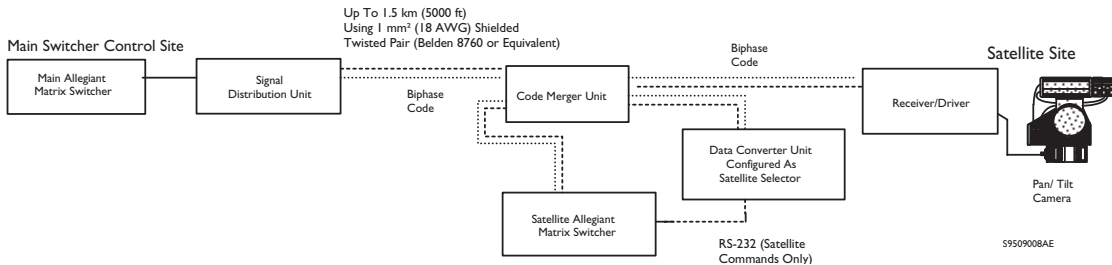
LTC 9101/00 Rack Kit: For mounting one or two units in an EIA 19-inch rack.

Height: 1 standard rack unit.

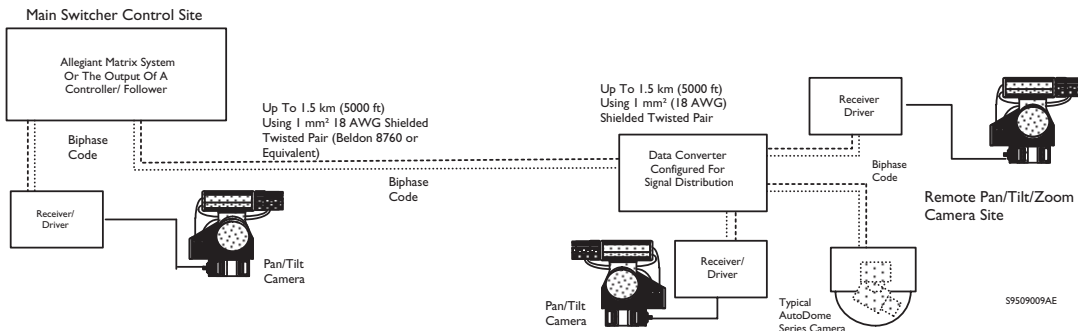
Width: 1 standard rack unit.



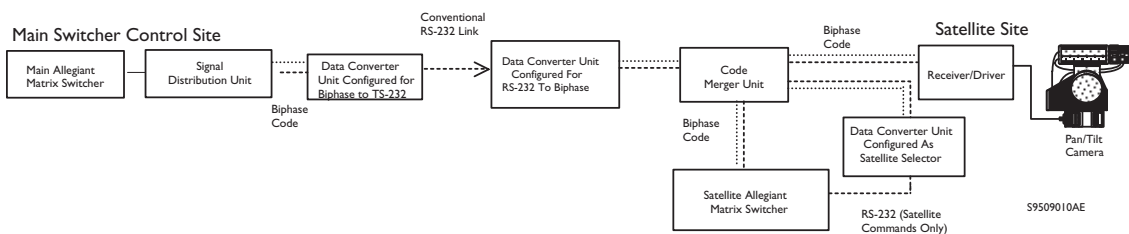
Code Conversion Application



Satellite Address Decoder Application



Configured as Remote Signal Distribution Unit



Code Conversion Combined With Satellite Address Decoding

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Video Transmission Systems

LTC 4600 Series LTC 4700 Series Fiber Optic Transmission Systems

- n **Video or Data Transmission**
- n **850 nm and 1300 nm Models**
- n **No Adjustments Required**
- n **Long Distance – High Security**
- n **Compatible with Microprocessor Switcher/Control Systems**
- n **Color Compatible**



The LTC 4600 Series and LTC 4700 Series are transmission systems that provide efficient, high quality video or data transmission via 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.

Various accessories such as racking equipment are available for most of these systems.

LTC 4641 and LTC 4642

The LTC 4641 transmitter and LTC 4642 receiver are designed for transmission of CCTV video signals. This link operates in the 850 nm range which enables the output to track the input over a wide range of cable attenuation. 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.

LTC 4741 and LTC 4742

The LTC 4741 transmitter and LTC 4742 receiver are video units similar to the LTC 4641 transmitter and LTC 4642 receiver except that they operate in the 1300 nm range to maximize transmission distance.

LTC 465 I

The LTC 465I transceivers are designed especially for the transmission of the balanced biphasic digital control signals used in the Allegiant® switcher/controller systems. They are also compatible with the Manchester code or RS422 signal. These units operate in the 850 nm range and contain a removable screw terminal type connector which allows easy connection to the shielded twisted pair cable carrying the control signal. These units also can be used as an RS-232C transceiver which operates in the 850 nm range. It consists of an optical transmitter and receiver which 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 475 I

The LTC 475I transceivers are biphasic or Manchester or RS-232 digital control units similar to the LTC 465 I transceiver except that they operate in the 1300 nm range to maximize transmission distance.

LTC 467 I

The LTC 467I series are RS-485 transceivers designed especially for use

with an Allegiant system or System4™ keyboard. The unit contains both a transmitter and a receiver operating in the 850 nm range to allow bi-directional communication using two fibers between an Allegiant system or System4 Video controller and its remote keyboard.

LTC 477 I

The LTC 477I unit is an RS-485 transceiver similar to the LTC 467I except that it operates in the 1310 nm range to maximize transmission distance.

LTC 4628 and LTC 4629

The LTC 4628 and LTC 4629 are a bi-directional transmission systems designed to implement a complete CCTV system using a single optical fiber cable. Utilizing full duplex capabilities, this system independently transmits a video signal from the camera location to the monitor location while simultaneously transmitting an Allegiant balanced biphasic digital control signal from the monitor location to the camera location.

The video channel is compatible with monochrome or color cameras. Both units incorporate LED indicators which provide the user with quick visual indication of the module performance.

LTC 4644 and LTC 4645

The LTC 4644 transmitter and LTC 4645 receiver are designed for the transmission of up to 4 CCTV video signals on one multimode fiber cable. This link operates in the 850 nm range and incorporates FM modulation which enables the output to track the input over a wide range of cable attenuation.

LTC 4772 and LTC 4773

The LTC 4772 and LTC 4773 are bi-directional transmission systems designed to implement a complete CCTV system using a single optical cable with full duplex capabilities. These systems independently transmit the video signal from the system (Allegiant/System4 mux) location to the monitor location while simultaneously transmitting and receiving data from the Allegiant or System4 keyboard control (RS-485) from the monitor location to the system (Allegiant/System4 mux) location. The video channel is compatible with monochrome or color cameras. Both units incorporate LED indicators which provide the user with quick visual indication of the module performance.

Description	Models	Maximum Distance	Optical Budget	Number of Rack Slots	Dimension (Inches) L x W x H	Dimension (mm) L x W x H	Number of Fibers	Differential Gain	Differential Phase
Video (850 nm)									
Transmitter	LTC 4641/60 LTC 4641/50	4.0 km (2.5 miles)	14 dB @ 850 nm	NA	2.5 x 1.6 x 1	63.5 x 40.6 x 25.4	1	<5%	<5°
Receiver	LTC 4642/60 LTC 4642/50	4.0 km (2.5 miles)	14 dB @ 850 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Receiver/Rack	LTC 4642/00	4.0 km (2.5 miles)	14 dB @ 850 nm	1	NA	NA	1	<5%	<5°
Data (850 nm)									
Biphase & RS-232 Transmitter/Receiver	LTC 4651/60 LTC 4651/60	4.8 km (3.0 miles)	17 dB @ 850 nm	NA	4.2 x 3.5 x 1.0	106.6 x 88.9 x 25.4	1 (Biphase), 2 (RS-232)	N/A	N/A
Biphase & RS-232 Transmitter/Receiver Rack	LTC 4651/00	4.8 km (3.0 miles)	17 dB @ 850 nm	1	NA	NA	1 (Biphase), 2 (RS-232)	N/A	N/A
RS-485 Data Transmitter/Receiver	LTC 4671/60 LTC 4671/50	4.0 km (2.5 miles)	14 dB @ 850 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	2	N/A	N/A
RS-485 Data Transmitter/Receiver Rack	LTC 4671/00	4.0 km (2.5 miles)	14 dB @ 850 nm	1	NA	NA	2	N/A	N/A
Video & Data (850 nm / 1300 nm)									
Video + Biphase Transmitter	LTC 4628/60 LTC 4628/50	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Video + Biphase Receiver	LTC 4629/60 LTC 4629/50	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Video + Biphase Transmitter/Rack	LTC 4628/00	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	1	NA	NA	1	<5%	<5°
Video + Biphase Receiver/Rack	LTC 4629/00	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	1	NA	NA	1	<5%	<5°
Video (1300 nm)									
Transmitter	LTC 4741/60 LTC 4741/50	16 km (10 miles)	16 dB @ 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<2%	<2°
Receiver	LTC 4742/60 LTC 4742/50	16 km (10 miles)	16 dB @ 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<2%	<2°
Transmitter/Rack	LTC 4741/00	16 km (10 miles)	16 dB @ 1300 nm	1	NA	NA	1	<2%	<2°
Receiver/Rack	LTC 4742/00	16 km (10 miles)	16 dB @ 1300 nm	1	NA	NA	1	<2%	<2°
Data (1300 nm)									
Biphase & RS-232 Transmitter/Receiver	LTC 4751/60 LTC 4751/50	13 km (8.0 miles)	13 dB @ 1300 nm	NA	4.2 x 3.5 x 1.0	106.6 x 88.9 x 25.4	1 (Biphase), 2 (RS-232)	N/A	N/A
Biphase & RS-232 Transmitter/Receiver Rack	LTC 4751/00	13 km (8.0 miles)	13 dB @ 1300 nm	1	NA	NA	1 (Biphase), 2 (RS-232)	N/A	N/A
RS-485 Data	LTC 4771/60 LTC 4771/50	13 km (8.0 miles)	13 dB @ 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	2	N/A	N/A
RS-485 Data Rack	LTC 4771/00	13 km (8.0 miles)	13 dB @ 1300 nm	1	NA	NA	2	N/A	N/A
Video & Data (850 nm/1300 nm)									
Video + RS-485 Data Transmitter	LTC 4772/60 LTC 4772/50	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Video + RS-485 Data Receiver	LTC 4773/50 LTC 4773/50	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Video + RS-485 Data Transmitter Rack	LTC 4772/00	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	1	NA	NA	1	<5%	<5°
Video + RS-485 Data Receiver Rack	LTC 4773/00	4.0 km (2.5 miles)	14 dB @ 850 / 1300 nm	1	NA	NA	1	<5%	<5°
Rack Kit									
110 Volts Power Supply	LTC 4637/60	NA	NA	14-slot capacity	7.0 x 19.0 x 5.25	177.8 x 482.6 x 133.4	N/A	N/A	N/A
220 Volts Power Supply	LTC 4637/50	NA	NA	14-slot capacity	7.0 x 19.0 x 5.25	177.8 x 482.6 x 133.4	N/A	N/A	N/A
Video 4 Channels									
Transmitter	LTC 4644/60 LTC 4644/50	2.0 km (1.25 miles)	10 dB @ 850 nm	NA	7.0 x 4.9 x 1.0	177.8 x 124.5 x 25.4	1	<5%	<5°
Receiver	LTC 4645/60 LTC 4645/50	2.0 km (1.25 miles)	10 dB @ 850 nm	NA	7.0 x 4.9 x 2.0	178.8 x 124.5 x 50.8	1	<5%	<5°
Transmitter/Rack	LTC 4644/00	2.0 km (1.25 miles)	10 dB @ 850 nm	2	NA	NA	1	<5%	<5°
Receiver/Rack	LTC 4645/00	2.0 km (1.25 miles)	10 dB @ 850 nm	2	NA	NA	1	<5%	<5°

SPECIFICATIONS

Transmitters

Transmitter	Description	Power Supply	Compatible Receiver
LTC 4628 Series			
LTC 4628/60	Video & Biphase Transmitter	110 V	LTC 4629/60, LTC 4629/00
LTC 4628/50	Video & Biphase Transmitter	220 V	LTC 4629/50, LTC 4629/00
LTC 4628/00	Video & Biphase Transmitter	LTC 4637	LTC 4629/60, LTC 4629/50
LTC 4641 Series			
LTC 4641/60	Mini Video Transmitter	110 V	LTC 4642/60, LTC 4642/00
LTC 4641/50	Mini Video Transmitter	220 V	LTC 4642/50, LTC 4642/00
LTC 4644 Series			
LTC 4644/60	4-channel, FM Video Transmitter	110 V	LTC 4645/60, LTC 4645/00
LTC 4644/50	4-channel, FM Video Transmitter	220 V	LTC 4645/50, LTC 4645/00
LTC 4644/00	4-channel, FM Video Transmitter	LTC 4637	LTC 4645/60, LTC 4645/50, LTC 4645/00
LTC 4741 Series			
LTC 4741/60	Video Transmitter	110 V	LTC 4742/60, LTC 4742/00
LTC 4741/50	Video Transmitter	220 V	LTC 4742/50, LTC 4742/00
LTC 4741/00	Video Transmitter	LTC 4637	LTC 4742/60, LTC 4742/50, LTC 4742/00
LTC 4772 Series			
LTC 4772/60	Video & Data Transmitter	110 V	LTC 4773/60, LTC 4773/00
LTC 4772/50	Video & Data Transmitter	220 V	LTC 4773/50, LTC 4773/00
LTC 4772/00	Video & Data Transmitter	LTC 4637	LTC 4773/60, LTC 4773/50, LTC 4773/00

Transceivers

Transceiver	Description	Power Supply
LTC 4651 Series		
LTC 4651/60	Biphase & RS232 Transceiver	110 V
LTC 4651/50	Biphase & RS232 Transceiver	220 V
LTC 4651/00	Biphase & RS232 Transceiver	LTC 4637
LTC 4751 Series		
LTC 4751/60	Biphase & RS232 Transceiver	110 V
LTC 4751/50	Biphase & RS232 Transceiver	220 V
LTC 4751/00	Biphase & RS232 Transceiver	LTC 4637

Receivers

Receiver	Description	Power Supply	Compatible Transmitter
LTC 4629 Series			
LTC 4629/60	Video & Biphase Receiver	110 V	LTC 4628/60, LTC 4628/00
LTC 4629/50	Video & Biphase Receiver	220 V	LTC 4628/50, LTC 4628/00
LTC 4629/00	Video & Biphase Receiver	LTC 4637	LTC 4628/60, LTC 4628/50
LTC 4642 Series			
LTC 4642/60	Mini Video Receiver	110 V	LTC 4641/60, LTC 4641/00
LTC 4642/50	Mini Video Receiver	220 V	LTC 4641/50, LTC 4641/00
LTC 4645 Series			
LTC 4645/60	4-channel, FM Video Receiver	110 V	LTC 4644/60, LTC 4644/00
LTC 4645/50	4-channel, FM Video Receiver	220 V	LTC 4644/50, LTC 4644/00
LTC 4645/00	4-channel, FM Video Receiver	LTC 4637	LTC 4644/60, LTC 4644/50, LTC 4644/00
LTC 4742 Series			
LTC 4742/60	Video Receiver	110 V	LTC 4741/60, LTC 4741/00
LTC 4742/50	Video Receiver	220 V	LTC 4741/50, LTC 4741/00
LTC 4742/00	Video Receiver	LTC 4637	LTC 4741/60, LTC 4741/50, LTC 4741/00
LTC 4773 Series			
LTC 4773/60	Video & Data Receiver	110 V	LTC 4772/60, LTC 4772/00
LTC 4773/50	Video & Data Receiver	220 V	LTC 4772/50, LTC 4772/00
LTC 4773/00	Video & Data Receiver	LTC 4637	LTC 4772/60, LTC 4772/50, LTC 4772/00

Optical Fiber Compatibility: 50/125 μm , 62.5/125 μm , 100/140 μm low loss multimode glass fiber rated for a minimum system bandwidth of 20 MHz.

Power Supply: 15 VDC \pm 20%.

Construction: Surface mountable metal enclosure designed to maximize EMI/RFI shielding.

Temperature:

Operating: -40 °C to +74 °C (-40 °F to +165 °F).
Storage: -40 °C to +60 °C (-40 °F to +140 °F).

Humidity: 0% to 90% relative, noncondensing.

Accessories

LTC 4637 Series Rack

LTC 4600/00 Blank Panel (1 Rack Slot)

Model No.	Input Voltage	Voltage Range	Output Voltage	Max Power ¹
LTC 4637/60	120 VAC, 50/60 Hz	108 to 132	12 VDC	40 W
LTC 4637/50	220-240 VAC, 50/60 Hz	198 to 264	12 VDC	40 W

1. Maximum power dissipation (fully loaded).

Construction: Modular style aluminum enclosure.

Indicators: Power supply pilot lamp.

Connectors: AC Line: 3 terminal adapter socket.



Pan/Tilts

LTC 9409 Series Weatherproof Outdoor Pan/Tilts

- n **Low Profile,
Compact Size**
- n **Economical**
- n **100% Duty Cycle Motors**
- n **Upright or Inverted
Operation**
- n **Permanently Lubricated**
- n **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.

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.

Recommended Applications

CCD Camera, Lens, and Housing Combinations

Camera Models	Lens Types / Models					
	Fixed All	1/2-inch - 6X TC9948A	1/2-inch - 6X TC1848B	1/2-inch - 10X TC9970A	1/3-inch - 6X TC9938	1/3-inch - 10X TC9958
TC360 Series	2,3,5	3,4,5,6	3,4,5,6	3	---	---
TC380 Series	2,3,5	3,4,5,6	3,4,5,6	3	---	---
TC390 Series	2,3,5	3,4,5,6	3,4,5,6	3	3,5	3
TC350A Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	---	---
TC370 Series	1,2,3,4,5,6	1,2,3,4,5,6	2,3,4,5,6	3	1,2,3,4,5	1,2,3,4,5
TC550A Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	2,3,4,5	2,3,4,5,6
TC590 Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	2,3,4,5	2,3,4,5
TC650B Series	1,2,3,4,5,6	2,3,4,5,6	3,4,5,6	3	---	---
TC952, TC952X	1,2,3,4,5,6	---	---	---	---	---
TC972, TC972X	1,2,3,4,5,6	---	---	---	---	---

Housing Code:

1. TC9340A 2. TC9385 3. TC9388 4. TC9383 5. TC9358 6. TC9353

SPECIFICATIONS

Electrical

Model No. ¹	Rated Motor Voltage	Operational Range	Total Pan Angle (No Fixed Stop)
Standard Models			
LTC 9409/60	115 VAC, 60 Hz	103 to 126	15° to 355°
LTC 9409/20	24 VAC, 60 Hz	21.6 to 26.4	15° to 355°
LTC 9409/10	24 VAC, 50 Hz	21.6 to 26.4	15° to 355°
LTC 9409/50	230 VAC, 50 Hz	198 to 265	15° to 355°

Pre-Position Models

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

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

Connectors:

Power: Via 7-pin connector on unit.

Positioning: Via 7-pin connector on unit.

Mating connectors provided with unit.

Recommended Maximum Cable Lengths:

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

1. 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 60 Hz (6.3°/sec at 50 Hz).

Tilt: Movement in vertical plane -- +20° to -90° from horizontal.

Maximum Load: 65 kg-cm (56.5 in-lb) torque or 5.0 kg (11 lb) at a distance of 63.5 mm (2.5 in) from the center of mass of the camera/lens/housing assembly to the center of the tilt table.

Construction: Aluminum, with corrosion-resistant hardware.

Finish: Mushroom.

Dimensions: See **Dimensional Outline**.

Weight: 4.8 kg (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, 15 Hz to 2000 Hz.

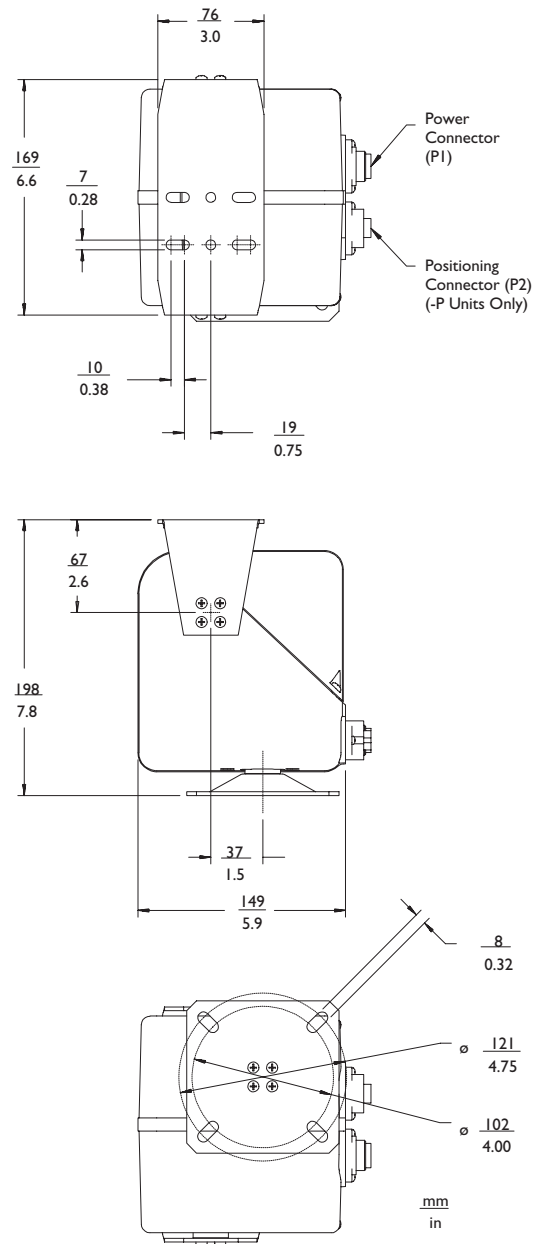
Shock: 50 g, 11 ms, 1/2 sine.

Enclosure Protection: Designed to NEMA-4, IP65/UL50, (Watertight) Enclosure Type 4X.

Electromagnetic Compatibility

EMC Requirements: CE Immunity, CE Emission Class B.

Safety: CE, UL, cUL.



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Dimensional Outline

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LTC 9418 Series Weatherproof Outdoor Pan/Tilts

- n **Maximum Load - 10 kg (22 lb)**
- n **Low Profile, Compact Size**
- n **Corrosion Resistant Hardware**
- n **100% Duty Cycle Motors**
- n **Upright or Inverted Operation**
- n **Pre-position Models Available**



The LTC 9418 Series Weatherproof Outdoor Pan/Tilts are low profile, compact units constructed with corrosion resistant hardware. 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.

