LTC 8800 Series Allegiant Matrix/Control Systems - Modular

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Invented for life

- ▶ 256 Camera by 64 monitor switching
- ▶ Expandable to larger matrix sizes
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability

The LTC 8800 Series Allegiant Video Switcher/Control Systems combine both switching and computer technology to provide powerful performance and unique system features for the security user. Offering full matrix switching capability, these systems can be programmed to display the video from any camera on any monitor, either manually or via independent automatic switching sequences.

Functions

General Construction
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.

Sequencing Capabilities
These systems can be programmed with up to 60 sequences which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the optional LTC 8059/00 master control software package,

sequences can be made to activate and deactivate automatically based upon the time of day and the day of the week.

Camera Control
The LTC 8800 Series support variable speed operation and full programming access for AutoDome and AutoDome Easy II Series cameras. In addition, on-site receiver/drivers are available to provide operator control of pan, tilt, zoom, pre-positions, auxiliaries, auto-pan, and random scan functions when used with conventional pan/tilt devices. An integral local test function is also a standard feature.

The LTC 8800 Series include an impressive user-based priority system and a series of programmable lockout tables to limit operator access of remotely controlled devices. Operators can restrict control from lower priority operators either manually or automatically. When enabled to operate automatically, a built-in time-out period is user programmable.

Bilinx® Capability
When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional

communication protocol embedded in the video signal of Bosch Dinion, AutoDome, and AutoDome Easy II CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

Alarm Capabilities

With the addition of the LTC 8540/00 Series alarm interface accessory unit, an external contact closure or logic level can be used to automatically activate any camera to be displayed. Any monitor or group of monitors can be set to display cameras under alarm conditions. The base system contains three built-in alarm response modes: basic, auto-build, and sequence and display. In addition to these three modes, the PC-based software packages now include the ability to combine any or all the three standard modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, a 16-character alarm title can be selected to appear instead of the camera title during alarm conditions.

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 32 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

Programming/Software Capabilities

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. A user selectable option provides the ability to display a third line of on-screen text. This third line can be configured to display up to 24 additional camera title characters (40 characters total) or a 12-character monitor title.

The on-screen display is also user selectable to operate in "6-digit Camera ID" mode. When enabled, 2-digit "site numbers" are displayed in addition to the 4-digit camera number. The 2-digit site number feature is especially useful when groups of cameras are located in separate buildings, floors, or other common areas. Over 1000 characters are available when programming camera ID and monitor titles.

Utilizing a standard Windows-based PC and the optional LTC 8059/00 Master Control Software package, enhanced programming and switching features can be obtained. A user friendly spreadsheet format provides the ability to enter camera titles, operator names, or 64 timed events; change system parameters; program camera sequences; install lockouts; and access the advanced alarm handling screens with speed and efficiency. The programmed

information may then be transferred into the Allegiant system, stored on disk, or printed out directly from a printer connected to the PC.

The LTC 8800 Series contain a logging printer output port. This RS-232 serial interface can be connected to the serial port of a PC to provide 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, lists of the system's configuration tables and sequences can be sent to the printer port.

The LTC 8800 system provides powerful macro capabilities. The macros can be activated using Allegiant Series system keyboards, system time event functions, and alarm activations.

Expansion Capabilities

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.

Certifications and approvals

|	
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations. This product also complies with EN 50121-4 railway application standards. Refer to www.boschsecurity.com website for link to applicable documents.
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards

| Region	Certification	
Europe	CE	LTC 8601, LTC 8801, LTC 8802)

Installation/configuration notes
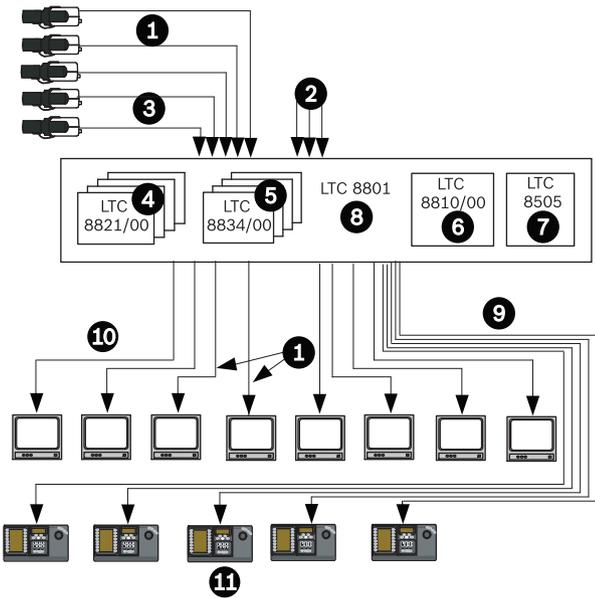
LTC 8800 Series Configuration Diagram
(256 Cameras by 32 Monitors)

