

# LTC 4600 Series LTC 4700 Series Fiber Optic Transmission Systems

- Video or Data Transmission
- 850 nm and 1300 nm Models
- No Adjustments Required
- Long Distance – High Security
- Compatible with Microprocessor Switcher/Control Systems
- 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 4651**

The LTC 4651 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 4751**

The LTC 4751 transceivers are biphasic or Manchester or RS-232 digital control units similar to the LTC 4651 transceiver except that they operate in the 1300 nm range to maximize transmission distance.

**LTC 4671**

The LTC 4671 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 4771**

The LTC 4771 unit is an RS-485 transceiver similar to the LTC 4671 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
<b>Video (850 nm)</b>									
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°
<b>Data (850 nm)</b>									
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
<b>Video &amp; Data (850 nm / 1300 nm)</b>									
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°
<b>Video (1300 nm)</b>									
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°
<b>Data (1300 nm)</b>									
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
<b>Video &amp; Data (850 nm/1300 nm)</b>									
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°
<b>Rack Kit</b>									
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
<b>Video 4 Channels</b>									
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
<b>LTC 4628 Series</b> 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
<b>LTC 4641 Series</b> 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
<b>LTC 4644 Series</b> 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
<b>LTC 4741 Series</b> 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
<b>LTC 4772 Series</b> 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
<b>LTC 4651 Series</b> LTC 4651/60	Biphase & RS232 Transceiver	110 V
LTC 4651/50	Biphase & RS232 Transceiver	220 V
LTC 4651/00	Biphase & RS232 Transceiver	LTC 4637
<b>LTC 4751 Series</b> 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
<b>LTC 4629 Series</b> 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
<b>LTC 4642 Series</b> 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
<b>LTC 4645 Series</b> 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
<b>LTC 4742 Series</b> 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
<b>LTC 4773 Series</b> 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  $\mu\text{m}$ , 62.5/125  $\mu\text{m}$ , 100/140  $\mu\text{m}$  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 <sup>1</sup>
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.



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