SPECIFICATIONS

Electrical

Model No. ¹	Rated Motor Voltage and Voltage Range
Standard Models	
LTC 9418/60	110 VAC, 60 Hz, 108 to 132
LTC 9418/20	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9418/10	24 VAC, 50 Hz, 21.6 to 26.4
LTC 9418/50	220 VAC, 50 Hz, 207 to 253
Pre-position Models	
LTC 9418/61	110 VAC, 60 Hz, 108 to 132
LTC 9418/21	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9418/11	24 VAC, 50 Hz, 21.6 to 26.4
LTC 9418/51	220 VAC, 50 Hz, 207 to 253

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

Connectors:

Power: Via 24-pin connector on base.
Ground: Screw connection for grounding on base.

Recommended Applications

Designed for use with the following housings and appropriate camera/lens combinations up to 10X zoom:

TC9340A
LTC 9383 Series
LTC 9385 Series
LTC 9388 Series
LTC 9480/00
LTC 9483 Series
LTC 9488 Series

Recommended Maximum Cable Lengths:

Model Voltage	Wire Size		Distance	
	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
	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. 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°/sec.

Tilt (Movement in vertical plane): +30° to -90° from 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 in) 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: Mushroom.

Dimensions: See Dimensional Outline.

Weight: 6.21 kg (13.7 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.

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

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50082-1.

Emission: EN50081-1 Class B.

Safety:

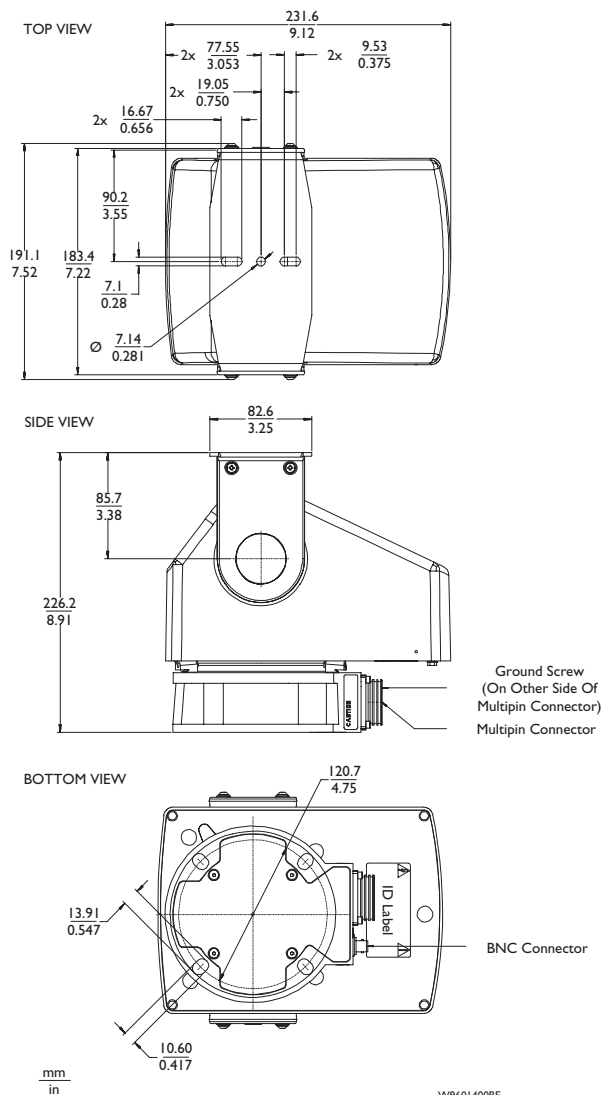
50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60950.

60 Hz Models: UL & cUL.

UL: UL 2044.

cUL: CSA 22.2, No.1.



Dimensional Outline



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LTC 9420 Series Weatherproof Outdoor Pan/Tilts

- n **Maximum Load - 10 kg (22 lb)**
- n **Low Profile, Compact Size**
- n **Feed-through Wiring**
- n **100% Duty Cycle Motors**
- n **Upright or Inverted Operation**
- n **Pre-position and 360° 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.

SPECIFICATIONS

Electrical

Model No. ¹	Rated Motor Voltage and Voltage Range
Standard Models - 0° to 345°	
LTC 9420/60	110 VAC, 60 Hz, 108 to 132
LTC 9420/20	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9420/10	24 VAC, 50 Hz, 21.6 to 26.4
LTC 9420/50	220 VAC, 50 Hz, 207 to 253
Pre-position Models - 0° to 345°	
LTC 9420/61	110 VAC, 60 Hz, 108 to 132
LTC 9420/21	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9420/11	24 VAC, 50 Hz, 21.6 to 26.4
LTC 9420/51	220 VAC, 50 Hz, 207 to 253
Continuous Pan Models - 0° to 360°	
LTC 9420/22	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9420/12	24 VAC, 50 Hz, 21.6 to 26.4
Continuous Pan Models - 0° to 360° with Pre-position Models	
LTC 9420/23	24 VAC, 60 Hz, 21.6 to 26.4
LTC 9420/13	24 VAC, 50 Hz, 21.6 to 26.4

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

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 Applications

Designed for use with the following housings and appropriate camera/lens combinations up to 10X zoom:

TC9340A
LTC 9383 Series
LTC 9385 Series
LTC 9388 Series
LTC 9480/00
LTC 9483 Series
LTC 9488 Series

Recommended Maximum Cable Lengths:

Model Voltage	Wire Size		Distance	
	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. 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 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):

Standard Models: 0° to 345° maximum.

Continuous Pan Models: 360° continuous rotation.

Pan Speed: 7°/sec.

Tilt (Movement in vertical plane): +30° to -90° from 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 in) 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: Mushroom.

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.

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

Electromagnetic Compatibility

EMC Requirements:

50 Hz Models: 89/336/EEC.

Immunity: EN50082-1.

Emission: EN50081-1 Class B.

Safety:

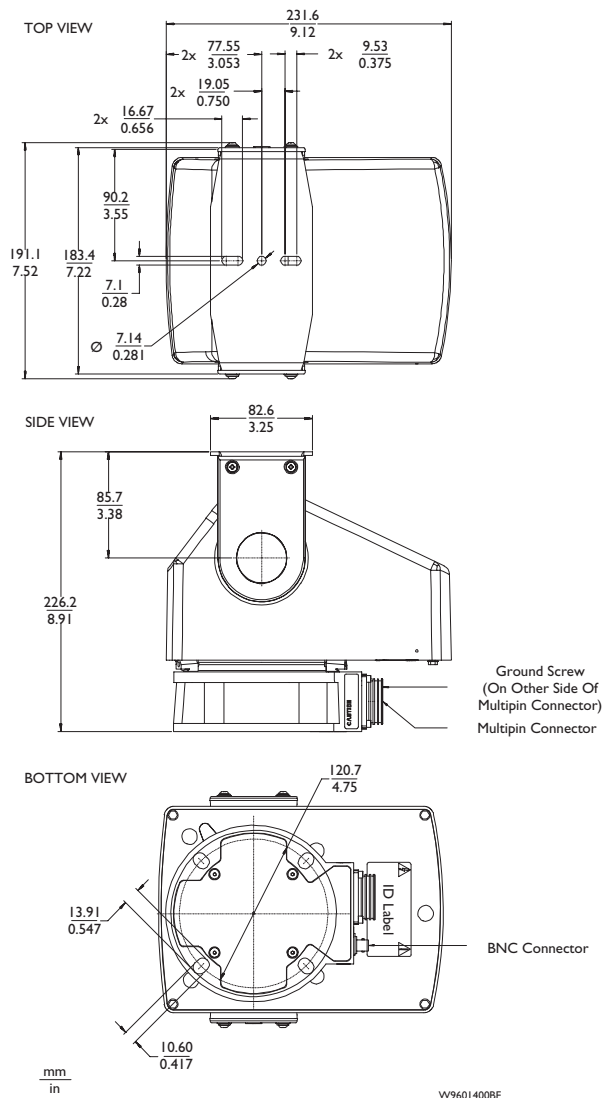
50 Hz Models: CE.

LVD Requirements: 73/23/EEC; EN60950.

60 Hz Models: UL & cUL.

UL: UL 2044.

cUL: CSA 22.2, No.1.



Dimensional Outline



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TC6570PT Series Weatherproof Medium Duty Pan/Tilts

- n Indoor/Outdoor Applications
- n Sealed Aluminum Housing
- n Adjustable Worm Gear Final Drive
- n Upright or Inverted Operation
- n External Limit Stops
- n Pre-position Models Available



The TC6570PT Series are medium duty pan/tilts for indoor/outdoor operation. These units feature rugged high-torque AC motors, with adjustable worm gear final drives to insure long operational life, as well as drift-free operation. The TC6570PT Series are capable of auto-random scan operation when used with receiver/driver (see **Accessories**).

Construction is of aluminum, and all internal parts are corrosion protected. Finish is a textured semi-gloss beige enamel. Limit stops are externally adjustable for ease of installation, the units are completely sealed for all weather use. These units will accept housings with the total load not exceeding 18 kg (40 lb).

SPECIFICATIONS

Electrical

Model No.	Rated Motor Voltage ¹	Run A/VA	Start A/VA
TC6570PT	120 VAC, 50/60Hz	0.18/21.6	0.27/32.4
TC6570PT-PP ²	120 VAC, 50/60 Hz	0.18/21.6	0.27/32.4
TC6570PT-24	24 VAC, 50/60 Hz	0.9/21.6	1.35/32.4
TC6570PT-24PP ²	24 VAC, 50/60 Hz	0.9/21.6	1.35/32.4

1. Ratings are for each pan and tilt motor.
2. Preposition capability.

Connectors: AMP CPC type (mating connector supplied).

Motors: Two phase induction type, Instantaneous reversing.

Limit Switches:

Pan: 5 A, External adjustment.
Tilt: 5 A, External adjustment.

Conductor Requirements:

Unshielded cable with 6 or 7 conductors for left, right, up, down, motor common, and safety ground functions. No additional conductors for auto scan when used with solid-state control. TC6570PT-PP and the TC6570PT-24PP models require an additional 4 conductors.

Recommended Maximum Cable Lengths:¹

TC6570PT, TC6570PT-PP

Wire Size mm AWG	Six Conductors		Seven Conductors ²	
	meters	feet	meters	feet
0.5 20	318.2	1045	633.98	2080
1 18	507.49	1665	1014.98	3330
1.5 16	804.67	2640	1610.87	5285

TC6570PT-24, TC6570PT-24PP

Wire Size mm AWG	Six Conductors		Seven Conductors ²	
	meters	feet	meters	feet
0.5 20	12.19	40	25.91	85
1 18	19.81	65	41.15	135
1.5 16	33.53	110	67.06	220

1. Assumes a 10% cable loss and both motors running.
2. Using 2-wire motor common.

Mechanical

Pan Range: 0° to 355° movement in Horizontal Plane.

Pan Speed (No load condition): 6° ± 1°/s.

Pan Torque: 138.2 kg-cm (10 ft-lb) with specified voltage.

Tilt: ± 90° movement in vertical plane.

Tilt Speed (No load condition): 3° ± 0.5°/s.

Tilt Torque: 276.4 kg-cm (20 ft-lb) with specified voltage.

Maximum Load: 18 kg (40 lb) at 127 mm (5 in) from the center of mass of the camera/lens/housing assembly to the center of the tilt table.

Gearing: Adjustable worm-gear final drive to prevent drift and minimize backlash.

Bearings:

Pan: Heavy-duty ball bearings.

Tilt: Oilite bronze bushing.

Duty Cycle: 50% duty cycle: 30 minute rating.

Braking: Mechanical friction-type.

Construction: Aluminum plate; all internal parts corrosion protected.

Finish: Textured semigloss beige enamel.

Dimensions: See **Dimensional Outline**.

Weight: 9.9 kg (22 lb).

Environmental

Temperature: -23 °C to +49 °C (-10 °F to +120 °F).

Enclosure Protection: NEMA rating 3R.

Accessories

Controls:

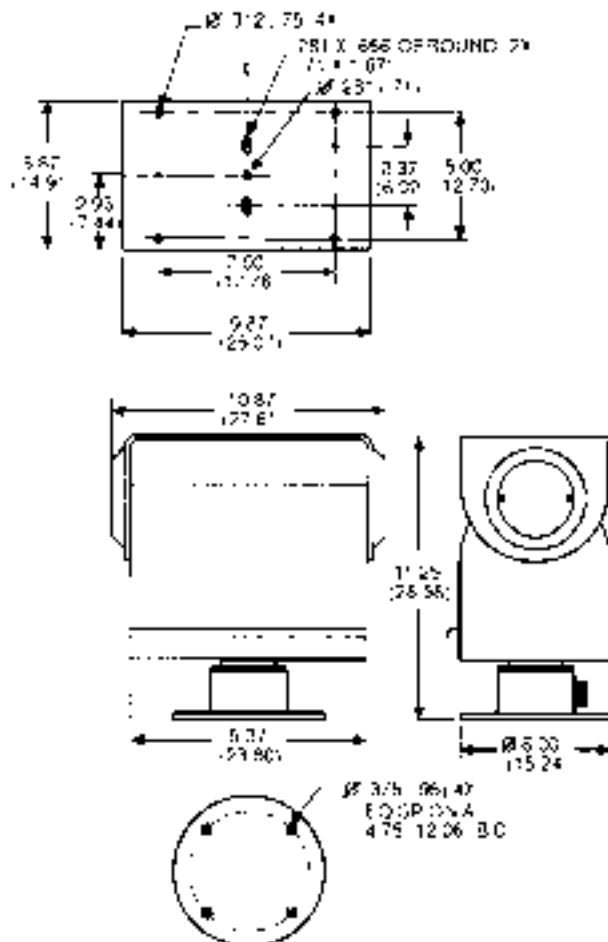
LTC 5135 Series: Desk Top pan/tilt zoom lens control.

Relay Box: For extended low voltage operation; accepts 24 VAC from Control unit to Relay Box.

Relay/Box Model No.	Pan/Tilt Model No.	Supply Voltage In	Output Voltage to P/T
RB115	TC6570PT	115 VAC	115 VAC
RB115	TC6570PT-PP	115 VAC	115 VAC
RB24	TC6570PT-24	115 VAC	24 VAC
RB24	TC6570PT-24PP	115 VAC	24 VAC
RB24-220	TC6570PT-24	220 VAC	24 VAC
RB24-220	TC6570PT-24PP	220 VAC	24 VAC

Receiver Driver: For camera site control of pan/tilt & lens. See philips LTC 8560 Series data sheets.

Column and Wall Mounts: See LTC 9214/00 Data Sheet for indoor/outdoor column and wall mounts to support these units.



Note: Values in parentheses are centimeters; all others are inches.

Dimensional Outline



PHILIPS

Let's make things better.

TC61260EX Series Heavy Duty Explosion-Proof Indoor/Outdoor Pan/Tilts

- n For Hazardous Locations
- n Rugged Construction
- n Upright or Inverted Operation
- n Internal Limit Adjustments
- n Pre-Position Models Available
- n Accessories Available



The TC61260EX Series are heavy duty pan/tilts designed to meet the rigorous requirements of explosion-proof and dust-ignition-proof electrical equipment for installation and use in hazardous locations. They are capable of handling loads of up to 45 kg (100 lb) and feature rugged high-torque AC motors with adjustable worm gear final drives to insure long operational life, as well as drift-free operation.

SPECIFICATIONS

Electrical

Model No.	Rated Motor Voltage ¹	Run A/VA	Start A/VA
TC61260EX	120 VAC, 50/60 Hz	0.48/57.5	0.60/72.5
TC61260EX-220	230 VAC, 50 Hz	0.19/43.7	0.27/62.1

1. Ratings are for each pan and tilt motor.

Connectors: Explosion-proof gland (supplied).

Motors: Two phase induction type, Instantaneous reversing.

Limit Switches:

Pan: 5 A, Internal adjustment.
Tilt: 5 A, Internal adjustment.

Conductor Requirements:

Unshielded cable with 6 conductors for left, right, up, down, motor common, and safety ground functions. No additional conductors for auto scan when used with solid-state control.

Recommended Maximum Cable Lengths:¹

TC61260EX

Wire Size		6 Conductors	
mm	AWG	meters	feet
0.5	20	149	489
1	18	237	778
1.5	16	376	1235

TC61260EX-220

Wire Size		6 Conductors	
mm	AWG	meters	feet
0.5	20	750	2463
1	18	1194	3918
1.5	16	1895	6218

1. Assumes a 10% cable loss and both motors running.

Mechanical

Pan Range: 0°-355° movement in horizontal plane.

Pan Speed (No load condition): 6° ± 1°/s.

Pan Torque: 690 kg-cm (50 ft-lb) with specified voltage.

Tilt: ± 90° movement in vertical plane.

Tilt Speed (No load condition): 3°/s ± 0.5°.

Tilt Torque: 1360 kg-cm (100 ft-lb) with specified voltage.

Maximum Load: 45.4 kg (100 lb) at 127 mm (5 in) from the center of mass of the camera/lens/housing assembly to the center of the tilt table.

Gearing: Adjustable worm-gear final drive to prevent drift and minimize backlash.

Bearings:

Pan: Heavy-duty ball bearings.

Tilt: Oilite bronze bushing.

Duty Cycle: 50% duty cycle: 30 minute rating.

Braking: Mechanical.

Construction: Aluminum plate; all internal parts corrosion protected.

Finish: Textured semigloss beige enamel.

Dimensions: See **Dimensional Outline**.

Weight: 31 kg (69 lb).

Environmental

Temperature: -23 °C to +48 °C (-10 °F to +120 °F).

Enclosure Protection: NEMA rating 4X.

Accessories

Controls:

LTC 5133 Series and LTC 5134 Series: Desk Top pan/tilt zoom lens control.

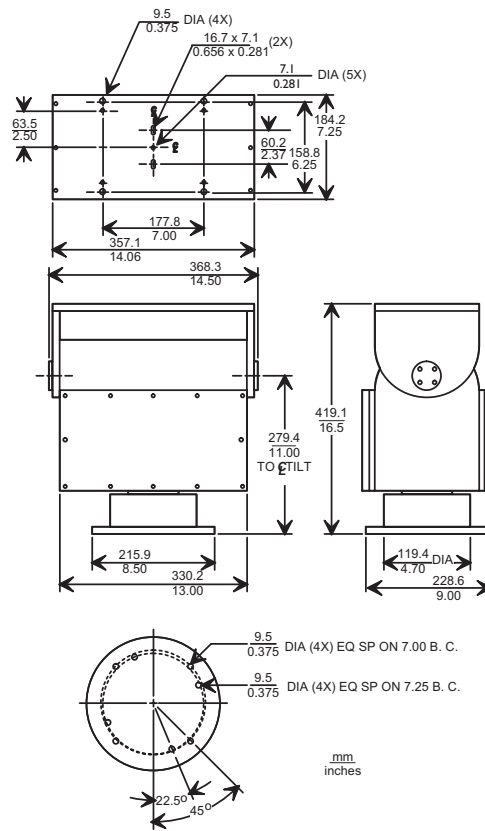
Relay Box:

For extended low voltage operation; accepts 24 VAC from Control unit to Relay Box.

Relay/Box Model No.	Pan/Tilt Model No.	Supply Voltage In	Output Voltage to P/T
RB115	TC61260EX	115 VAC	115 VAC
RB220	TC61260EX-220	220 VAC	220 VAC

Receiver Driver: For camera site control of pan/tilt & lens. See Philips LTC 8560 Series Data Sheets.

Column and Wall Mounts: See TC9214CM Data Sheet for indoor/outdoor column and wall mounts to support these units.



Dimensional Outline



PHILIPS

Let's make things better.

Housings, Indoor

LTC 9480/00 Indoor Housings

- **For 1/4-inch and 1/3-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 and 1/3-inch format CCD cameras and lenses.

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.

SPECIFICATIONS

Electrical

Maximum Camera Power: Use with 24 VAC cameras not exceeding 30 W.

Mechanical

Maximum Camera and Lens:
68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75 in).

Cable Entry:
Two liquid tight rear fittings accept cable diameters from 4.3 mm to 11.9 mm (0.17 in to 0.47 in). Two bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 in).

Window: 3 mm (0.12 in) 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 LTC 9480/00 drawing.

Weight: 1.4 kg (3 lb).

Environmental

Salt Atmosphere: MIL-STD-810E, Method 509, Procedure I.

Enclosure Protection: Designed to NEMA-3R, IP55.

Electromagnetic Compatibility

Safety: CE, UL, cUL.

Accessories

LTC 9080/00 Tamper Resistant Kit: Includes 10 screws and insertion tool to permit tamper resistance for five housings.

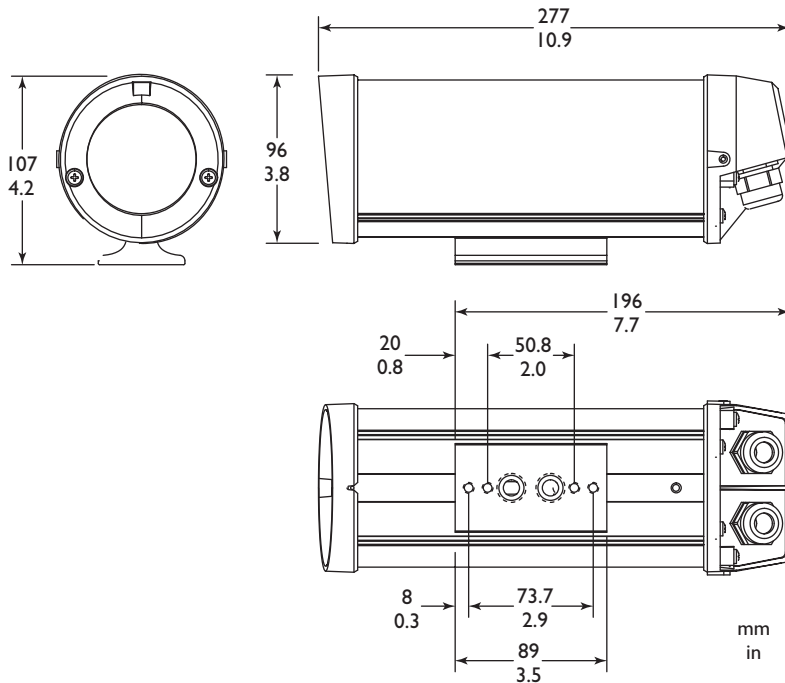
LTC 9215/00 Feed-through Mount: Attached to the foot of the housings, allows wires to be fed-through the mount and into the foot of the housing.

LTC 9219/01 Feed-through J-Mount: Allows housing to be mounted from ceiling.

Suggested Applications:

Camera	Lens
LTC 0140	Fixed/Varifocal
LTC 0240	Fixed/Varifocal
LTC 0330'	Fixed/Varifocal
LTC 0350'	Fixed/Varifocal
LTC 0430'	Fixed/Varifocal
LTC 0450'	Fixed/Varifocal

I. The camera mounting block must be removed.



LTC 9480/00

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LTC 9369/00 Ceiling Housing

- **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**



LTC 9369/00 Shown with Accessory Mounting Kit

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 nonfire-resistant ceilings. Other construction features include: key lock access, a polycarbonate window, an adjustable camera mount system, and cable entry through conduit knockouts.