1   Video Coax

2   256 Camera Inputs Maximum

3   Additional System Cameras

4   Input Cards (max. 8)

5   Output Cards (max. 8)

6   CPU Module

7   Power Supply Module

8   Series Main CPU Bay

9   3 m (10 ft) Interconnect Cable Supplied with Keyboard

10 32 Monitor Output Capacity

11 32 Full Matrix Monitor Outputs Maximum, 32 Full Function
    Keyboards Maximum
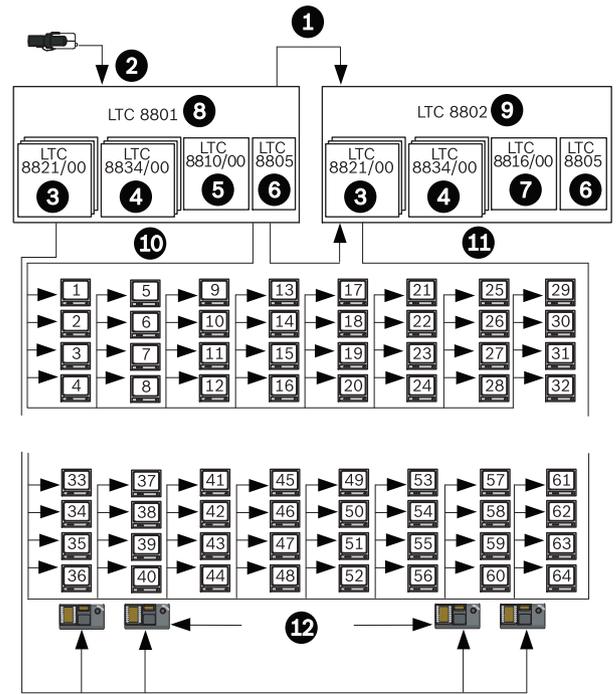
LTC 8800 Series Dual-bay System (256 Cameras by 64
Monitors)

1   Coax Ribbon Jumper Cables (Supplied)

2   Up to 256 Cameras Total

3   8 x 32 Channel Input Cards (max. 8, each bay)

4   8 x 4 Channel Output Card (max. 8, each bay)

5   CPU Module

6   Power Supply Module

7   Data Receiver Module

8   Main CPU Bay

9   Monitor Expansion Bay

10 Monitor Outputs 1 to 32

11 Monitor Outputs 33 to 64

12 Maximum of 32 Full-function Keyboards up to 1.5 km (5000 ft)
    away Using Optional Remote Hookup Kit
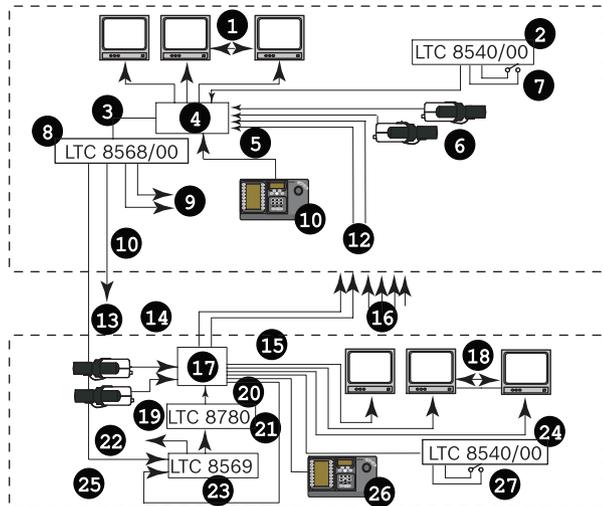
Allegiant Satellite Switching System

1   Monitor Outputs

2   Alarm Interface Unit

3   Pan/Tilt/Zoom and Satellite Control Data

4   Allegiant Main CPU Bay

5   Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor

6   Inputs Used for both Local and Trunk Lines

7   Local Camera Video

8   Signal Distribution Unit

9   To any Local PTZ Camera Sites

10   Up to 1.5 km (5000 ft) using 1 mm^2 (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)

11   Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and PTZ)