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.

SPECIFICATIONS

Mechanical

Maximum Camera/Lens Size:

Accepts camera/lens combinations up to 330 L × 102 W × 102 H mm (13 × 4 × 4 in).

Cable Entry: Wiring access available through four (two front and two back) PG13.5 (1/2 in) conduit knockouts.

Window: 3.2 mm (0.13 in) thick polycarbonate.

Housing Mounting: Eight protected 7 mm (0.27 in) holes in backbox. Top of backbox contains two 6 mm (0.25 in) knockouts for safety cable wiring.

Camera Mounting: Two piece adjustable mounting system.

Construction/Finish:

Cover: 1.6 mm (0.06 in) acrylic/PVC alloy plastic with a haircell texture and dark mushroom color.

Backbox: 1 mm (0.04 in) 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.

Electromagnetic Compatibility

EMC Requirements: FCC Class B, ICES-003.

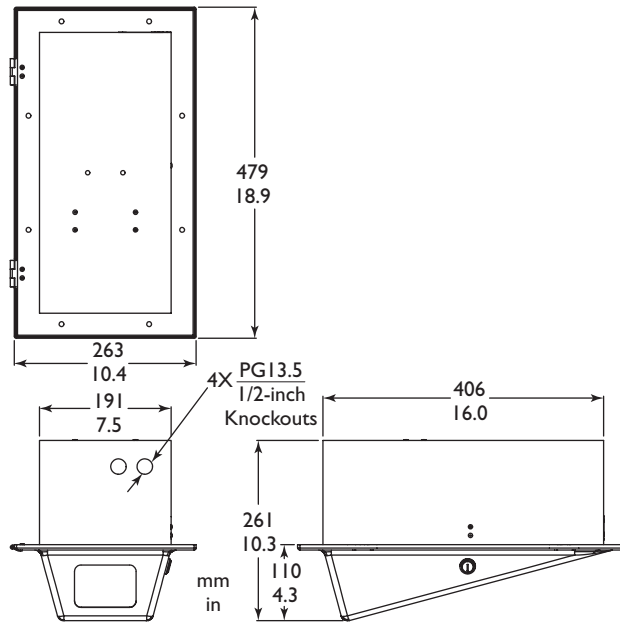
Safety: UL, cUL.

Accessories

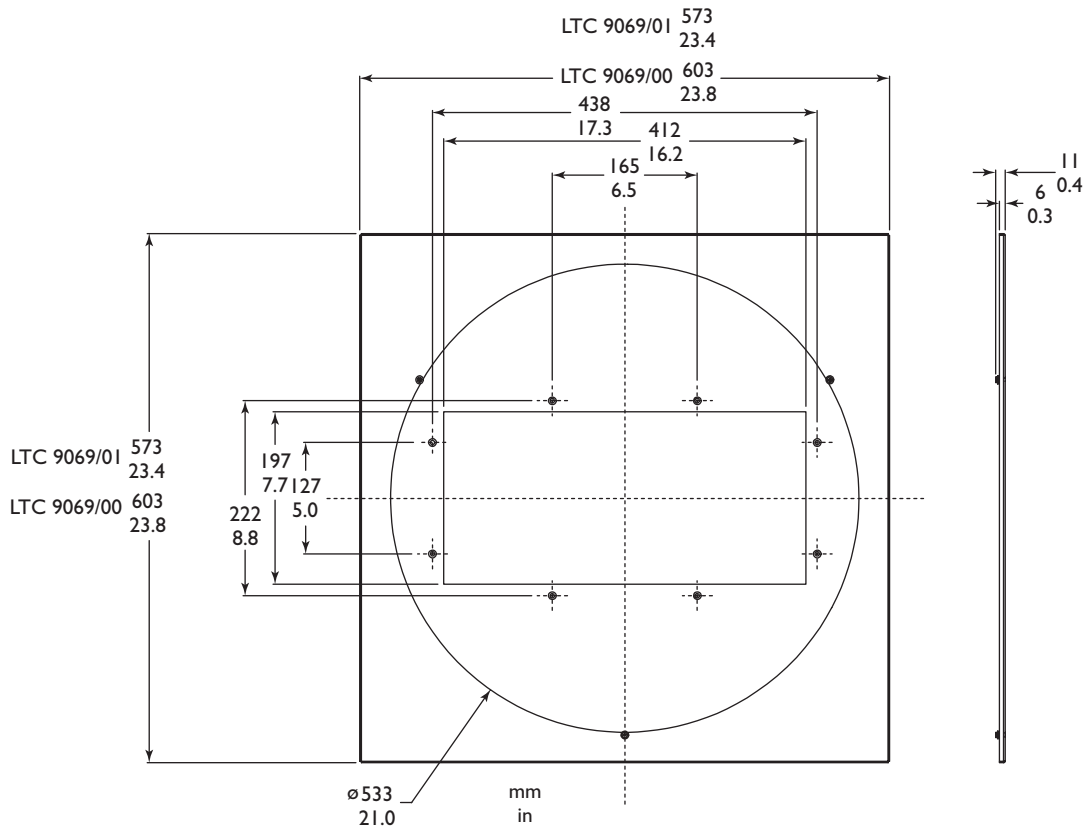
Mounting Kits: Ceiling tile mounting kits for suspended ceiling installations. Constructed of 1 mm (0.04 in) aluminized steel painted with dark mushroom powder coat. Rotates through 360°.

LTC 9069/00: Replaces a 2 ft × 2 ft ceiling tile.

LTC 9069/01: Replaces a 600 mm × 600 mm ceiling tile.



LTC 9369/00 Dimensional Outline



LTC 9069/00 and LTC 9069/01 Dimensional Outline



LTC 9370/00 Ceiling Housing

- n **For Fixed or Suspended Ceilings**
- n **Convenient Key Lock Access**
- n **Easy Installation**
- n **Attractive Low Profile Styling**
- n **Suitable for Use in Environmental Air Spaces**
- n **Rotatable Ceiling Tile Mounting Kits Available**



LTC 9370/00 Shown with Accessory Mounting Kit

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 nonfire-resistant ceiling. Other construction features include key lock access, a polycarbonate window, an adjustable camera mount system, and cable entry through conduit knockouts.

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.

SPECIFICATIONS

Mechanical

Maximum Camera/Lens Size: Accepts camera/lens combinations up to 208.3 L × 69.8 W × 63.5 H mm (8.2 × 2.75 × 2.5 in).

Cable Entry: Wiring access available through four (two front and two back) PG13.5 (1/2 in) conduit knockouts.

Window: 3.2 mm (0.13 in) thick polycarbonate.

Housing Mounting: Eight protected 7 mm (0.27 in) holes in backbox. Top of backbox contains two 6 mm (0.25 in) knockouts for safety cable wiring.

Camera Mounting: Two piece adjustable mounting system.

Construction/Finish:

Cover: 1.6 mm (0.06 in) acrylic/PVC alloy plastic with a haircell texture and dark mushroom color.

Backbox: 1 mm (0.04 in) aluminized steel.

Dimensions: See **Dimensional Outline**.

Weight: 2.4 kg (5.3 lb).

Environmental

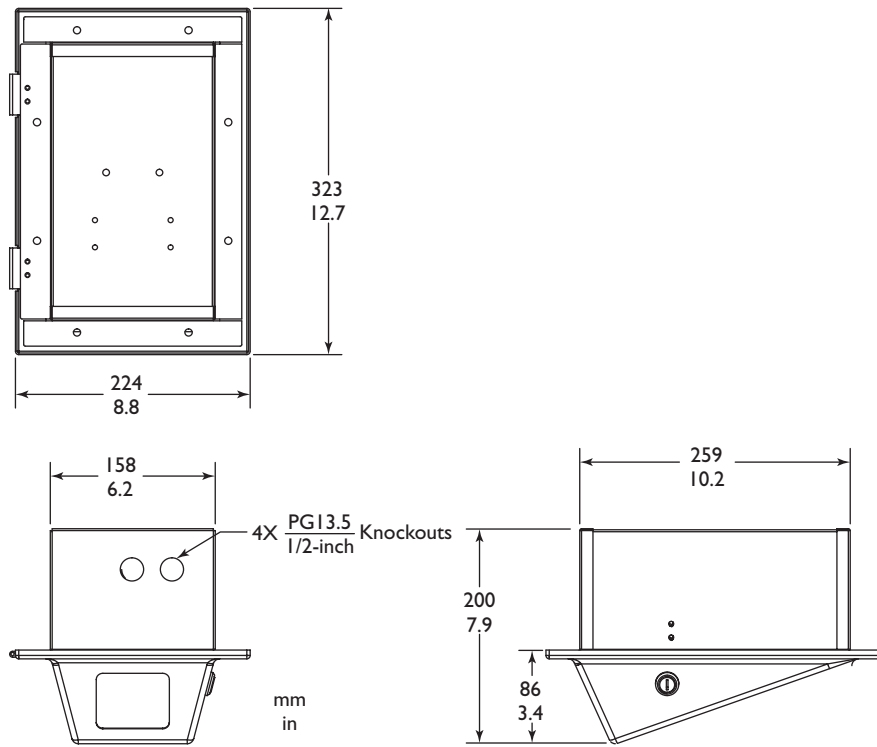
Enclosure Protection: Cover and window meet UL Flame Rating 94V-0.

Accessories

Mounting Kits: Ceiling tile mounting kits for suspended ceiling installations. Constructed of 1 mm (0.04 in) aluminized steel painted with dark mushroom powder coat. Rotates through 360°.

LTC 9070/00: Replaces a 2 ft × 2 ft ceiling tile.

LTC 9070/01: Replaces a 600 mm × 600 mm ceiling tile.



LTC 9370/00 Dimensional Outline

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LTC 9365/00

Indoor Ceiling Wedge Housing

- **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 to be used with most standard CCTV camera and lens combinations up to 203 mm (8-inches) in length. Both the housing and 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 the snap fit allow for easy installation and future servicing.

SPECIFICATIONS

Mechanical

Model No.	Description
LTC 9365/00	In-ceiling VWedge 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 in).

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 screws.

Window: Clear, polycarbonate.

Construction: Polycarbonate.

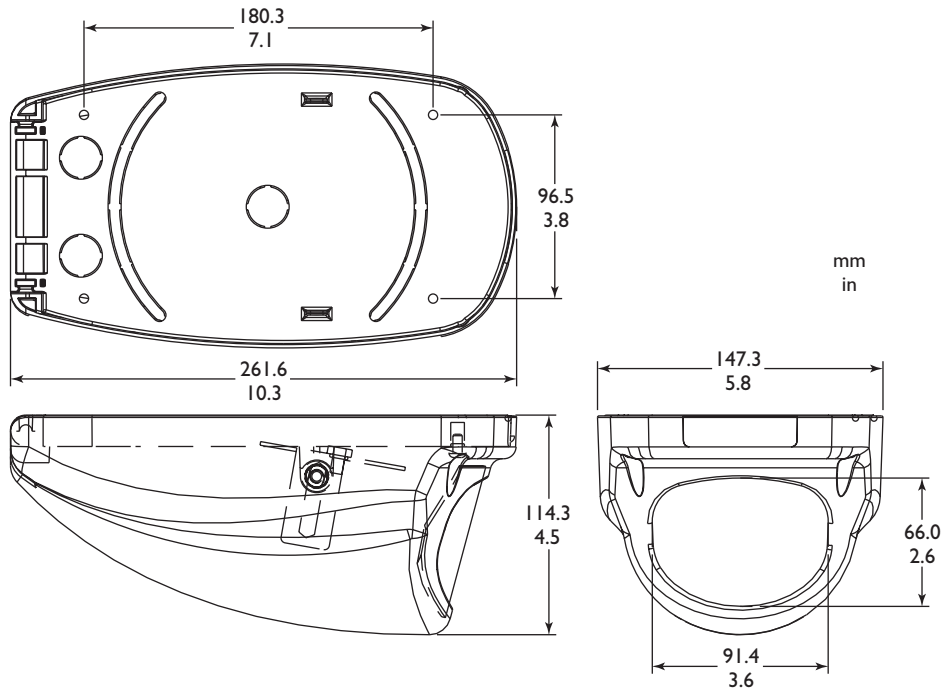
Finish: Off-white.

Dimensions: See **Dimensional Outline**.

Weight: 0.45 kg (1 lb).

Use with Philips Cameras & Lenses:

Camera	Lens
LTC 0330	Fixed, Varifocal
LTC 0350	Fixed, Varifocal
LTC 0430	Fixed, Varifocal
LTC 0450	Fixed, Varifocal



Dimensional Outline

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LTC 9305 Series Wall/Ceiling Security Housings

- **Rugged Cast Aluminum Construction**
- **Easy Installation**
- **Scratch-Resistant Polycarbonate Window**
- **Adjustable Camera Mounting System**
- **Attractive Styling**
- **Accessories Available**



The LTC 9305 Series are wall or ceiling mounted 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 light weight cast aluminum design of the LTC 9305 Series housings provide the strength of

10 gage steel with the superior strength-to-weight ratio of aluminum. The viewing window for the LTC 9305/00 is constructed of 9.5 mm (0.37 inch) clear polycarbonate material, treated with a scratch-resistant coating. The removable cover provides access to the camera and is secured using two tamper-resistant screws. 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. Models are available that include: a key lock on the access panel, a tinted 9.5 mm (0.37 inch) viewing window, and a clear 12.7 mm (0.50 inch) viewing window.

These housings will accept all 1/4 inch, 1/3-inch, and 1/2-inch format CCD cameras with fixed format lenses and up to 6X zoom lenses.

SPECIFICATIONS

Models

- LTC 9305/00: Clear 9.5 mm (0.37 in) viewing window.
- LTC 9305/01: Key lock controlled access.
- LTC 9305/02: Tinted 9.5 mm (0.37 in) viewing window.
- LTC 9305/03: Clear 12.7 mm (0.50 in) viewing window.
- LTC 9305/04: Key lock controlled access.
Tinted 9.5 mm (0.37 in) viewing window.
- LTC 9305/05: Key lock controlled access.
Clear 12.7 mm (0.5 in) viewing window.

Mechanical

Maximum Camera/Lens Size: Accepts camera/lens combinations up to 300 L x 76 W x 76 H mm (11.8 x 3.0 x 3.0 in) when using 1/4-inch, 1/3-inch and 1/2-inch format CCD cameras. Dimensions include standard connectors.

Cable Entry: Wiring access through one PG 21 (3/4 in) and two PG 13.5 (1/2 in) conduit knockouts located in the top of the housing. Open cable entry is also available through the top.

Window: 9.5 mm (0.37 in) thick polycarbonate treated with a scratch-resistant coating. Design allows for easy replacement.

Housing Mounting: Protected top panel contains six 10 mm (0.406 in) holes for easy installation.

Camera Mounting: Removable three piece fully adjustable mounting system.

Construction: 6.3 mm (0.25 in) cast aluminum cover mounted to a high strength steel top panel and assembled using high strength steel hardware. Cover secured using two security screws.

Finish: Mushroom.

Dimensions: See **Dimensional Outline**.

Weight: 5.6 kg (12.3 lb).

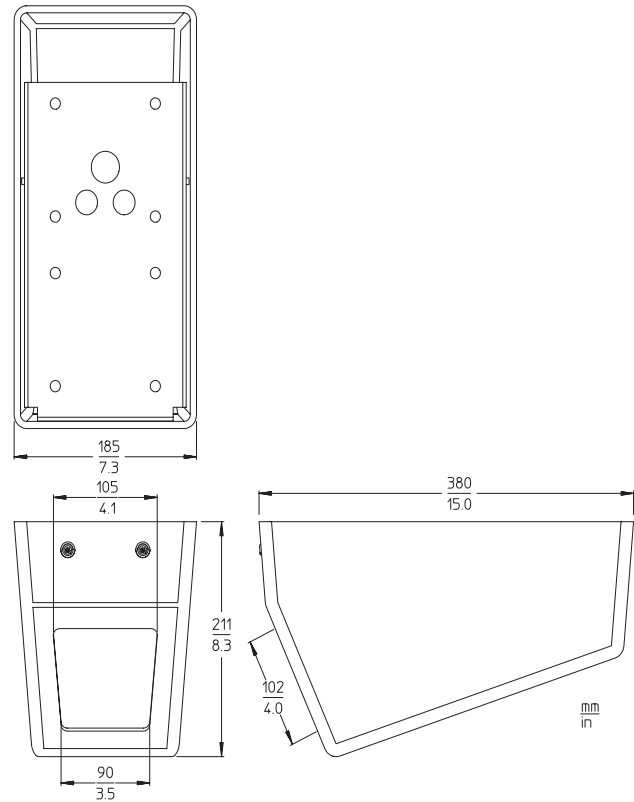
Accessories

Defogger Kits: Recommended for use in areas where condensation could cause fogging of the viewing window.

LTC 9315/60: 115 VAC, 50/60 Hz, 50 W thermostatically-controlled defogger kit.

LTC 9315/20: 24 VAC, 50/60 Hz, 50 W thermostatically-controlled defogger kit.

LTC 9315/50: 230 VAC, 50/60 Hz, 50 W thermostatically-controlled defogger kit.



Dimensional Outline



LTC 9405 Series Wall/Ceiling Security Housings

- **Rugged Cast Aluminum Construction - Equivalent to 10 Gage Steel**
- **Easy Installation**
- **Scratch-resistant Polycarbonate Window**
- **Adjustable Camera Mounting System**
- **Compact Design**
- **Accessories Available**



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 gage steel with the superior strength-to-weight ratio of aluminum.

The viewing window for the LTC 9405/00 is constructed of 9.5 mm (0.37 inch) clear polycarbonate material, treated with a scratch-resistant coating. A removable, hinged cover provides easy access to the camera. It is secured by a tamper-resistant screw and a special tool.

If more security is required, the LTC 9405/05 model is available with a key lock in the access panel and 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.

SPECIFICATIONS

Models

LTC 9405/00: Clear, 9.5 mm (0.37 in) viewing window.

LTC 9405/01: Key lock controlled access.

LTC 9405/03: Clear, 12.7 mm (0.5 in) viewing window.

LTC 9405/05: Key lock controlled access.
Clear, 12.7 mm (0.5 in) 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 in). Dimensions include standard connectors. A right angle BNC may be required for some cameras.

Cable Entry: Wiring access through one PG 21 (3/4 in) and two PG 13.5 (1/2 in) conduit knockouts located in the top of the housing. Open cable entry is also available through the top.

Window: 9.5 mm (0.37 in) thick polycarbonate treated with a scratch-resistant coating. Design allows for easy replacement.

Housing Mounting: Protected top panel contains six 10 mm (0.4 in) holes for easy installation.

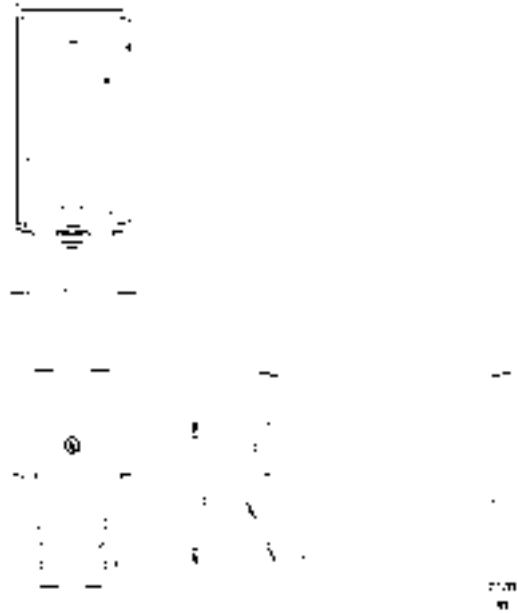
Camera Mounting: Removable three piece fully adjustable mounting system.

Construction: 5.8 mm (0.23 in) cast aluminum cover mounted to a high strength steel top panel and assembled using high strength steel hardware. Cover is secured with a captive security screw.

Finish: Mushroom.

Dimensions: See **Dimensional Outline**.

Weight: 2.6 kg (5.8 lb).



Dimensional Outline



LTC 9377/00

Small Security Corner Housing

- n **Confined Area Surveillance**
- n **Stainless Steel Construction**
- n **Easy Installation**
- n **Tamperproof**
- n **Key Lock**
- n **LEXAN® Viewing Window**



The LTC 9377/00 is a secure corner mount housing which can be used with a manual or vari-focal lens for security surveillance of confined areas. The distinctive design of the LTC 9377/00 makes it especially suitable for use in elevators, stairwells, vestibules, entrance lobbies or mantraps. When used with a wide angle lens, the camera will see surrounding walls, floor, and even the corner under the unit.

The housing is designed to accept the LTC 0140, LTC 0240, LTC 0330, LTC 0350, LTC 0430, LTC 0450 Series, and other small 1/4-inch and 1/3-inch monochrome or color CCD cameras. The stainless steel housing and a mastered cam lock, make the

LTC 9377/00 highly tamperproof. The LEXAN® window is tough and mar resistant. All controls, mounting holes, and electrical access holes are concealed within the secure area. In addition, the LTC 9377/00 meets fire code regulations that require unbroken fire walls.

SPECIFICATIONS

Maximum Camera/Lens Size: Accepts camera/lens combinations up to 127 L x 68.6 W x 55.9 H mm (5 x 2.7 x 2.2 in).

Cable Entry: Three conduit knockouts.

Window: Mar resistant LEXAN.

Camera Mounting: Cradle supplied.

Lock: Mastered cam.

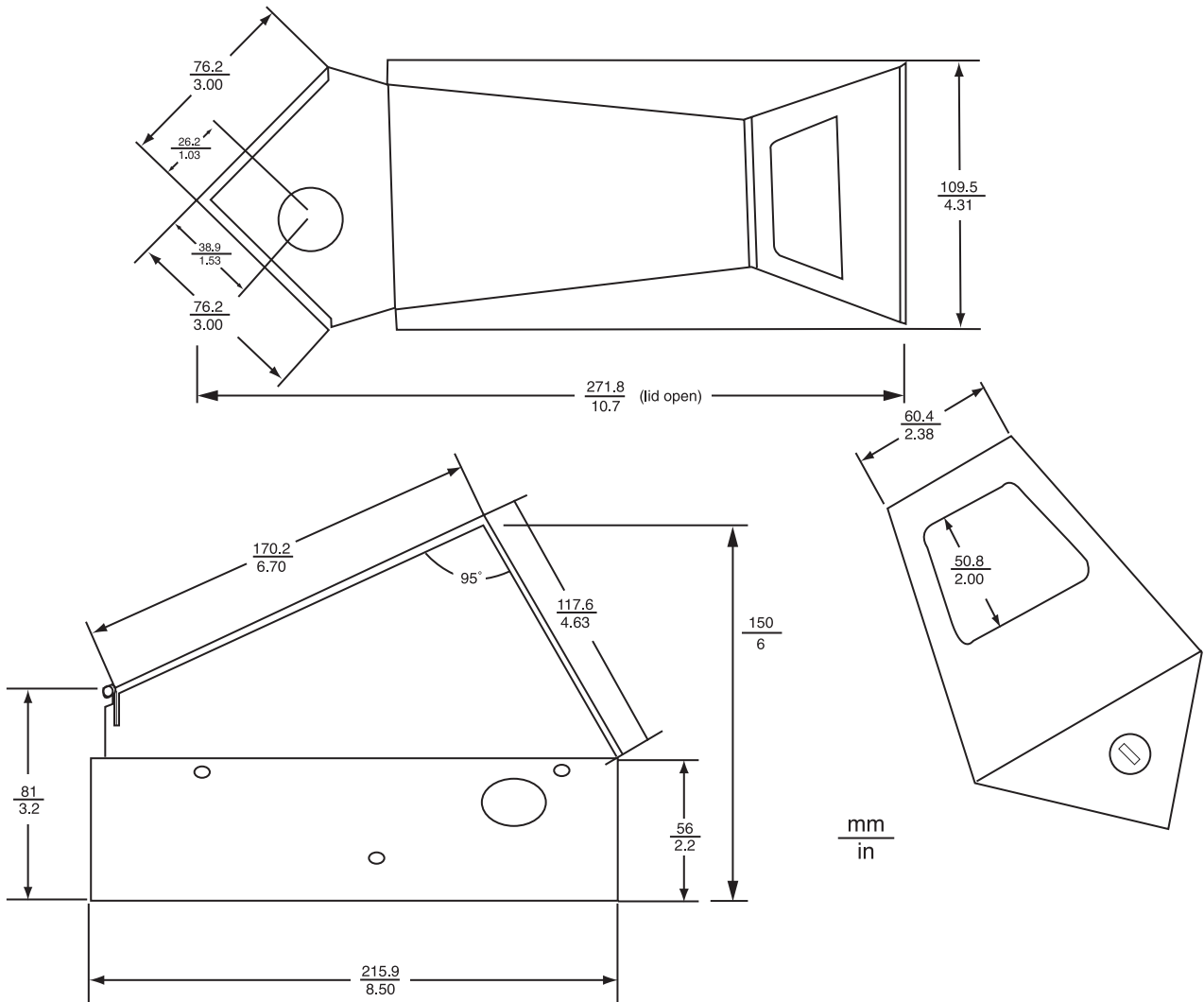
Adjustments: 30° to 55° from vertical mounting surface.

Finish: Brushed stainless steel with black front.

Dimensions: See drawing.

Weight: 1.3 kg (2.8 lb).

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Let's make things better.

LTC 9303 Series Corner Security Housings

- **Rugged Cast Aluminum Construction**
- **Easy Installation**
- **Scratch-Resistant Polycarbonate Window**
- **Adjustable Camera Mounting System**
- **Attractive Styling**
- **Accessories Available**



The LTC 9303 Series are inside corner mounted 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 housings provide the strength of 10 gage steel with the superior strength-to-weight ratio of aluminum.

The standard viewing window is constructed of 9.5 mm (0.37 inch) 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. Other options include: a key lock on the access panel; a tinted 9.5 mm (0.37 inch) viewing window; and a clear or tinted 12.7 mm (0.50 inch) viewing window.

These housings will accept 1/4-inch, 1/3-inch, and 1/2-inch format CCD cameras with fixed format CS lenses.

SPECIFICATIONS

Models

- LTC 9303/00: Clear 9.5 mm (0.37 in) viewing window.
- LTC 9303/01: Key lock controlled access.
- LTC 9303/02: Tinted 9.5 mm (0.37 in) viewing window.
- LTC 9303/03: Clear 12.7 mm (0.50 in) viewing window.
- LTC 9303/04: Key lock controlled access.
Tinted 9.5 mm (0.37 in) viewing window.
- LTC 9303/05: Key lock controlled access.
Clear 12.7 mm (0.5 in) viewing window.

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 in) 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.

Window: 9.5 mm (0.37 in) thick polycarbonate treated with a scratch-resistant coating. Design allows for easy replacement.

Housing Mounting: Protected rear panel contains eight 10 mm (0.406 in) holes for easy installation.

Camera Mounting: Removable three piece fully adjustable mounting system.

Construction: 6.3 mm (0.25 in) 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: Mushroom.

Dimensions: See Dimensional Outline.

Weight: 7.7 kg (17 lb).

Accessories

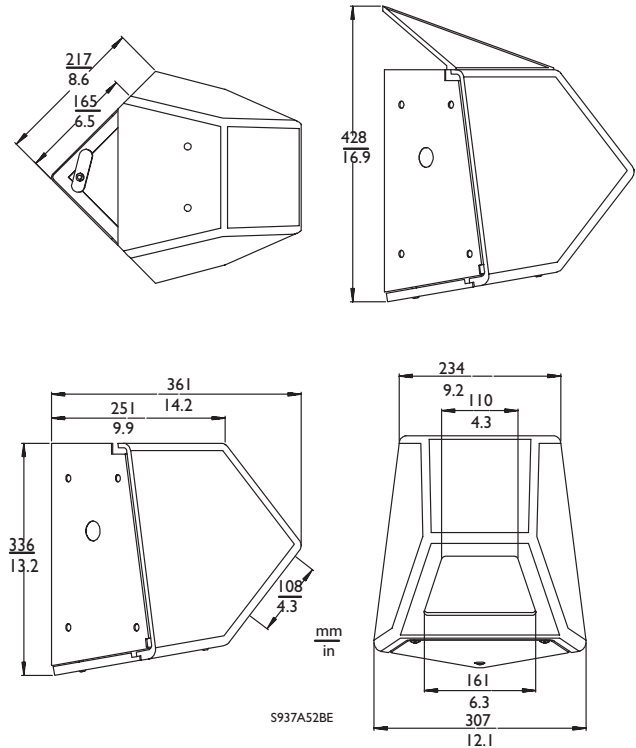
LTC 9313/00: Sloped top cover for housings mounted below the ceiling line.

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.



Dimensional Outline



TC2073 Series Indoor Corner-Mounted Camera Housings

- n **For Fixed Lens Applications**
- n **ABS Plastic Construction**
- n **Easy Installation and Service**
- n **Thick Acrylic Viewing Window**
- n **Adjustable Camera Bracket**
- n **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.

SPECIFICATIONS

General

Models:

TC2073: Clear window for color cameras.

TC2073T: Tinted window; one f-stop light reduction.

Mechanical

Maximum Camera/Lens Size: Accepts cameras up to 229 L x 109 W x 101 H mm (9 x 4.3 x 4 in).

Cable Entry: Access through rear of housing.

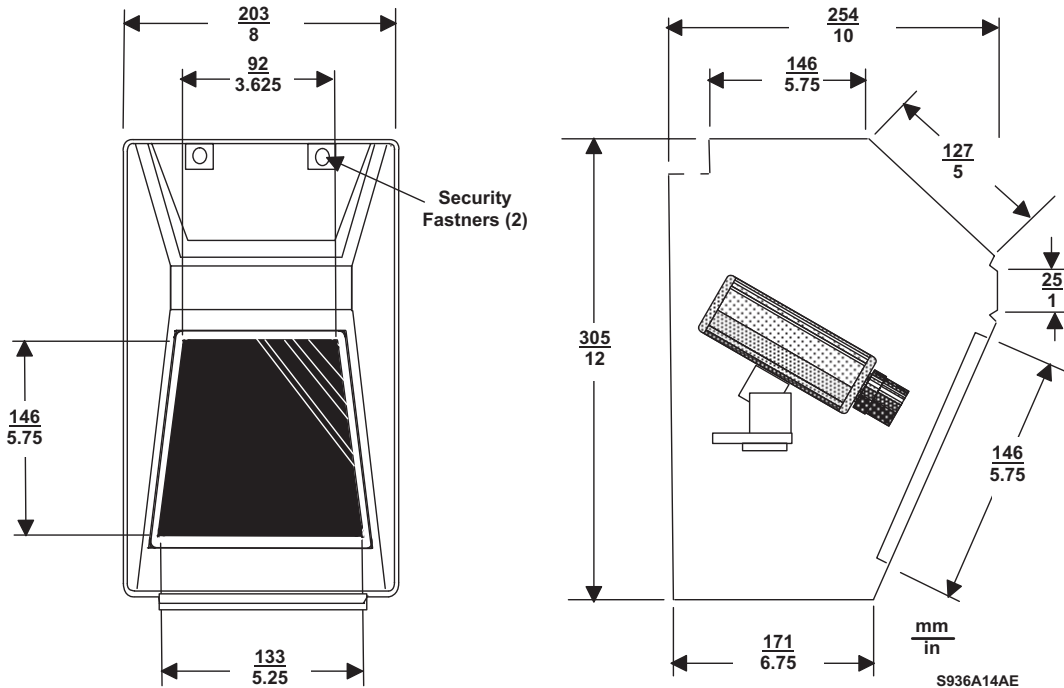
Window: 6 mm (0.25 in) thick acrylic.

Construction: 94HB, 4 mm (0.187 in) 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).



Dimensional Outline

9498 961 12311 98-27
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Housings, Indoor Domed for Fixed Cameras

LTC 9349 Series, LTC 9449 Series Suspended Ceiling and Pendant Dome Housings

- n For Fixed Camera Installations
- n Plenum Ceiling or Pendant Applications
- n Adjustable Viewing Direction
- n Dust Resistant
- n Concealed Camera Position
- n Easy Installation
- n 360° Adjustable Viewing Direction



These attractive domed housings accommodate 1/4-inch to 1/2-inch solid-state cameras for surveillance in a variety of indoor CCTV applications. These units have a 160 mm (6.3 in) dome with a clear viewing window engulfed with a covert opaque black area. These totally enclosed units are dust resistant and include a swivel head camera mounting to provide a G3 AutoDome® looking installation for fixed camera applications.

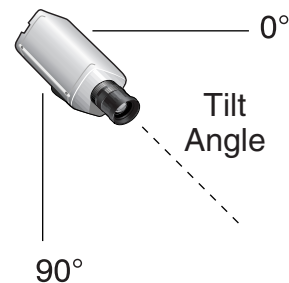
The LTC 9349/00 suspended ceiling model can be easily mounted in both sheet rock and standard drop ceilings, using a new quick-latch mount. The LTC 9349/00 backbox is constructed from durable aluminum, with conduit access and accommodations for safety cables, making it ideal for use in plenum ceiling applications.

The LTC 9449/00 pendant dome housing can be mounted from a ceiling or from a wall with appropriate accessories. It is constructed from durable aluminum for long life. Since this housing mounts in the same way as the AutoDome units, it may be replaced at a later time with an AutoDome unit if all the necessary wiring is run to the mounting flange.

LTC 9349 Series & LTC 9449 Series Compatibility Chart

Camera Series with Lens ¹	Available Tilt Angle ²
LTC 0330, LTC 0350, LTC 0430, LTC 0450 with "A" Lens	30° to 90°
LTC 0330, LTC 0350, LTC 0430, LTC 0450 with "B" Lens	40° to 90°
LTC 0500, LTC 0600 with "B" Lens	50° to 90°

1. A Lens: Auto Iris, fixed focal length. Overall lens length is 40.6 mm (1.6 in).
B Lens: Auto Iris, vari-focal 3.5 to 8 mm. Overall lens length is 50.8 mm (2.0 in).
2. Values shown are valid when using a right angle BNC connector.



SPECIFICATIONS

Models:

- LTC 9349 Series Suspended Ceiling Housings
- LTC 9349/00: White Trim Ring.
- LTC 9349/01: Charcoal Trim Ring.

LTC 9449 Series Pendant Dome Housings

- LTC 9449/00-40: Includes wall arm - white.
- LTC 9449/01-40: Includes wall arm - charcoal.
- LTC 9449/00-43: Includes pipe mount - white.
- LTC 9449/01-43: Includes pipe mount - charcoal.

Maximum Camera/Lens: 190 L x 76 W x 76 H mm (7.5 x 3.0 x 3.0 in). A right angle BNC is recommended.

Camera Mounting: A two-arm camera support bracket, adjustable forward and backward, is included with each unit.

Enclosure Mounting: See drawings.

Construction: Housing is constructed of aluminum. The lower capsule has a silk-screened window with a clear viewing area.

Dimensions: See drawings.

Weight:

- LTC 9349 Series: 0.9 kg (2 lb).
- LTC 9449 Pendant with wall arm: 3.1 kg (6.8 lb).
- LTC 9449: Pendant with pipe mount: 1.8 kg (4 lb).

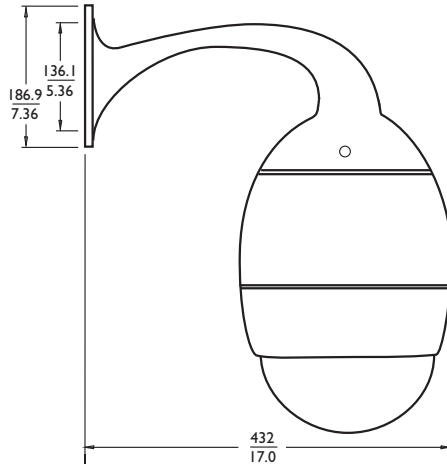
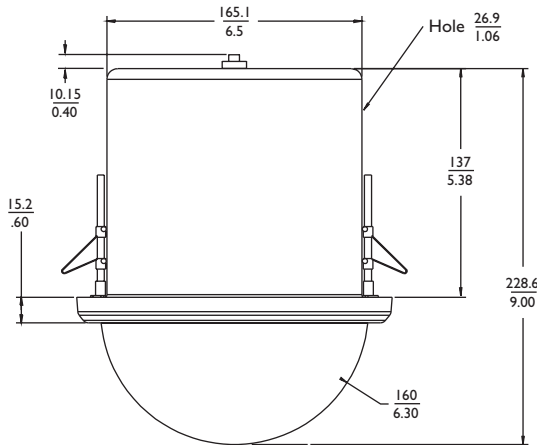


Fig. 1: LTC 9349 Series Suspended Ceiling Models

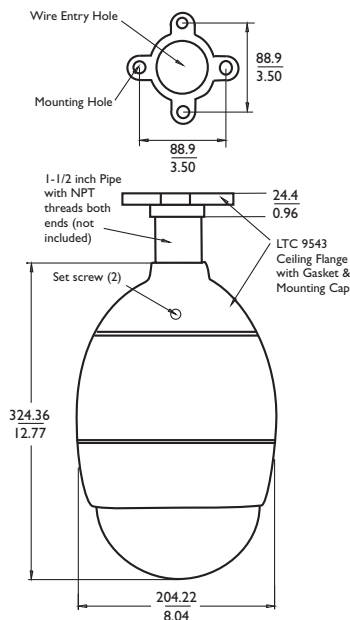


Fig. 2: LTC 9449/0x-43
Shown with included pipe mount.

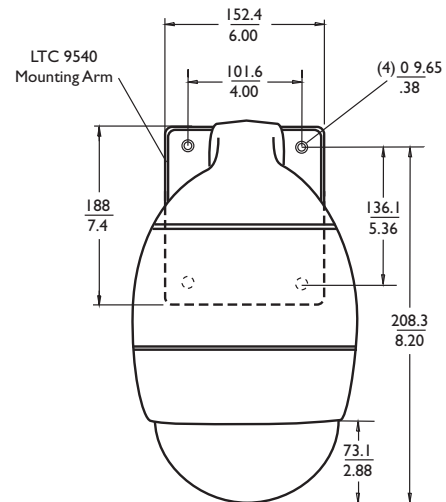


Fig. 3: LTC 9449/0x-40
Shown with included wall arm.

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PHILIPS

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LTC 9312/00, LTC 9412/00

Fixed Camera Observation Domes

- n **300 mm (12-inch) Dome**
- n **360° Adjustable Viewing Direction**
- n **Suspended Ceiling & Pendant Models**
- n **Covert Inner Liner Conceals Camera Position**
- n **Multiple Camera Capacity with Accessories**
- n **Includes Adjustable Swivel Camera Mount**
- n **Suitable for Color & Monochrome Cameras**



The Philips 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 ½-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 ¼-inch, ½-inch and ¾-inch format CCD monochrome and color cameras.

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 ½-inch conduit knockout through top of housing.

F/stop Loss: 1 to 1.5.

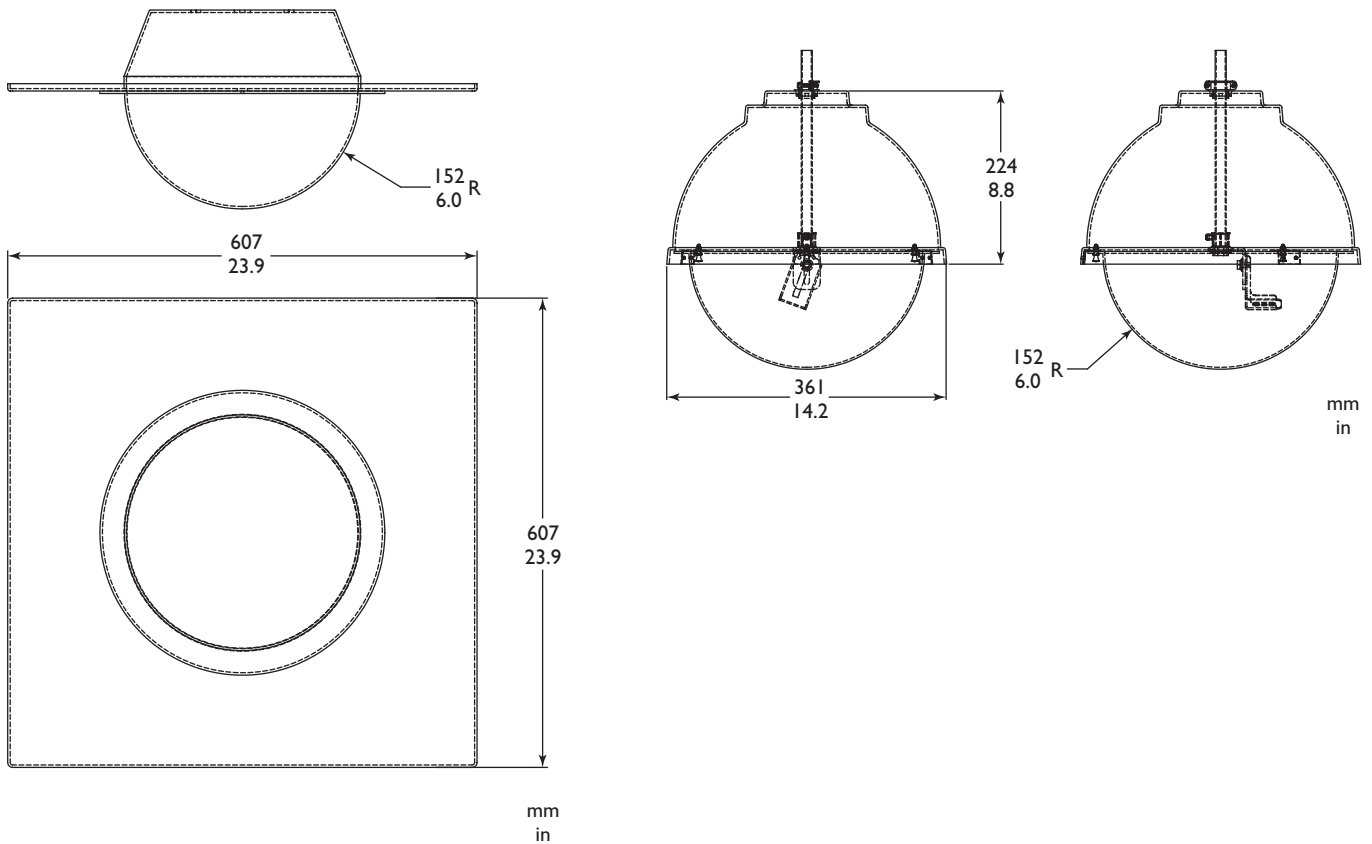
Mounting: Pendant mounted.

Construction/Finish: Acrylic dome on metal housing.

Weight: 5.4 kg (12 lb).

Accessories

MCB4: For up to two cameras.



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PHILIPS

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LTC 9330/00QD, LTC 9331/00HD

Indoor Quarter-dome and Half-dome Discreet Housings

- **For Fixed Camera Installations**
- **High Impact Tinted Acrylic Domes**
- **Easy to Install and Service**
- **Minimum Light Reduction**
- **Camera Brackets Included**
- **Low Profile Design**



Quarter-dome shown.

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.

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 in).
Includes fully extended lens and rear camera connectors.

F/stop Loss: 1.5.

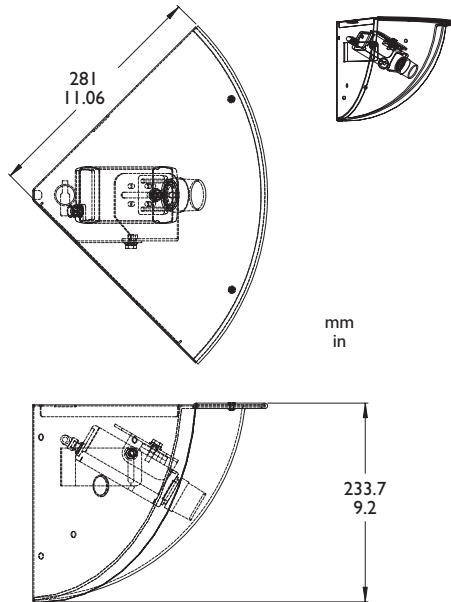
Housing Mounting: Mounts in corner.

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 9330/00QD Quarter-dome

LTC 9331/00HD HALF-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 in).
Includes fully extended lens and rear camera connectors.

F/stop Loss: 1.5.

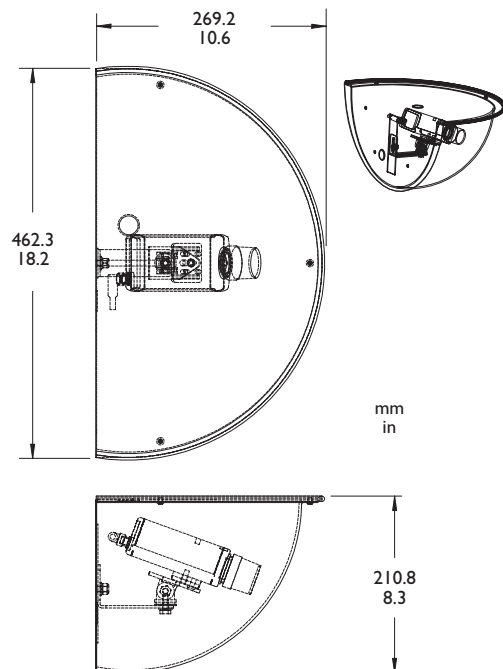
Housing Mounting: Mounts on vertical surface.