12   Multiple Video Trunk Lines from each Remote Satellite Location

13   One Line to Each Remote Satellite System Location

14   Pan/Tilt/Zoom and Satellite Control Data

15   Monitor Outputs Used as Video Trunk Lines to Main Control Site

16   Video Trunk Lines from other Satellite Locations

17   Any Model Allegiant Main Bay

18   Local Monitor

19   Console Port Input

20   Satellite Data Line

21   Data Converter Units

22   To any Local PTZ Camera Sites

23   Code Merger Unit

24   Alarm Interface Unit

25   Local PTZ Control Data Line

26   Alarm Interface Unit only Local Video on Local Monitors

27   Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and PTZ)

Technical specifications

LTC 8800 Series System Specifications

Capacities

Video Inputs	Standard: 256 Satellite configuration: 2048
Video Outputs	64
Keyboards	32
Alarm Inputs	1024
Receiver Drivers	Standard: 256 Satellite configuration: 2048

Electrical

Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 4% (75 Ohm terminated)		
Pulse/Bar 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-Ratio[1]	70 dB at 3.58 MHz unified, unweighted minimum		
Crosstalk (at 3.58 MHz)	Input to input: -60 dB Adjacent channel: -50 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz		
Differential 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		
Transient Protection (VIM Cards)	350 W Peak Pulse Power (tp = 8/20 µs		

1 Meets EIA/TIA - 250C Medium Haul Standard for 256 cameras x 32 monitors.

2 One camera to one monitor.

Environmental

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	−40°C to 60°C (−40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0% to 95% relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, ½ sine wave

LTC 8801 Series Main CPU Bay

Includes equipment rack, LTC 8810/01 microprocessor module, and LTC 8805 Series power supply.

Power

Model No.	Rated Voltage	Voltage Range	Nominal Power[3]
LTC 8801/60	120 VAC, 50/60 Hz	100 to 140	200 W
LTC 8801/50	220-240 VAC, 50/60 Hz	198 to 264	200 W

3 Power at rated voltage fully loaded.

Connectors

Video Inputs: 1 to 96	One (1) sync Input, and 32 monitor outputs BNC
Video Connections: 97 to 256	Ten (10), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately)
Looping Video Connections: 1 to 256	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC°8808/00 video interconnect panel (purchased separately)

External Accessory Interfaces

Console	9-pin D-type RS-232 port for external PC or control interface (default = 19,200 baud)
Alarm	9-pin D-type RS-232 port for Allegiant alarm accessory unit (default = 19,200 baud)
Printer	9-pin D-type RS-232 port for system logging printer default = 19,200 baud)
SDA	9-pin D-type TTL level, high-speed control data output (Bi-Phase) for interface to Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COMM Port	9-pin D-type RS-485 port for interbay communication use (default = 125,000 baud)
COMM Port	9-pin D-type RS-485 port for external Allegiant accessory use (default = 125,000 baud)
Keyboards	Eight (8), 6-pin RS-485 ports for Allegiant keyboard use (default = 9600 baud)

Equipment Rack (LTC 8801)

Size (W x D x H)	EIA 48 cm (19 in.) rack 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)

Construction/Finish

Top and Bottom	Steel
Front, Sides, and Back	Aluminum
Finish	Charcoal

Microprocessor Module (LTC 8810/01)

Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

Power Supply (LTC 8805/60–120 VAC, LTC 8805/50 – 220-240 VAC)

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	One power On/Off, ten fuse alert, and one external sync LED

LTC 8802 Series Monitor Expansion Bay

Includes equipment rack, LTC 8816/01 data receiver module, and LTC 8805 Series power supply.

Power

Model No.	Rated Voltage	Voltage Range	Nominal Power[4]
LTC 8802/60	120 VAC, 50/60 Hz	100 to 140	200 W
LTC 8802/50	220–240 VAC, 50/60 Hz	198 to 264	200 W

4. Power at rated voltage fully loaded.

Connectors

Video Inputs	1 to 96, and 32 monitor outputs BNC
Sync Input	Not used
Video Connections: 97 to 256	Ten (10), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel (purchased separately)
Looping Video Connections: 1 to 256	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel

External Accessory Interfaces

Console	9-pin D-type connector, not used
Alarm	9-pin D-type connector, not used
Printer	9-pin D-type connector, not used
SDA	9-pin D-type connector, not used
COM Port	9-pin D-type connector RS-485 port for interbay communication use (default = 125,000 baud)
COM Port	9-pin D-type connector, not used
Keyboards	Eight (8), 6-pin RS-485 ports for Allegiant keyboard use (default = 125,000 baud)

Equipment Rack (LTC 8802 Series)

Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)

Construction/Finish

Top and Bottom	Steel
Front, Sides, and Back	Aluminum
Finish	Charcoal

Data Receiver Module (LTC 8816/01)

Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

Power Supply (LTC 8805/60–120 VAC, LTC 8805/50220–240 VAC)

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11 5 lb)
Indicators	One power On/Off, ten fuse alert, and one external sync LED

LTC 8821/00 Camera Input Module

Use up to eight per bay in main CPU bay. If monitor expansion bay is being used, equip with duplicate number of modules.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8834/00 Monitor Output Module

Use up to eight per bay in main CPU or monitor expansion bay.

Monitor Outputs	4
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

LTC 8808/00 Video Interconnect Panel

NOTE: Use of the LTC 8808/00 assemblies are required for system video inputs 97 to 256 and must be purchased separately. The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16- channel ribbon cable connectors. The two, 16-conductor ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8800 Series system. In addition to being used for video inputs 97 to 256, the LTC 8808/00 assembly can also be ordered as an option to provide looping output capability. For looping purposes, one LTC 8808/00 (includes one panel and two ribbon cables) is required for each group of 32 cameras.

The following table can be used to determine the number of LTC 8808/00 assemblies that must be purchased:

Number of System Cameras	Number of LTC 8808 Assemblies Required for Camera Input Connections Only	Number of LTC 8808 Required for Inputs and Looping Video Outputs

1 to 32	None	1
33 to 64	None	2
65 to 96	None	3
97 to 128	1	5
129 to 160	2	7
161 to 196	3	9
197 to 224	4	11
225 to 256	5	13
Finish	Charcoal	
Size (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)	
Weight		
Panel	0.54 kg (1.2 lb)	
Ribbon Cables (2)	0.3 kg (0.7 lb)	

Allegiant Accessories

The LTC 8800 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, the video ribbon cable and key- board expansion units. All accessory products are designed to be installer-friendly and compatible throughout Allegiant series systems. See the Allegiant Accessories datasheet.

Ordering information

LTC 8801/50 Allegiant Matrix Switcher
Includes equipment rack, LTC 8810/01 microprocessor module and LTC 8805 Series power supply;
220-240 VAC, 50/60 Hz
Order number **LTC 8801/50**

LTC 8801/60 Allegiant Matrix Switcher
Includes equipment rack, LTC 8810/01 microprocessor module and LTC 8805 Series power supply; 120 VAC, 50/60 Hz
Order number **LTC 8801/60**

LTC 8802/50 Monitor Expansion Bay
Includes equipment rack, LTC 8816/01 data receiver module and LTC 8805 Series power supply; 220–240 VAC, 50/60 Hz
Order number **LTC 8802/50**

LTC 8802/60 Monitor Expansion Bay
Includes equipment rack, LTC 8816/01 data receiver module and LTC 8805 Series power supply; 120 VAC, 50/60 Hz
Order number **LTC 8802/60**

LTC 8821/00 Video Input Module
for LTC 8800, 32 video inputs per card
Order number **LTC 8821/00**

LTC 8834/00 Video Output Module
for LTC 8600 and LTC 8800, 4 video outputs per card
Order number **LTC 8834/00**

Accessories

LTC 8810/00 Spare CPU Molule
for LTC 8801/00 bay
Order number **LTC 8810/00**

LTC 8805/50 Spare Power Supply
for LTC 8601/50 bay, 220-240 VAC, 50 Hz
Order number **LTC 8805/50**

LTC 8805/60 Spare Power Supply
for LTC 8601/60 bay, 120 VAC, 60 Hz
Order number **LTC 8805/60**

LTC 8810/01 Spare CPU Module
for LTC 8801 bay
Order number **LTC 8810/01**

LTC 8816/00 Data Receiver Module
for LTC 8802/00, 0.5 kg (1.1 lb)
Order number **LTC 8816/00**

LTC 8816/01 Data Receiver Module
REP data RX module, LTC 8802 Series
Order number **LTC 8816/01**

Software Options

SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software
Order number **SFT-VASA**

LTC 8059/00 Allegiant Master Control Software
Order number **LTC 8059/00**

LTC 8850/00 GUI Allegiant Single User Software Package
Order number **LTC 8850/00**

SFT-INTSRV Integration Server Software
Allegiant integration software package
Order number **SFT-INTSRV**