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).



LTC 9331/00HD Half-dome

Note:

These housings will accommodate the following Philips cameras with lens sizes up to and including the Philips 5-50 mm vari-focal lenses:

LTC 0330/xI Series, LTC 0350/xI Series, LTC 0430/xI Series, and LTC 0450/xI.



LTC 9348/00

Indoor Domed Housing

- n **For Fixed Camera Installations**
- n **Plenum Ceiling Applications**
- n **Adjustable Viewing Direction**
- n **Tamper Resistant and Dustproof**
- n **Concealed Camera Position**
- n **Tinted Lower Dome**
- n **Attractive Design**
- n **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 which is identical in appearance and size to the TC7401-12 Dome/Trim Ring Module for the TC700 Series AutoDome® System. This housing provides an

AutoDome-looking installation for a fixed camera application.

Above ceiling portion is manufactured from heavy gauge steel, making it ideal for use in plenum ceiling applications.

The lower capsule is tinted cell cast acrylic with an opaque black non-viewing window area and white decorative trim ring.

These housings can be mounted in both sheet rock 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 degree adjustable viewing direction. These totally enclosed units are dustproof and tamper resistant.

SPECIFICATIONS

Construction: Housing 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 in).

Enclosure Mounting: 4 mounting flanges are provided in flange of dome (including toggle bolts).

Camera Mounting: Camera support bracket adjustable forward and backward. Bracket is standard with each unit.

Suggested Applications

Camera Models:

TC362, TC362X, TC372, TC372X, TC382, TC382X, TC392, TC392X.

TC552A, TC552X, TC590 Series.

TC652B, TC652BX.

TC952, TC952X.

LTC 0140 Series.

LTC 0240 Series.

LTC 0330 Series, LTC 0350 Series.

LTC 0430 Series, LTC 0450 Series.

LDH 0350 Series, LDH 0360 Series, LDH 0370 Series.

Suggested CS Mount Fixed Auto-Iris (1/2-inch and 1/3-inch cameras, except TC952, TC972 Series, LDH 0351, LDH 0371, LTC 0243, and LTC 0244):

TC9902: 1/3-inch 2.8 mm, f/1.2, fixed.

TC9904: 1/3-inch 4 mm, f/1.2, fixed.

TC9908: 1/3-inch 8 mm, f/1.2, fixed.

TC9903A: 1/2-inch 3.7 mm, f/1.6, fixed.

TC9906A: 1/2-inch 6 mm, f/1.4, fixed.

TC9907A: 1/2-inch 7 mm, f/1.4, fixed.

TC9912A: 1/2-inch 12 mm, f/1.4, fixed.

TC9913A: 1/2-inch 12 mm, f/1.4, fixed.

TC9921A: 1/2-inch 3.8 mm, f/0.8, fixed.

TC9922A: 1/2-inch 6 mm, f/0.75, fixed.

TC9923A: 1/2-inch 12 mm, f/0.8, fixed.

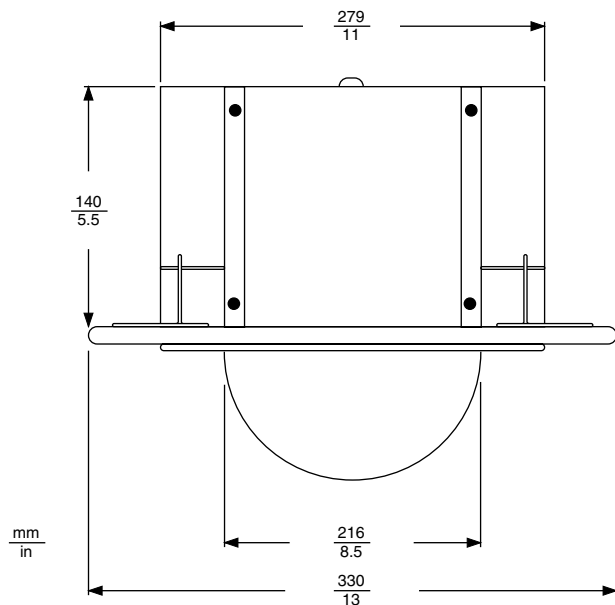
Suggested CS Mount Manual Iris and Fixed Lenses (1/3-inch cameras):

TC9702: 1/3-inch 2.8 mm, f/1.3.

TC9704: 1/3-inch 4 mm, f/1.2.

TC9708: 1/3-inch 8 mm, f/1.2.

TC9712: 1/2-inch 12 mm, f/1.4.



Dimensional Outline



PHILIPS

Let's make things better.

Housings, Outdoor Environmental

LTC 948x Series Housings

- n **For 1/4-inch, 1/3-inch & 1/2-inch CCD Cameras**
- n **Feed-through Wiring Option**
- n **Aluminum and Advanced Polymer Construction**
- n **Easy Installation**
- n **Full Camera Accessibility**
- n **Available in Multiple Sizes**
- n **Cost Competitive**
- n **Multiple Accessories Available**



The LTC 948x Series Housings are smartly styled housings for indoor and 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.

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.

SPECIFICATIONS

Electrical

Model No.	Preinstalled Heater or Heater/Blower ¹	Voltage/Power V/W	Use with Camera Models with These Voltage Ratings
Indoor/Outdoor Units			
LTC 9480/00	----	----	24
LTC 9483/00	----	----	24, 115, 230
LTC 9484/00	----	----	24, 115, 230
LTC 9488/00	----	----	24, 115, 230
Outdoor Units			
LTC 9480/20	Heater	24/15	24
LTC 9483/20	Heater	24/23	24
LTC 9483/21	Heater/Blower	24/25	24
LTC 9483/50	Heater	230/23	230
LTC 9483/60	Heater	115/23	115
LTC 9483/61	Heater/Blower	115/28	115
LTC 9484/20	Heater	24/23	24
LTC 9484/21	Heater/Blower	24/25	24
LTC 9484/50	Heater	230/23	230
LTC 9484/60	Heater	115/23	115
LTC 9484/61	Heater/Blower	115/28	115
LTC 9488/20	Heater	24/40	24
LTC 9488/21	Heater/Blower	24/42	24
LTC 9488/50	Heater	230/40	230
LTC 9488/60	Heater	115/40	115
LTC 9488/61	Heater/Blower	115/45	115

1. The heaters and blowers for all models operate at 50/60 Hz.

Mechanical

Maximum Camera and Lens:

LTC 9480/00:	68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75 in).
LTC 9480/20:	68 W x 54 H x 197 L mm (2.68 x 2.1 x 7.75 in) ¹ .
LTC 9483/00:	68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5 in).
LTC 9483/20:	68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5 in) ¹ .
LTC 9483/50:	68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5 in) ¹ .
LTC 9483/60:	68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5 in) ¹ .
LTC 9483/21:	68 W x 54 H x 216 L mm (2.68 x 2.1 x 8.5 in) ² .
LTC 9483/61:	68 W x 54 H x 216 L mm (2.68 x 2.1 x 8.5 in) ² .
LTC 9484/00:	71 W x 71 H x 279 L mm (2.8 x 2.8 x 11 in).
LTC 9484/20:	71 W x 71 H x 279 L mm (2.8 x 2.8 x 11 in) ¹ .
LTC 9484/21:	71 W x 71 H x 229 L mm (2.8 x 2.8 x 9 in) ² .
LTC 9484/50:	71 W x 71 H x 279 L mm (2.8 x 2.8 x 11 in) ¹ .
LTC 9484/60:	71 W x 71 H x 279 L mm (2.8 x 2.8 x 11 in) ¹ .
LTC 9484/61:	71 W x 71 H x 229 L mm (2.8 x 2.8 x 9 in) ² .
LTC 9488/00:	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 in).
LTC 9488/20:	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 in) ¹ .
LTC 9488/50:	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 in) ¹ .
LTC 9488/60:	71 W x 71 H x 356 L mm (2.8 x 2.8 x 14.0 in) ¹ .
LTC 9488/21:	71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5 in) ² .
LTC 9488/61:	71 W x 71 H x 318 L mm (2.8 x 2.8 x 12.5 in) ² .

1. With heater.

2. With heater and blower.

Cable Entry:

LTC 9480 & LTC 9483 Series: Two liquid tight rear fittings accept cable diameters from 4.3 mm to 11.9 mm (0.17 in to 0.47 in). Two bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 in).

LTC 9484 & LTC 9488 Series: Three liquid tight rear fittings, two of which accept cable diameters from 4.3 mm to 11.9 mm (0.17 in to 0.47 in) and one that accepts cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 in). Two bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 in).

Window: 3 mm (0.12 in) 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 9483 Series: 1.8 kg (4 lb).

LTC 9484 Series: 2.3 kg (5 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 I.

Enclosure Protection: IP65, Designed to meet NEMA 4.

Electromagnetic Compatibility

Safety: UL, cUL, CE.

Accessories

Sunshield: Provides protection from the direct rays of sun and promotes cooling to reduce internal housing temperatures. Strongly recommended for housing to be used outdoors.

LTC 9083/00: For LTC 9483 Series housings.

LTC 9083/00S: For LTC 9480 Series housings.

LTC 9084/00: For LTC 9484 Series housings.

LTC 9088/00: For LTC 9488 Series housings.

LTC 9080/00 Tamper Resistant Kit: Includes 10 screws and insertion tool to permit tamper resistance for five housings.

LTC 9215/00 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.

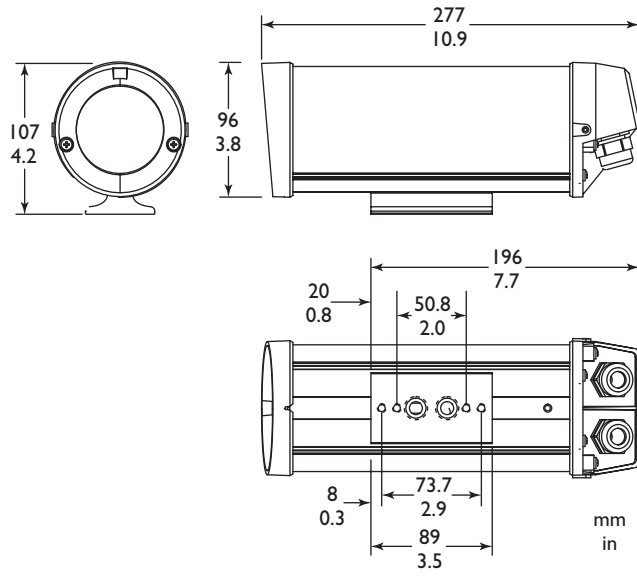
LTC 9219/01 J-mount: Feed-through J-mount allows housing to be mounted from ceiling.

LTC 9480/20HTR Heater: 15 W heater for LTC 9480/00.

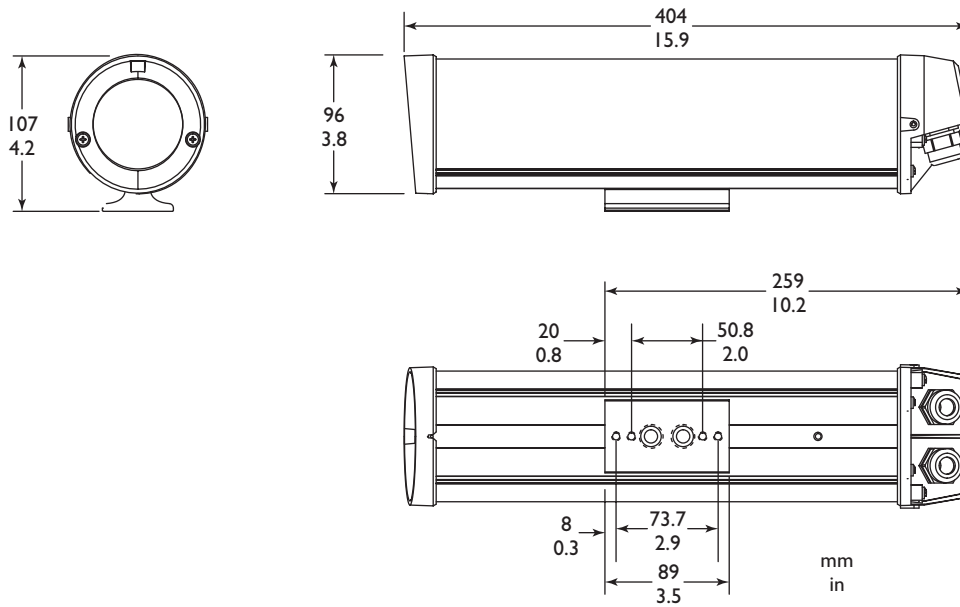
Suggested Applications:

	LTC 9480	LTC 9483	LTC 9484	LTC 9488
Camera Model	Lens	Lens	Lens	Lens
LTC 0330	Fixed/Vari ¹	Fixed/Vari ¹	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom
LTC 0350	Fixed/Vari ¹	Fixed/Vari ¹	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom
LTC 0430	Fixed/Vari ¹	Fixed/Vari ¹	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom
LTC 0450	Fixed/Vari ¹	Fixed/Vari ¹	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom
LTC 0500	----	----	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom
LTC 0600	----	----	Fixed/Vari/ Small Zoom	Fixed/Vari/ Zoom

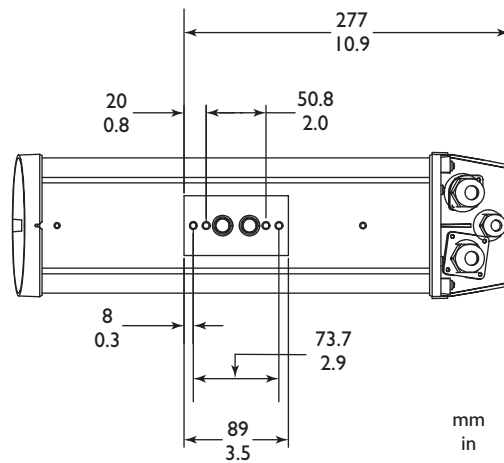
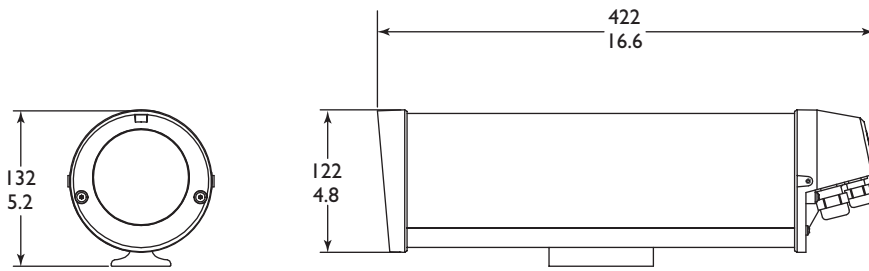
1. The camera mounting block must be removed.



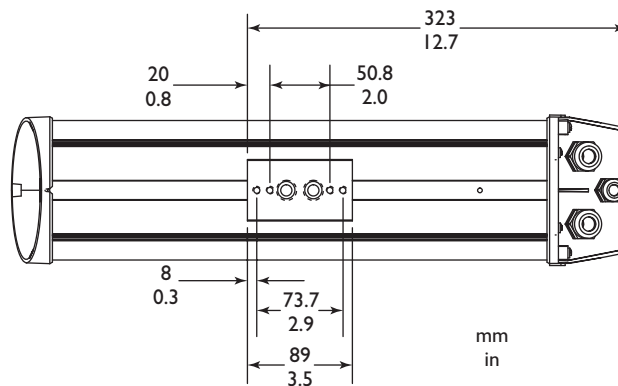
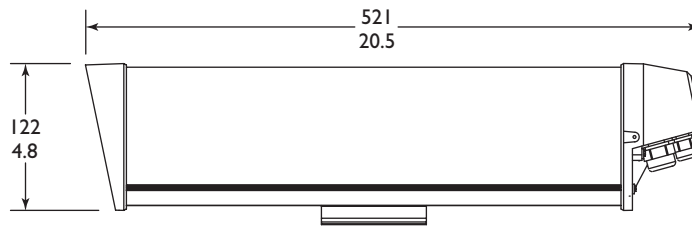
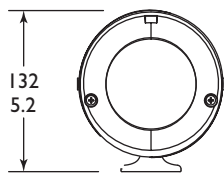
LTC 9480 Series



LTC 9483 Series



LTC 9484 Series



LTC 9488 Series

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LTC 9483/50C Outdoor Housings

- **For 1/4-inch, 1/3-inch, and 1/2-inch CCD Cameras**
- **Feed-through Wiring Option**
- **Aluminum and Advanced Polymer Construction**
- **Full Camera Accessibility**
- **Cost Competitive**
- **Multiple Accessories Available**
- **Connectable Wiring for Easy Installation**



The LTC 9483/50C Housings are smartly styled housings for indoor and outdoor use. These housings meet customers' demands for attractive housings that are both cost competitive and easy to install.

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.

Powering this housing is made easy using the 4-pin Amphenol connector located on the back of the housing.

A BNC connector is also mounted on the back for video connection. Wires can also be routed through liquid tight fittings on the bottom rear of the housing.

Feed-through mounts and J-mounts are available for these housings. The base of the housings permits mounting to pan/tilts, adjustable heads, and various wall mounts.

This sturdily constructed housing is available with a preinstalled heater. The heater maintains the internal temperature of the housing in cold temperature conditions.

SPECIFICATIONS

Electrical

Model No.	Preinstalled Heater ¹	Voltage/Power V/W	Use with Camera Models with These Voltage Ratings
LTC 9483/50C	Heater	230/23	230

1. The heater operates at 50/60 Hz.

Mechanical

Maximum Camera and Lens: LTC 9483/50C: 68 W x 54 H x 267 L mm (2.68 x 2.1 x 10.5 in)¹.

1. With heater.

Cable Entry:

LTC 9483/50C: 4-pin Amphenol-Yuchel connector accepts cable diameters 8.0 mm to 9.5 mm (0.31 in to 0.38 in). Two bottom feed-through liquid tight fittings accept cable diameters from 4.6 mm to 7.9 mm (0.18 in to 0.31 in).

Window: 3 mm (0.12 in) 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 drawing.

Weight: (approx.)

LTC 9483 Series: 1.8 kg (4 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.

Salt Atmosphere: MIL-STD-810E, Method 509, Procedure 1.

Enclosure Protection: Designed to NEMA-3R, IP55.

Electromagnetic Compatibility

Safety:

UL, cUL

Designed to meet CE requirements.

Accessories

Sunshield: Provides protection from the direct rays of sun and promotes cooling to reduce internal housing temperatures. Strongly recommended for housing to be used outdoors.

LTC 9083/00: For LTC 9483 Series housings.

LTC 9080/00 Tamper Resistant Kit: Includes 10 screws and insertion tool to permit tamper resistance for five housings.

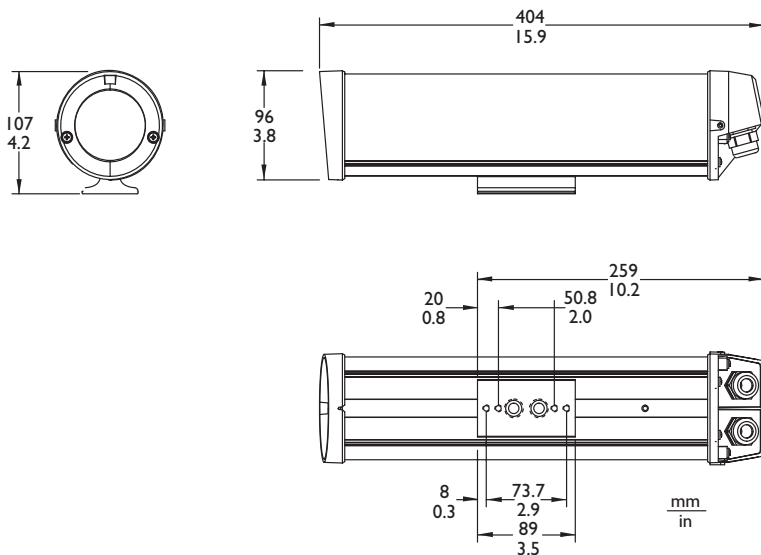
LTC 9215/00 Feed-through Mount: Attached to the foot of the housings allows wires to be fed-through the mount and into the foot of the housing.

LTC 9219/01 Feed-through J-Mount: Allows housing to be mounted from ceiling.

Suggested Applications:

Camera Model	LTC 9483 Lens
LTC 0140	Fixed/Vari-focal
LTC 0240	Fixed/Vari-focal
LTC 0330 ¹	Fixed/Vari-focal
LTC 0350 ¹	Fixed/Vari-focal
LTC 0430 ¹	Fixed/Vari-focal
LTC 0450 ¹	Fixed/Vari-focal

1. The camera mounting block must be removed.



LTC 9483 Series

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LTC 9380 Series Outdoor Housings

- **For 1/3-inch or 1/2-inch Format CCD Cameras**
- **All Aluminum Construction**
- **Easy Installation**
- **Available in Two Lengths**
- **Built-in Window Heater/Defogger**
- **Accessories Available**



The LTC 9380 Series of environmental housings are attractive aluminum enclosures designed for outdoor CCD camera installations. Slim and compact, the LTC 9380 Series are available in two lengths.

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. Both end caps are sealed with lubricated O-rings.

The permanent base permits mounting to pan/tilts, adjustable heads, and various wall mounts.

SPECIFICATIONS

Electrical

Model No.	Power Transformer ¹		Voltage Output	Nominal Power ²
	Rated Input	Voltage Range		
LTC9383/60	115 VAC, 50/60 Hz	108 to 132	24 VAC, 50/60 Hz	30 W
LTC 9383/20	24 VAC, 50/60 Hz	21.6 to 26.4	24 VAC, 50/60 Hz	30 W
LTC 9383/10 ³	24 VAC, 50 Hz	21.6 to 26.4	24 VAC, 50 Hz	30 W
LTC 9383/50	230 VAC, 50/60 Hz	207 to 253	24 VAC, 50/60 Hz	30 W
LTC 9388/60	115 VAC, 50/60 Hz	108 to 132	24 VAC, 50/60 Hz	30 W
LTC 9388/20	24 VAC, 50/60 Hz	21.6 to 26.4	24 VAC, 50/60 Hz	30 W
LTC 9388/10 ³	24 VAC, 50 Hz	21.6 to 26.4	24 VAC, 50 Hz	30 W
LTC 9388/50	230 VAC, 50/60 Hz	207 to 253	24 VAC, 50/60 Hz	30 W

1. The power transformers included with these housings are used to provide heater power, and can be used to provide isolated camera power.
2. Heater requires 10 watts.
3. IEC approved 24 VAC units.

Mechanical

Maximum Camera/Lens Size:

LTC 9383: Accepts cameras up to 64 W x 54 H mm (2.5 x 2.1 in), lenses up to 67 W x 75 H mm (2.6 x 2.9 in), and camera/lens combinations up to 252 mm L (9.9 in).
LTC 9388: Accepts cameras up to 64 W x 54 H mm (2.5 x 2.1 in), lenses up to 67 W x 75 H mm (2.6 x 2.9 in), and camera/lens combinations up to 353 mm L (13.9 in).

Cable Entry: Three liquid-tight fittings. Accepts the following cable diameters: one fitting 2.3 mm to 6.4 mm (0.09 in to 0.25 in), two fittings 3.8 mm to 10 mm (0.15 in to 0.39 in).

Window: 3 mm (0.118 in) thick glass. Includes thermostatically-controlled window heater-defogger.

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: Mushroom.

Dimensions: See drawing.

LTC 9383: 449 L x 97 W x 112 H mm (17.7 x 3.8 x 4.4 in).
LTC 9388: 551 L x 97 W x 112 H mm (21.7 x 3.8 x 4.4 in).

Weights:

LTC 9383: 1.4 kg (3 lb).
LTC 9388: 1.8 kg (4 lb).

Environmental

Temperature: At external ambient temperatures of -40 °C to +50 °C (-40 °F to +122 °F); maintains internal temperatures between -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 3.

Electromagnet 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

Sunshield: Provides protection from the direct rays of the sun and promotes cooling to reduce internal housing temperatures.

LTC 9383/00: For LTC 9383 Series housings.

LTC 9388/00: For LTC 9388 Series housings.

Tamper Resistant Kit: Includes screws and insertion tool to permit tamper-resistance for up to 10 housings.

LTC 9380/00: For LTC 9383 and LTC 9388 Series housings.

LTC 9381/00 NPT to PG Conversion Kit: Converts NPT cable entry holes to two PG I I; includes 3/8 inch NPT plug.

Suggested Applications

Camera Models	Suggested Lenses LTC 9383 Series	Suggested Lenses LTC 9388 Series
LTC 0140, LTC 0240 Series ²	Fixed	Fixed
LTC 0330, LTC 0350 Series	Fixed, TC9938, TC9948	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
LTC 0430, LTC 0450 Series	Fixed, TC9938, TC9948	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC360 Series	Fixed, TC9948A ¹ , TC1848B ¹	Fixed, TC9948A, TC1848B ¹ , TC9970A
TC380 Series	Fixed, TC9948A ¹ , TC1848B ¹	Fixed, TC9948A, TC1848B ¹ , TC9970A
TC390 Series	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC350A Series	Fixed	Fixed, TC9948A, TC1848B ¹ , TC9970A
TC370 Series	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC551A, TC554AX	Fixed	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC552A, TC552AX	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC590 Series	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹	Fixed, TC9938, TC9948A, TC1848B ¹ , TC9958 ¹ , TC9970A
TC651B, TC652BT, TC654BX	Fixed	Fixed, TC9948A, TC1848B ¹ , TC9970A

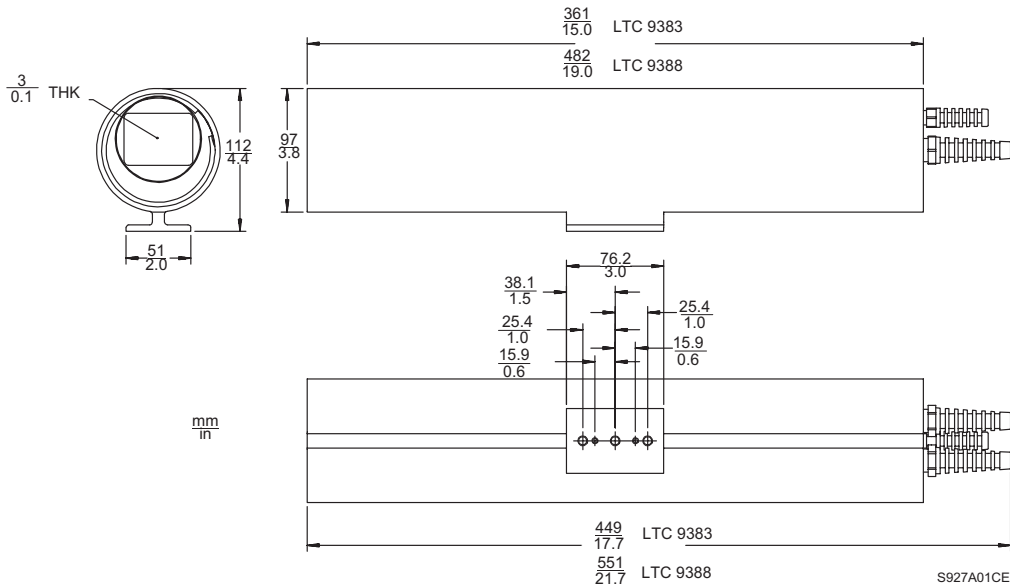
Suggested CS Mount Fixed Auto-Iris and Zoom Lenses (1/2-inch and 1/3-inch cameras, except TC952 and TC972 Series)

TC9902: 1/3-inch 2.8 mm, f/1.2, fixed	TC9904: 1/3-inch 4 mm, f/1.2, fixed	TC9908: 1/3-inch 8 mm, f/1.2, fixed
TC9903A: 1/2-inch 3.7 mm, f/1.6, fixed	TC9906A: 1/2-inch 6 mm, f/1.4, fixed	TC9907A: 1/2-inch 7 mm, f/1.4, fixed
TC9912A: 1/2-inch 12 mm, f/1.4, fixed	TC9913A: 1/2-inch 12 mm, f/1.4, fixed	TC9921A: 1/2-inch 3.8 mm, f/0.8, fixed
TC9922A: 1/2-inch 6 mm, f/0.75, fixed	TC9923A: 1/2-inch 12 mm, f/0.8, fixed	TC9938: 1/3-inch 3.8-38 mm, f/1.2, 10X zoom
TC99581: 1/3-inch 5.8-58 mm, f/1.2, 10X zoom	TC9948A: 1/2-inch 8-48 mm, f/1.4, 6X zoom	TC1848B ¹ : 1/2-inch 8-48 mm, f/1.0, 6X zoom
TC9970A: 1/2-inch 7.5-75 mm, f/1.4, 10X zoom		

Suggested CS Mount Manual Iris and Fixed Lenses (1/3-inch cameras)

TC9702: 1/3-inch 2.8 mm, f/1.3	TC9704: 1/3-inch 4 mm, f/1.2	TC9708: 1/3-inch 8 mm, f/1.2	TC9712: 1/2-inch 12 mm, f/1.4
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- Also applies to models with pre-position option denoted by a suffix "P".
- Some models in the series have integral lenses.



Dimensional Outline

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LTC 9384 Series Outdoor Housings

- **For 1/3-inch or 1/2-inch Format CCD Cameras**
- **All Aluminum Construction**
- **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 for quick installation and service.

SPECIFICATIONS

Electrical

Model No.	Power Transformer ¹		Nominal Power ²
	Rated Input	Voltage Range	
LTC 9384/60	115 VAC, 50/60 Hz	108 to 132	30 W
LTC 9384/20	24 VAC, 50/60 Hz	21.6 to 26.4	30 W
LTC 9384/50	230 VAC, 50/60 Hz	207 to 253	30 W
LTC 9484/20NT	24 VAC, 50/60 Hz	21.6 to 26.4	30 W

1. The power transformers included with these housings are used to provide heater power and can be used to provide isolated camera power.
2. Heater requires 10 watts.

Mechanical

Maximum Camera/Lens Size:

LTC 9384/xx: Accepts cameras up to 64 W x 54 H mm (2.5 x 2.1 in), lenses up to 67 W x 75 H mm (2.6 x 2.9 in), and camera/lens combinations up to 292 mm (11.5 in).
 LTC 9384/20NT: Accepts cameras up to 64 W x 54 H mm (2.5 x 2.1 in), lenses up to 67 W x 75 H mm (2.6 x 2.9 in), and camera/lens combinations up to 355 mm (14.0 in).

Cable Entry: Three liquid-tight fittings. Accepts the following cable diameters: one fitting 2.3 mm to 6.4 mm (0.09 in to 0.25 in), two fittings 3.8 mm to 10 mm (0.15 in to 0.39 in).

Window: 3 mm (0.118 in) thick glass. Includes thermostatically-controlled window heater/defogger.

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: 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: At external ambient temperatures of 40 °C to 50 °C (-40 °F to 122 °F), maintains internal temperatures between -20 °C to 55 °C (-4 °F to 131 °F).

Salt Atmosphere: MIL-STD-810E, Method 509, Procedure I.

Enclosure Protection: Designed to meet NEMA-6P, IP68.

Electromagnetic Compatibility

EMC Requirements:

Immunity: 89/336/EEC, EN50082-1.
 Emission: 89/336/EEC, EN50081-1 Class B.

Safety:

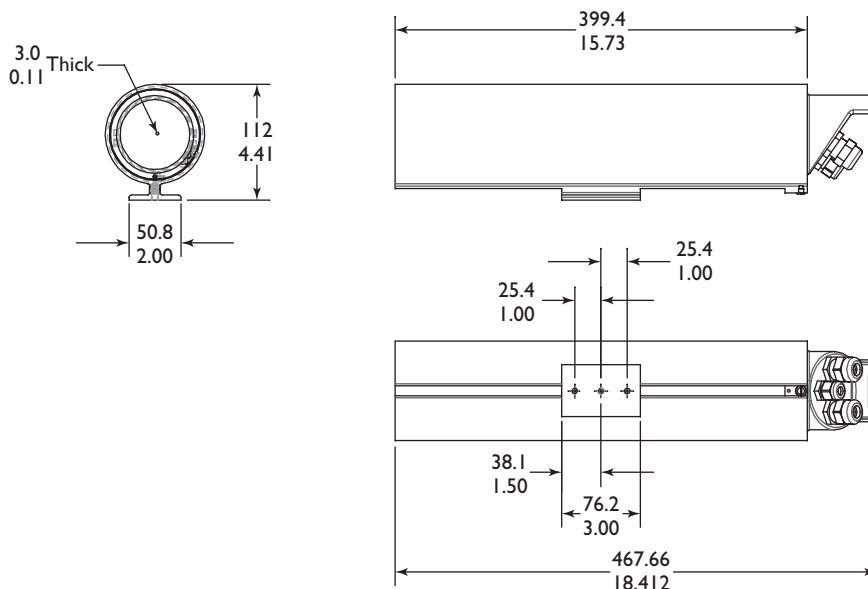
CE: LVD Requirements: 73/23/EEC; EN60065.
 UL: UL2044.
 cUL: CSA 22.2, No.1.

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 I housing.

LTC 9381/00 NPT to PG Conversion Kit: Converts NPT cable entry holes to two PG I; includes 3/8-inch NPT plug.



Dimensional Outline



LTC 9385 Series Outdoor Housings

- n **For 1/3-inch, 1/2-inch, or 2/3-inch Format CCD Cameras**
- n **All Aluminum Construction**
- n **Easy Installation**
- n **Removable Cover**
- n **Built-in Window Heater/Defogger**
- n **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 after the cover is removed. The cover also 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. An internal rail assembly that rotates independently of the mounting base assembly, and allows the camera to be mounted at any angle, is a unique feature of this housing.

SPECIFICATIONS

Electrical

Model No.	Rated Input	Voltage Range	Nominal Power ¹
LTC 9385/60	115 VAC, 50/60 Hz	108 to 132	50 W
LTC 9385/20	24 VAC, 50/60 Hz	21.6 to 26.4	50 W
LTC 9385/50	230 VAC, 50/60 Hz	207 to 253	50 W

1. Heater requires 40 watts.

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.

Mechanical

Maximum Camera/Lens Size: Accepts cameras up to 102 W x 71 H mm (4.0 x 2.8 in), lenses up to 102 W x 92 H mm (4.0 x 3.6 in), and camera/lens combinations up to 345 L mm (13.6 in).

Cable Entry: Two 1/2 inch NPT and one 3/8 inch NPT tapped holes. Three 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 in to 0.470 in).

Window: 9.5 mm (0.375 in) polycarbonate treated with a UV light resistant coating. Viewing area: 127 mm (5 in) diameter.

Housing Mounting: Three 8 mm (0.312 in) clearance holes in base. 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: Mushroom.

Dimensions: See **Dimensional Outline**.
591 L x 134 W x 153 H mm (23.3 x 5.3 x 6.0 in).

Weight: 3.7 kg (8.2 lb).

Environmental

Temperature: At external ambient temperatures of -30 °C to +50 °C (-22 °F to +122 °F); maintains internal temperatures between -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.

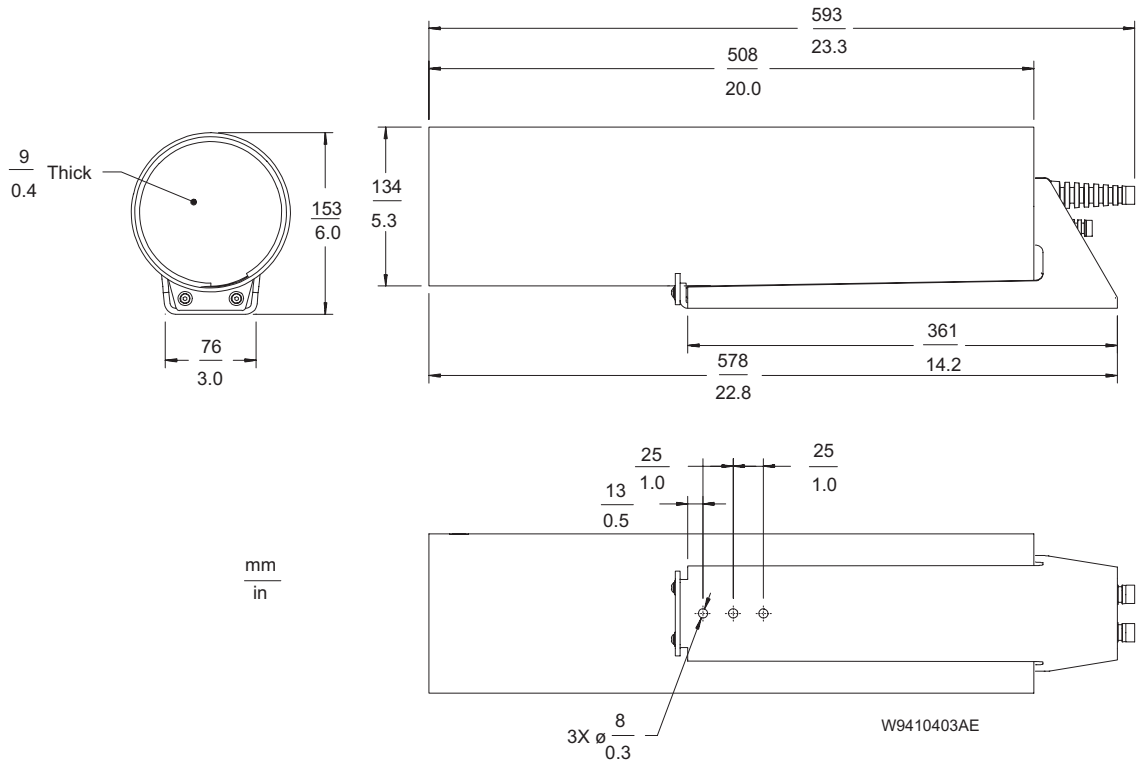
LTC 9381/01 NPT to PG Conversion Kit: Converts NPT cable entry holes to two PG11 and one PG7 hole.

Tamper Resistant Kit: Includes screws and insertion tool to permit tamper-resistance for up to 10 housings.
LTC 9380/01: For LTC 9383 and LTC 9388 Series housings.

Suggested Applications

Camera Models	Suggested Lenses	
	Fixed Lenses	Zoom Lenses ¹
TC360 Series	1/2-inch, 2/3-inch, and 1-inch format	1/2-inch and 2/3-inch format
TC370 Series	1/3-inch, 1/2-inch, 2/3-inch, and 1-inch format	1/3-inch, 1/2-inch, and 2/3-inch format
TC380 Series	1/2-inch, 2/3-inch, and 1-inch format	1/2-inch and 2/3-inch format
TC390 Series	1/3-inch, 1/2-inch, 2/3-inch, and 1-inch format	1/3-inch, 1/2-inch, and 2/3-inch format
TC300E Series	2/3-inch and 1-inch format	2/3-inch format
TC350 Series	1/2-inch, 2/3-inch, and 1-inch format	1/2-inch and 2/3-inch format
TC400 Series	1-inch format	---
TC550 Series	1/3-inch, 1/2-inch, 2/3-inch, and 1-inch format	1/3-inch, 1/2-inch, and 2/3-inch format
TC650 Series	1/2-inch, 2/3-inch, and 1-inch format	1/2-inch and 2/3-inch format
TC952 Series	1/3-inch, 1/2-inch, 2/3-inch, and 1-inch format manual Iris	---

1. Includes 2/3-inch format 6X and 10X zoom lenses only.



Dimensional Outline

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TC9340A Series Weatherproof Environmental Housings - Medium

- **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.

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).

SPECIFICATIONS

Mechanical

Maximum Camera/Lens Size: 304.8 L x 139.7 W x 108.0 H mm (13.5 x 5.5 x 4.25 in).

Cable Entry: Two 12.7 mm (0.5 in) glands on bottom of housing.

Window: 6.4 mm (0.25 in) thick poly-carbonate, UV-stabilized with a silicone hard coat.
Dimensions: 88.9 H x 101.6 W mm (3.50 x 4.00 in).

Latch: Located at rear of housing. 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: Textured semigloss beige.

Dimensions: See **Dimensional Outline**.

Weight: 3.28 kg (7.25 lb) without heater/blower.

Accessories

Heater Assembly:

Model No. ¹	Rated Input	Rated Output
HK47-1	120 VAC, 50/60 Hz	60 W
HK47-2	24 VAC, 50/60 Hz	50 W
HK47-3	230 VAC, 50/60 Hz	55 W

1. All Heater Assemblies require O/I-PCB Assembly for connection.

Blower Assembly:

Model No. ¹	Rated Input	Rated Output
BK47-1	120 VAC, 50/60 Hz	8 W
BK47-2	24 VAC, 50/60 Hz	8 W
BK47-3	230 VAC, 50/60 Hz	8 W

1. All Blower Assemblies require O/I-PCB Assembly for connection.

Window Defroster and Defogger: Increases resistance to ice build-up or condensation of moisture on window caused by temperature or humidity.

Model No. ¹	Rated Input	Rated Output
WD47-1	120 VAC, 50/60 Hz	15 W
WD47-2	24 VAC, 50/60 Hz	15 W
WD47-3	230 VAC, 50/60 Hz	15 W

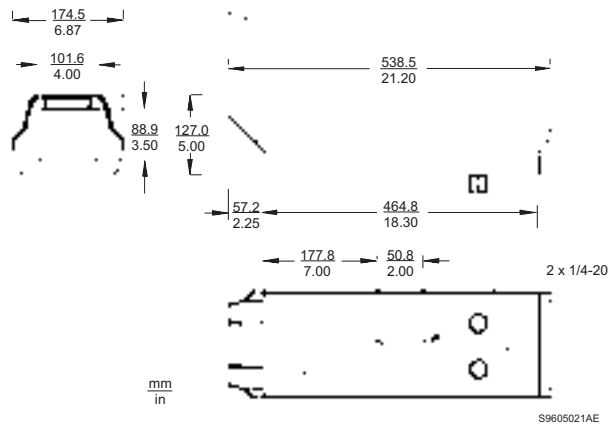
1. All Window Defroster and Defogger Assemblies require Heater Assembly and O/I-PCB Assembly for connection.

TC9340AS Sunshield: Provides an air gap between the sunshield and housing protecting the housing from the direct rays of the sun.

TI47 Low Temperature Package: Provides increased thermal protection for housing and contents at extreme temperatures.

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).



Dimensional Outline



TC9346A Series Weatherproof Environmental Housings - Large

- **For Cameras With 12X Zoom Lenses**
- **All Aluminum Construction**
- **Easy Installation**
- **Built-in Elevation Block**
- **Gas Spring Assisted Forward Opening Lid**
- **Accessories Available**



The TC9346A Series of environmental housings are constructed of aluminum. These housings can accommodate TC300 Series and TC400 Series cameras with 12X zoom lenses and TC440 Series cameras with 6X zoom lenses. This series of versatile housings are well suited for either indoor or outdoor use.

The housing enclosure opens from the rear by releasing four side mounted

latches which may be secured with a padlock. Opening is assisted by a unique gas spring, which securely holds the lid when fully opened. If necessary, the lid can also be removed. The forward opening lid on these units allows for 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).

SPECIFICATIONS

Mechanical

Maximum Camera/Lens Size: 711.2 L x 190.5 W x 139.7 H mm (28 x 7.5 x 5.5 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) plate glass.
Dimensions: 107.9 H x 133.3 W mm (4.25 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: Textured semigloss beige.

Dimensions: See **Dimensional Outline**.

Weight: 7.24 kg (16 lb) without heater/blower.

Accessories

Heater Assembly:

Model No. ¹	Rated Input	Rated Output
HK57-1	120 VAC, 50/60 Hz	90 W
HK57-2	24 VAC, 50/60 Hz	50 W
HK57-3	230 VAC, 50/60 Hz	70 W

1. All Heater Assemblies require O/I-PCB Assembly for connection.

Blower Assembly:

Model No. ¹	Rated Input	Rated Output
BK57-1	120 VAC, 60 Hz	15 W
BK57-2	24 VAC, 50/60 Hz	10 W
BK57-3	230 VAC, 50 Hz	15 W

1. All Blower Assemblies require O/I-PCB Assembly for connection.

Window Wipers:

Model No. ¹	Rated Input	Rated Output
WW5729-1	120 VAC, 60 Hz	15 W
WW5729-2	24 VAC, 50/60 Hz	15 W
WW5729-3	230 VAC, 50 Hz	15 W

1. Window wiper kits are not compatible when 1-inch format zoom lenses are used. O/I-PCB Assembly required for connection on all models.

Window Defrosters and Defoggers:

Model No. ¹	Rated Input	Rated Output
WD57-1	120 VAC, 60 Hz	30 W
WD57-2	24 VAC, 50/60 Hz	30 W
WD57-3	230 VAC, 50 Hz	30 W

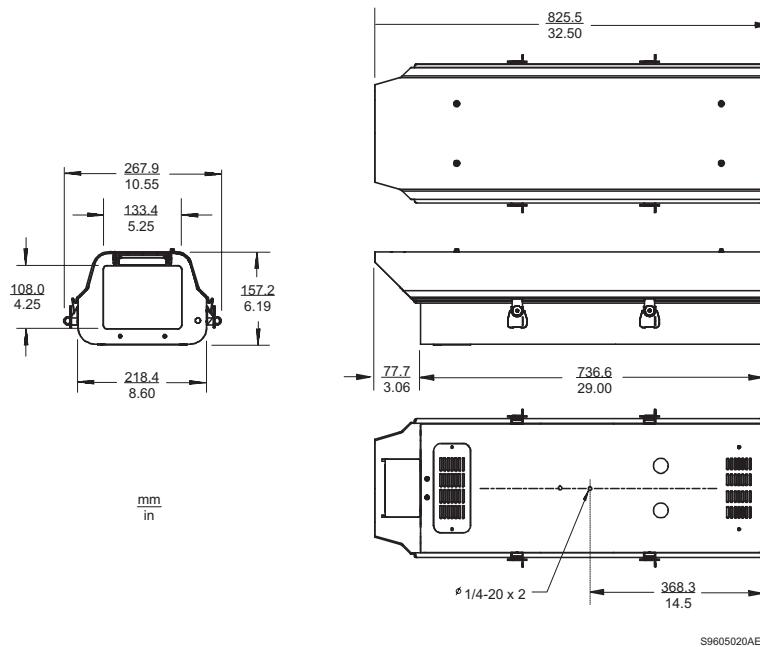
1. Requires heater accessory for all models.

SS5729 Sunshield: Provides an air gap between the sunshield and the housing protecting the housing from the direct rays of the sun.

TI57 Low Temperature Package: Provides increased thermal protection for housing and contents at extreme temperatures.

O/I-PCB Assembly Connection 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).



Dimensional Outline

9498 961 16811 98-27

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PHILIPS

Let's make things better.

Mounts & Mounting Brackets

TC9200 Series Indoor Camera Mounts

- **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 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.

Model TC9200 is an economical 200 mm (8 in) 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 in) 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 in). 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 in) and can handle cameras of up to 10 kg (22 lb).

Model TC9205 is an economical 127 mm (5 in) 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 2/3 inch and smaller cameras in indoor applications. It accommodate loads of up to 4.5 kg

(10 lb) and is constructed of aluminum and steel, providing extremely rigid camera mounting. The TC9206U, a 150 mm (6 in) unit, is designed to be used in either a suspended ceiling or solid wall/ceiling mounting location. Supplied with two mounting bases, it can be easily adapted to either configuration.

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.

The LDH 6372/00 indoor mount is an economical wall mount with a minimum length of 63 mm and a maximum length of 191 mm (2.5 in to 7.5 in). Featuring threaded extensions, this unit can be configured to three different lengths and is easily installed with the included mounting hardware. While designed originally for use with the LDH series of CCD cameras, this unit can also be used with many model CCD cameras.

SPECIFICATIONS

TC9200 General Purpose Mount

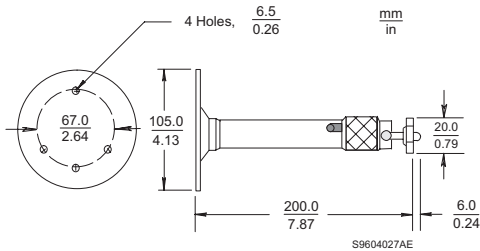
Maximum Load: 4 kg (8.8 lb).

Mounting Head: Adjustable. 360° pan, 90° tilt.

Mounting Bolt: Standard 1/4-20.

Finish: Aluminum.

Weight: 230 g (0.44 lb).



TC9203 Universal Wall/Ceiling Mount

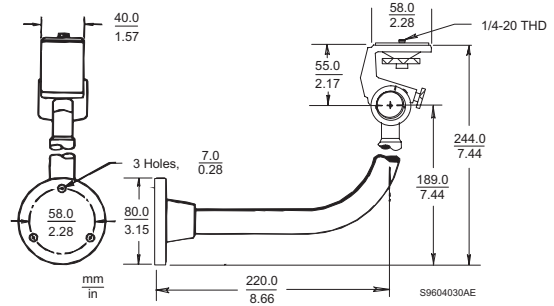
Maximum Load: 10 kg (22 lb).

Mounting Head: Adjustable. 360° pan, 90° tilt.

Mounting Bolt: Standard 1/4-20.

Finish: Aluminum and black.

Weight: 460 g (1.0 lb).



TC9201 Deluxe General Purpose Mount

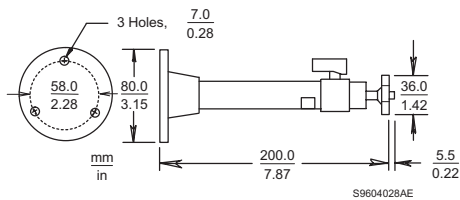
Maximum Load: 9 kg (20 lb).

Mounting Head: Adjustable. 360° pan, 90° tilt.

Mounting Bolt: Standard 1/4-20.

Finish: Gloss black.

Weight: 230 g (0.44 lb).



TC9205

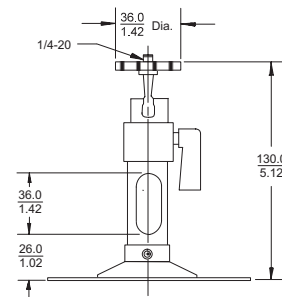
Maximum Load: 2 kg (4.4 lb).

Mounting Head: Adjustable. 360° pan, 90° tilt.

Mounting Bolt: Standard 1/4-20.

Finish: Aluminum.

Weight: 240 g (5.3 lb).



TC9202 Extendible Wall Mount

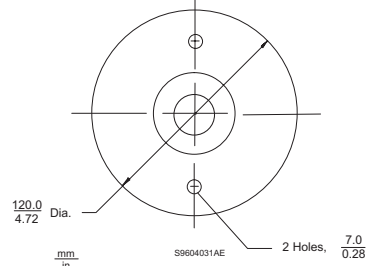
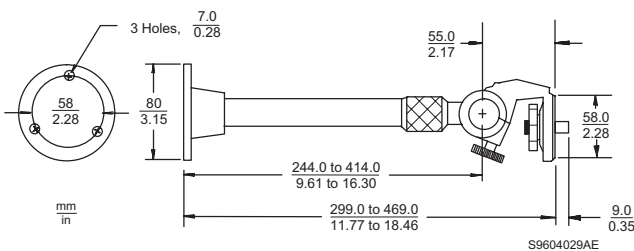
Maximum Load: 10 kg (22 lb).

Mounting Head: Adjustable. 360° pan, 90° tilt.

Mounting Bolt: Standard 1/4-20.

Finish: Aluminum and black.

Weight: 510 g (1.1 lb).



**TC9206U 15-cm (6 in)
Solid Wall/Ceiling Mount**

Maximum Load: 4.5 (10 lb).

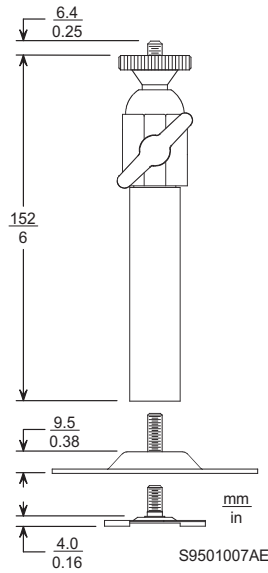
Mounting Head: Adjustable. 360° pan, 180° tilt.

Finish: Off-white semigloss acrylic.

Weight:

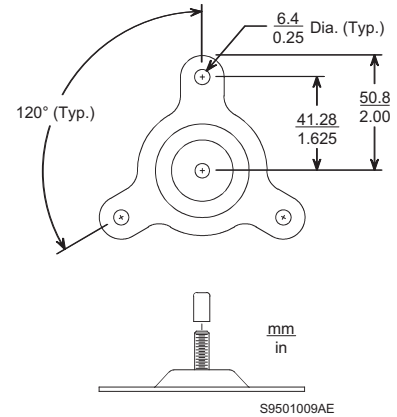
With Wall/Ceiling Flange: 291 g (0.64 lb).

With T-Bar Clip: 245 g (0.54 lb).



Wall/Ceiling Mount Flange

Included with TC9206U Solid Wall/Ceiling Mount.



TC9207

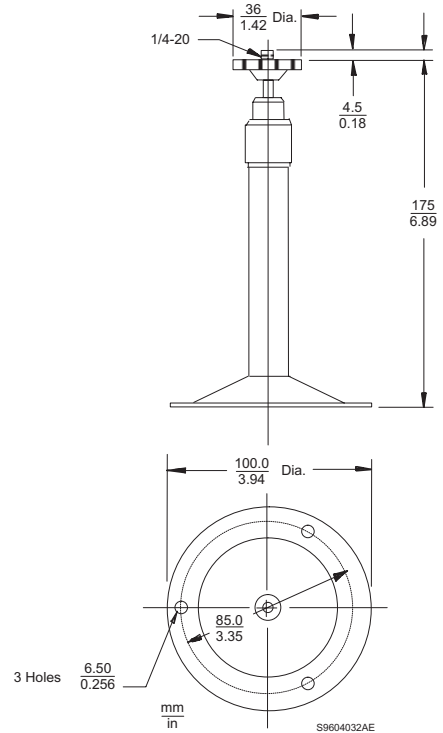
Maximum Load: 4 kg (8.8 lb).

Finish: Aluminum with off-white flange.

Mounting Head: Adjustable. 360° pan, 90° tilt.

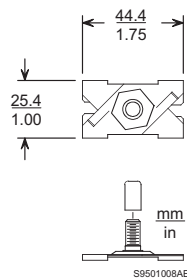
Mounting Bolt: Standard 1/4-20.

Weight: 180 g (4 lb).



T-Bar Ceiling Clip

Included with TC9206 Suspended Ceiling Mount and TC9206U Solid Wall/Ceiling Mount.



LDH 6372/00

Maximum Load: 3 kg (6.6 lb).

Finish: Off-white/grey semigloss polyurethane.

Mounting Head: Adjustable. 360° pan, 90° tilt.

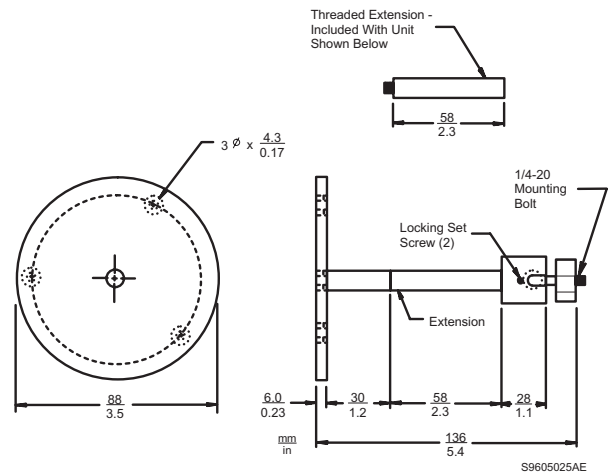
Mounting Bolt: Standard 1/4-20.

Mounting Hardware: Screws and plastic wall anchors.

Weight:

With Extension: 0.43 kg (0.95 lb).

Without Extension: 0.49 kg (1.07 lb).

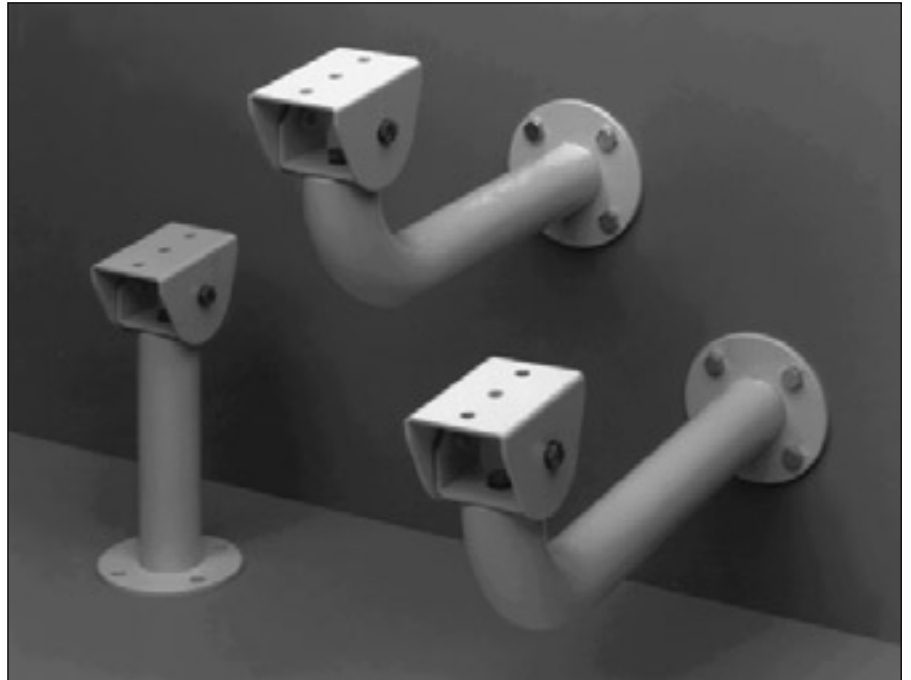


PHILIPS

Let's make things better.

LTC 9210/00, LTC 9211/00, LTC 9212/00, LTC 9223/00, LTC 9213/00 Indoor/Outdoor Camera Mounts

- **Sturdy Construction**
- **Attractive Appearance**
- **Versatile Design**
- **Adjustable Mount Heads**
- **Lightweight**
- **Corrosion-Resistant Finish**



These series of indoor/outdoor mounting equipment are designed for fixed camera or camera housing installations up to a rated load of 9 kg (20 lb). All models are made of lightweight aluminum and feature welded construction providing an extremely rigid camera mount. They have been designed and styled for the LTC 9350 and LTC 9380 Series camera housings. All mounts come fully assembled.

The LTC 9210/00 is a 200 mm (8 inch) column mount constructed of 38 mm (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 mounting holes for easy installation.

The LTC 9223/00 column mount is similar to the LTC 9210/00, but with a height of 610 mm (24 inch).

The LTC 9211/00 and the LTC 9212/00 are wall mounts of 250 mm (10-inch) and 300-mm (12 inch) lengths respectively. Both units are constructed of 38 mm (1.5 inch) OD

aluminum tubing with a welded surface mounting flange. These units include 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 mounting holes for easy installation.

The LTC 9213/00 is a pole mount bracket which facilitates the mounting of the LTC 9211/00 and LTC 9212/00 mounts to a 3 inch to 15 inch diameter pole. Stainless steel straps are included for ease of mounting.

SPECIFICATIONS

LTC 9210/00, LTC 9211/00, LTC 9212/00,
LTC9223/00, LTC 9213/00

Indoor/Outdoor Mounts

Maximum Load: 9 kg (20 lb).

Mounting Head: Adjustable. 360° pan, 180° tilt (NA for LTC 9213/00).

Finish: Mushroom.

LTC 9210/00 20-mm (8-inch)

Column Mount

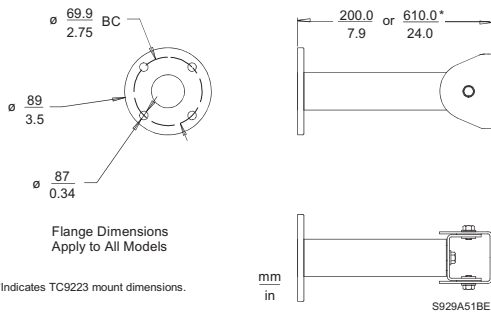
LTC 9223/00 610-mm (24-inch)

Column Mount

Approx. Weights:

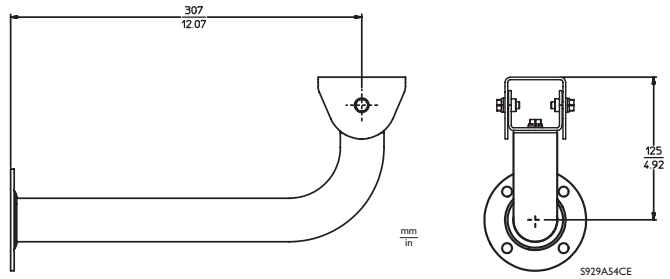
LTC 9210/00: 300 g (0.6 lb).

LTC 9223/00: 544 g (1.2 lb).

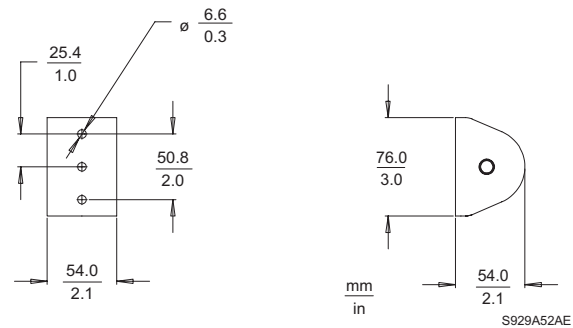


LTC 9212/00 300-mm (12-inch) Wall Mount

Approx. Weight: 400 g (0.9 lb).



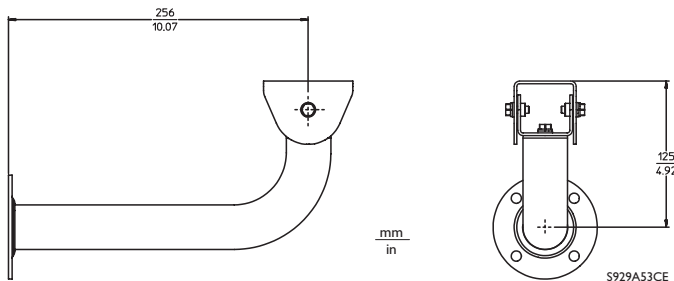
For additional details, see Adjustable Head Dimensional Outline.



Dimensional Outline for Adjustable Head

For additional details, see Adjustable Head Dimensional Outline.

LTC 9211/00 250-mm (10-inch) Wall Mount



Approx. Weight: 350 g (0.8 lb).

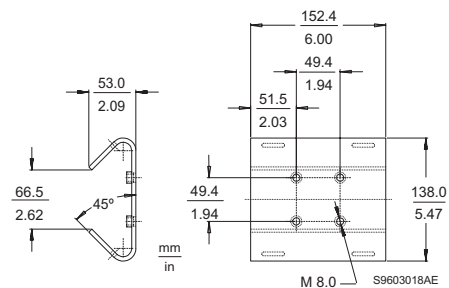
For additional details, see Adjustable Head Dimensional Outline.

LTC 9213/00 Pole Mount Adapter

Mounting Hardware: (2) 1.5 m (5 ft) stainless steel straps, (2) banding clips, (4) hex head cap screws, and (4) lockwashers are furnished with unit.

Options: TC931 IPM3T strapping tool available. Refer to Data Sheet for Accessories For Domed Housings.

Approx. Weight: 850 g (1.9 lb).



Requires mounting pole of 76 mm to 380 mm (3 inch to 15 inch) OD.

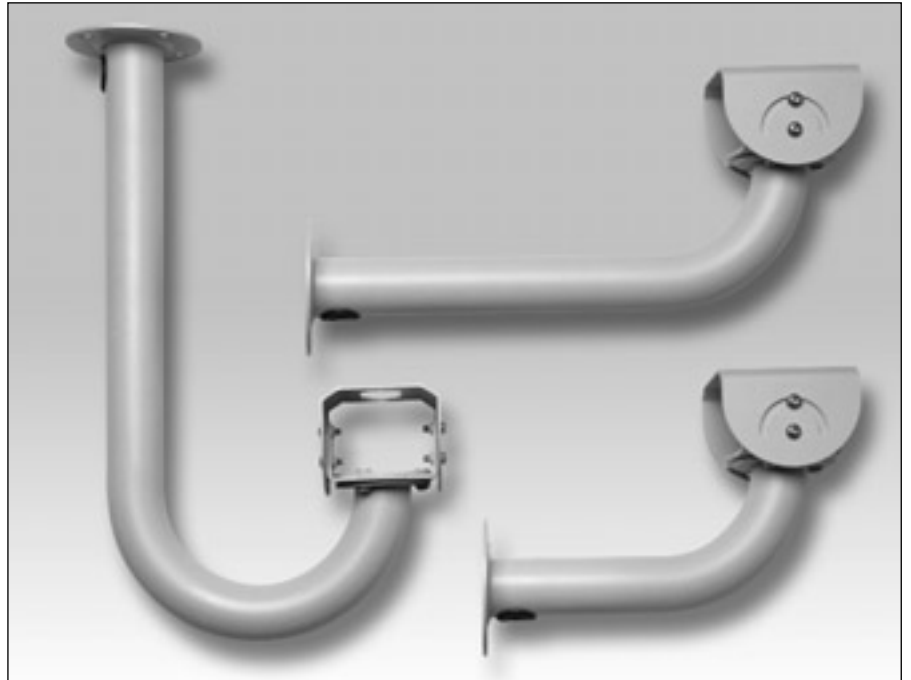


PHILIPS

Let's make things better.

LTC 9215/00, LTC 9215/00S, LTC 9219/01 Indoor/Outdoor Feed-through Mounts

- **Wall & Ceiling Versions**
- **Sturdy Construction**
- **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 (20 lb) 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 smallest of the three mounts, LTC 9215/00S, has been designed specifically for the LTC 9480 series housings, while the larger LTC 9215/00 & LTC 9219/01 can be used with the LTC 9480, LTC 9483, and LTC 9488 series camera housings. All mounts come fully assembled.

SPECIFICATIONS

LTC 9215/00 30-cm (12-in) Indoor/Outdoor Feed-through Wall Mount

Maximum Load: 9 kg (20 lb).

Mounting Head: Adjustable. 360° pan, 180° tilt.

Finish: Dark mushroom.

Approx. Weight: 0.4 kg (0.9 lb)

Accessory for LTC 9215/00: LTC 9213/00 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: Dark mushroom.

Approx. Weight: 0.3 kg (0.7 lb)

Accessory for LTC 9215/00S: LTC 9213/00 Pole Mount Adapter.

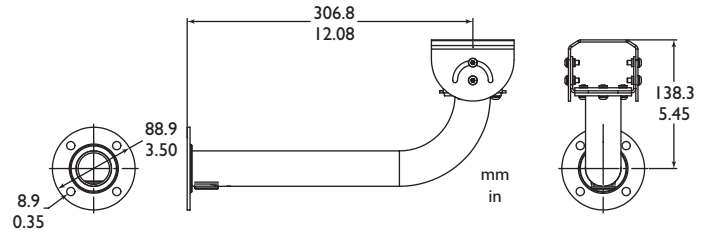
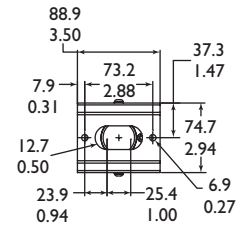
LTC 9219/01 40-cm (15-in) Indoor/Outdoor Feed-through Ceiling J-Mount

Maximum Load: 9 kg (20 lb).

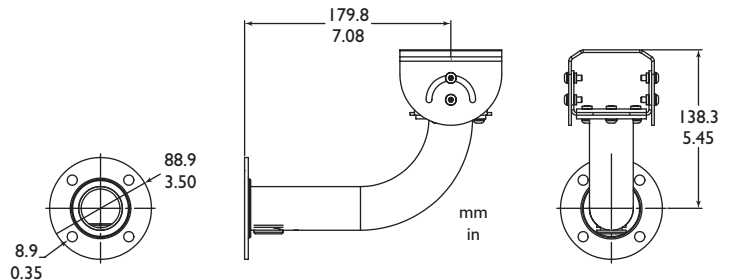
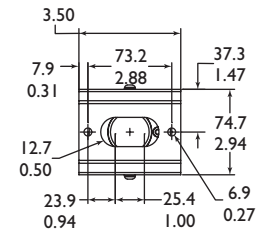
Mounting Head: Adjustable. 360° pan, 180° tilt.

Finish: Dark mushroom.

Approx. Weight: 0.55 kg (1.2 lb).

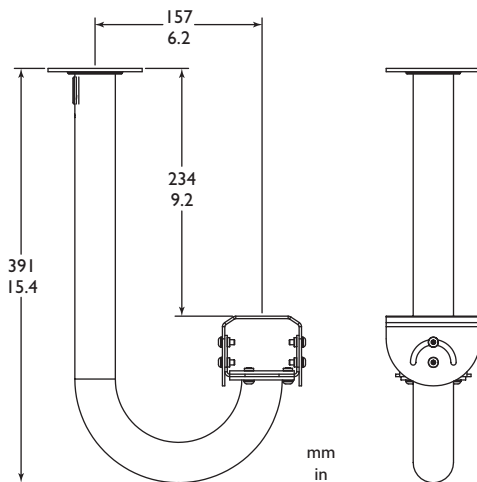


LTC 9215/00 Feed-through Wall Mount



LTC 9215/00S Feed-through Wall Mount

WARNING: Mounts must be mounted as shown.



LTC 9219/01 Feed-through Ceiling J-mount

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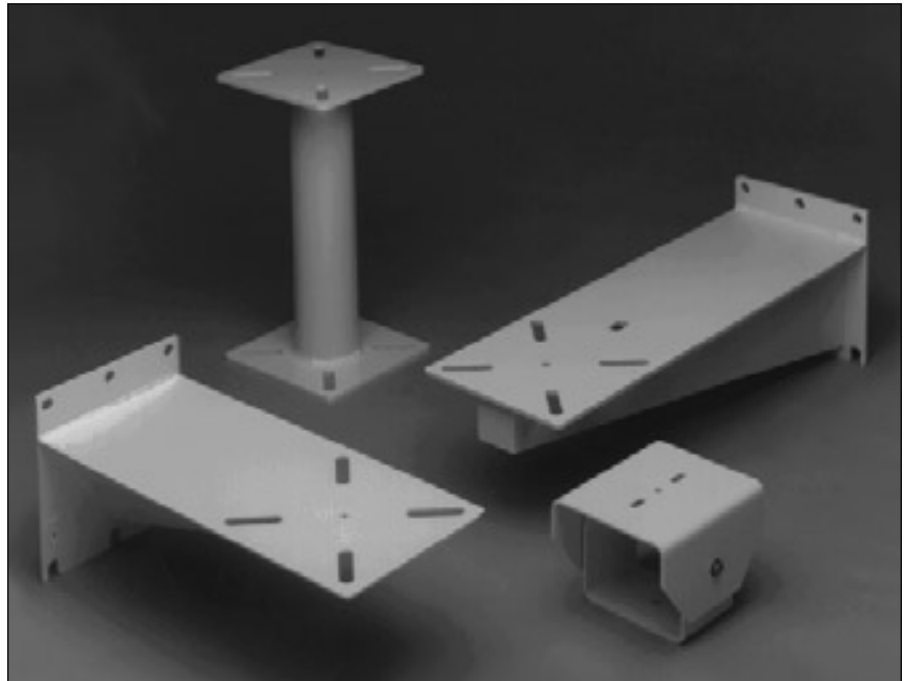


PHILIPS

Let's make things better.

LTC 9214/00, LTC 9224/00, LTC 9216/00, LTC 9222/00, TC7440WM, TC7440PA, LTC 9227/00, LTC 9228/00, LTC 9225/00, LTC 9226/00 Indoor/Outdoor Mounts

- **Sturdy Construction**
- **Attractive Appearance**
- **Corrosion-Resistant**
- **Easy Installation**
- **Versatile Mounting Hole Pattern**
- **Wide Range of Models**



Our wide selection of indoor/outdoor mounting brackets include column, wall, pole, corner, and adjustable head mounts. These versatile mounts accommodate fixed cameras, housings, pan/tilts, and scanners.

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 76-mm (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 duty to medium duty camera installations.

The LTC 9222/00 is a 564-mm (22-inch) wall mount designed for heavy duty cameras installations.

The TC7440WM is an all weather curved mount/wall bracket for use with the TC7420A Series and TC7440A Series pendant mount AutoDome® systems. It allows direct mounting to a flat wall or mates directly to the LTC 9226/00 corner or LTC 9225/00 pole mount brackets.

The TC7440PA is an all weather curved mount and adapter plate for use with the TC7420A Series and TC7440A Series pendant mount AutoDome systems. It allows direct mounting to the TC9315P Mounting Pole, TC9315SRM Corner Mount Bracket With Pivoting Pole, TC9316PRM Parapet Roof Mount Bracket With Pivoting Pole, TC9311PM3 Pole Mount Adapter, TC9311CA2

Corner Mount Bracket, and TC9311PA2 Parapet Roof Mount.

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. A hole is provided for use with TC7440WM curved mount/wall bracket.

The LTC 9226/00 corner bracket is an adapter designed to install the LTC 9216/00, LTC 9222/00, or TC7440WM wall mounts to a building corner.

SPECIFICATIONS

LTC 9214/00 356-mm (14-inch) and LTC 9224/00 610-mm (24-inch) Column Mounts

Maximum Rated Load:

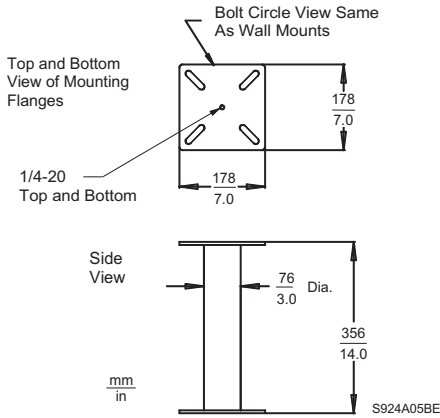
Upright: 90.6 kg (200 lb).
Inverted: 45.3 kg (100 lb).

Mounting Hardware: Not furnished.

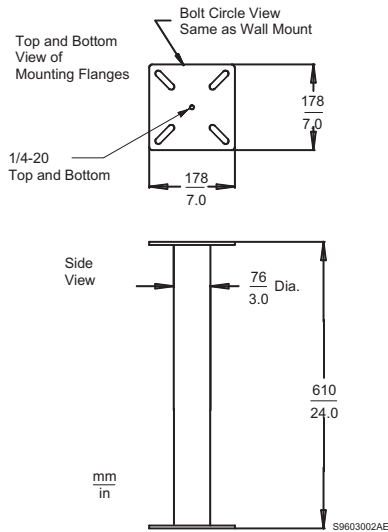
Finish: Mushroom.

Weight:

LTC 9214/00: 2.3 kg (5.1 lb).
LTC 9224/00: 3.3 kg (7.2 lb).



LTC 9214/00



LTC 9224/00

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).

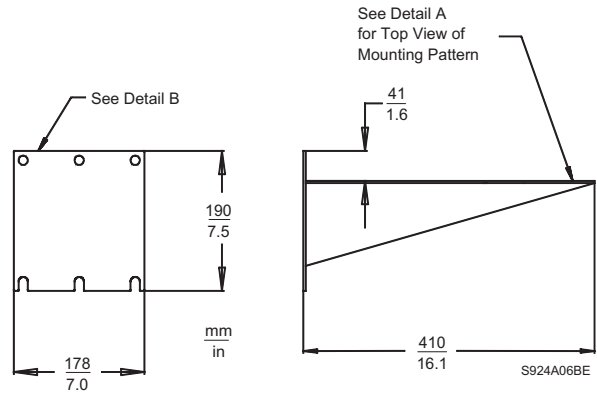
Mounting Hardware: Not furnished.

Finish: Mushroom.

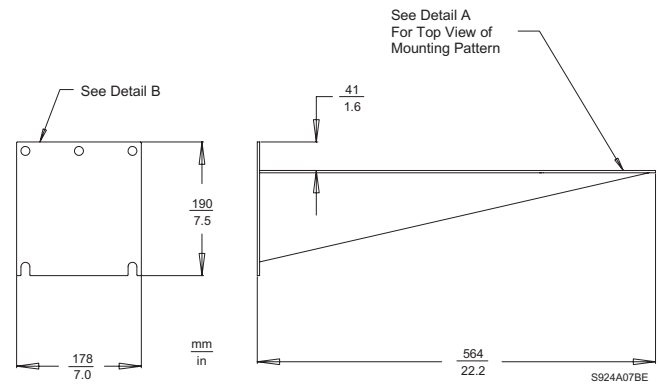
Weight:

LTC 9216/00: 1.6 kg (3.5 lb).
LTC 9222/00: 2.9 kg (6.5 lb).

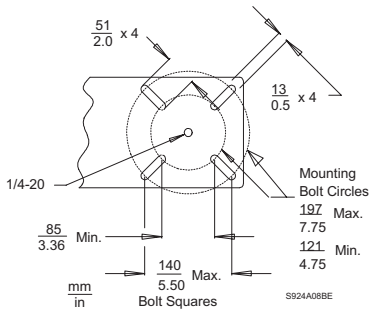
Note: Do not mount the LTC 9216/00 or LTC 9222/00 wall mounts in an inverted position.



LTC 9216/00

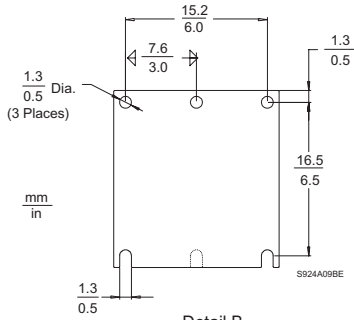


LTC 9222/00



Detail A

Detail A - LTC 9216/00 and LTC 9222/00



Detail B

Detail B - LTC 9222/00

TC7440WM

Maximum Load: 11.5 kg (25 lb).

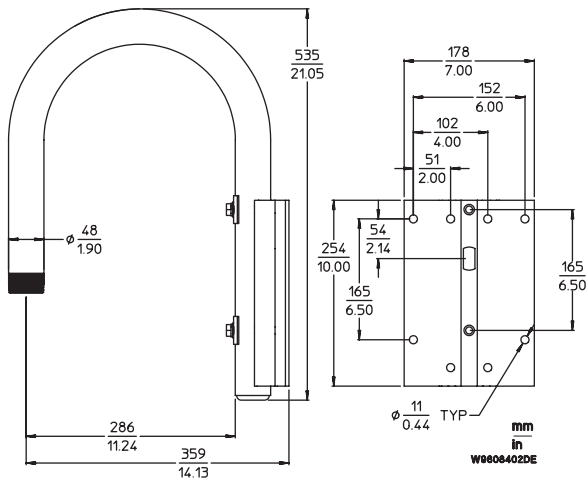
Finish: Off-white semigloss polyurethane.

Construction: Aluminum.

Fasteners: Stainless steel.

Weight: 2.9 kg (6.4 lb).

Note: Do not mount the TC7440WM mount in an inverted position.



TC7440WM

TC7440PA

Maximum Load: 11.5 kg (25 lb).

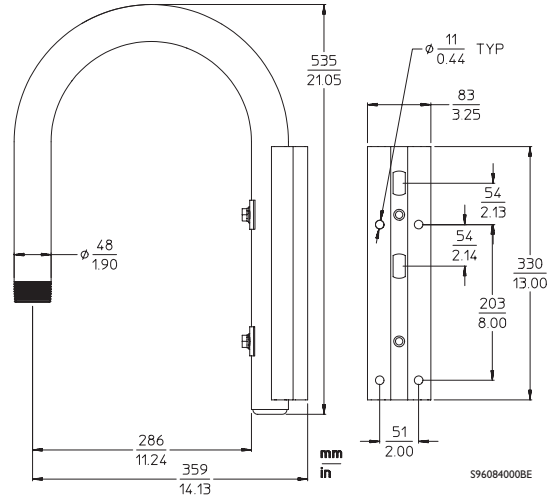
Finish: Off-white semigloss polyurethane.

Construction: Aluminum.

Fasteners: Stainless steel.

Weight: 2.8 kg (6.2 lb).

Note: Do not mount the TC7440PA mount in an inverted position.



TC7440PA

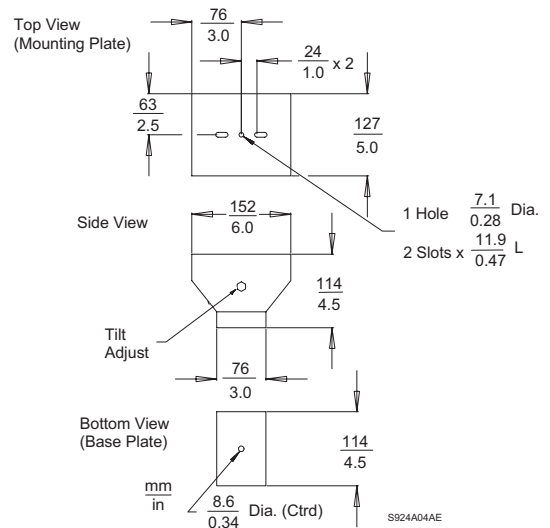
LTC 9227/00 Adjustable Head Mount

Maximum Rated Load: 45.3 kg (100 lb).

Mounting Hardware: Not furnished.

Finish: Mushroom.

Weight: 0.55 kg (1.2 lb).



LTC 9227/00

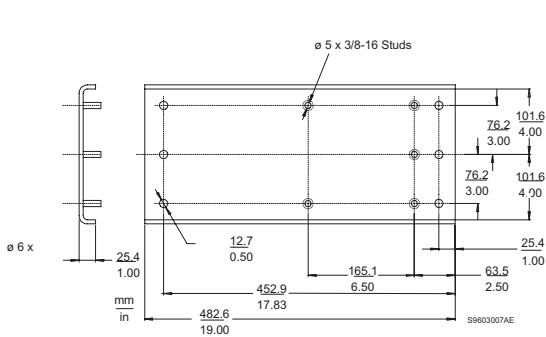
LTC 9228/00 Flange Bracket

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: Mushroom.

Weight: 2.1 kg (4.6 lb).



LTC 9228/00

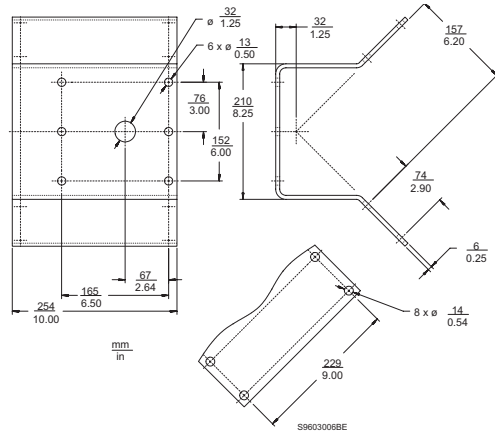
LTC 9226/00 Corner Bracket

Maximum Rated Load: 45.3 kg (100 lb).

Mounting Hardware: Not furnished.

Finish: Mushroom.

Weight: 2.9 kg (6.5 lb).



LTC 9226/00

LTC 9225/00 Pole Mount

Maximum Rated Load: 45.3 kg (100 lb).

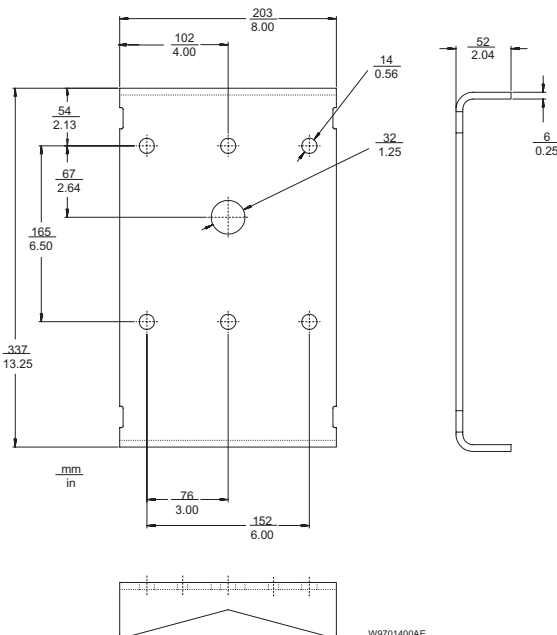
Mounting Hardware: (2) 5 ft stainless steel straps, (2) banding clips, (6) hex head cap screws, (6) flat and lock washers, and (6) hex nuts furnished with unit.

Options: TC931 IPM3T strapping tool available.

Finish: Mushroom.

Weight:

LTC 9225/00: 1.4 kg (3.0 lb).



LTC 9225/00

9498 961 03511 98-23

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PHILIPS

Let's make things better.

Rack Kits & Mounting Consoles

TC96000 Series Rack Cabinets

- n **Standard 19-inch EIA Width**
- n **Easy Assembly**
- n **Sturdy Construction**
- n **Attractive Black Appearance**
- n **Selection of Sizes**
- n **Accessories Available**



These rack cabinets give you unlimited flexibility in your cabinet arrangements. Steel frames with 1-inch high density wood product core construction provides lasting service. Bases are vented for cooling electronics. Cabinets may be used alone or set up in different configurations with Add-on-Rack components. Includes finished black sides.

SPECIFICATIONS

TC96011B 21-inch Basic Rack: 20 5/8-inch W x 15 3/4-inch D x 23 3/4-inch H. Shipping weight 38 lb.

TC96012B 21-inch Add-On-Rack:
For in-line installations next to TC9601B. Shipping weight 34 lb.

TC96015B 28-inch Basic Rack: 20 5/8-inch W x 15 3/4-inch D x 30 3/4-inch H. Shipping weight 45 lb.

TC96016B 28-inch Add-On-Rack:
For in-line installations next to TC96015B. Shipping weight 41 lb.

Note: When making more than one bay system order one Basic Rack and Add-on-Racks for additional bays.

Front Closure Panels Black:

TC85140: 1.75-inch H x 19.0-inch W. 1 rack height.

TC85141: 3.50-inch H x 19.0-inch W. 2 rack height.

TC85142: 5.25-inch H x 19.0-inch W. 3 rack height.



Special Equipment

TC8235GIT

Ground Isolation Transformer

- **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.

SPECIFICATIONS

Impedance Levels: 75 ohm 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.

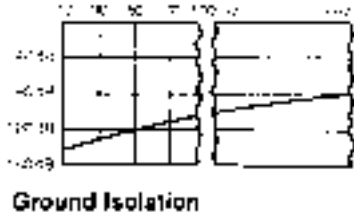
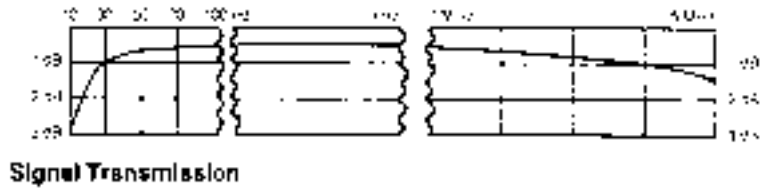
Phase: Linear with slope of 18°/MHz, 1 MHz to 5 MHz.

Ground Isolation: $E_n/E_o = 115$ dB at 60 Hz (decreases with frequency at 6 dB/octave to 30 dB minimum at 1 MHz).

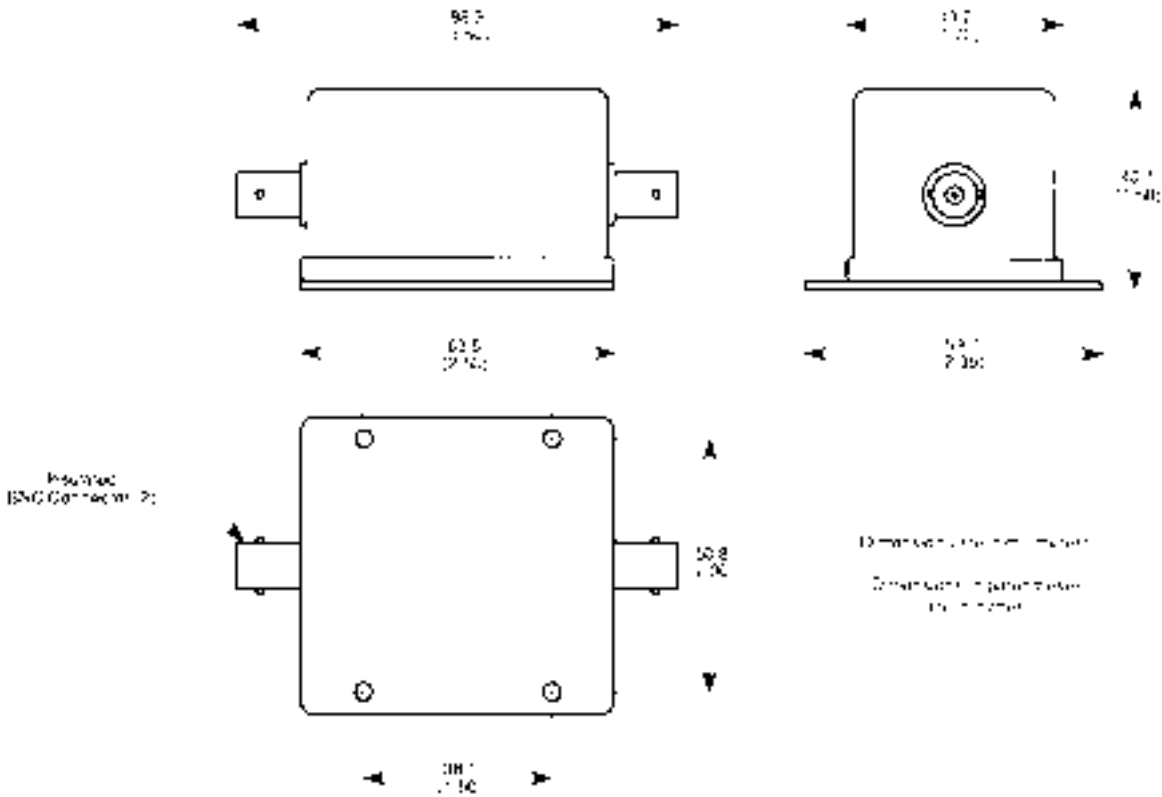
Dielectric Withstanding Voltage: 500 Vrms, 60 Hz (from connectors to case and each other).

Weight: 223 g (0.5 lb).

Finish: Black.



IN 75 OHM UNB OUT 75 OHM UNB
Circuit Diagram of Transformer



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