LTX-551X
Analog/Digital Fiber Optic Link

Technical Specifications

INTRODUCTION

The LTX-5510 and the LTX-5515 Signal Transports enables the precise conveyance of one analog channel plus up to four digital channels of information over fiber optic links ranging from meters to more than 10 kilometers. Incoming analog data is digitized to 12 or 14 bit precision at up to100 mega-samples per second and transmitted over optical fiber at one to two gigabits per second depending on the model. The receiver acquires this digital data and accurately reconstructs the analog signal at the far end of the fiber optic link.

The analog signal bandwidth is from DC to 25 MHz (-3 dB). Two input voltage ranges are provided, ± 1 Volt and ± 5 Volts (Special input voltages may be requested). The input impedance of the transmitter analog channel may be set to 50 ohms or 1 megohm (75 ohms is optional). Multiplexed along with the analog data, are up to four independent TTL/CMOS/LVTTL digital signals that may be toggled at rates of up to 48 Mb/s.

The LTX-5510 and LTX-5515 models are available in multi-mode or single-mode versions depending on the transmission distance required. The LTX-55XX-850 transmits at 850nm over multi-mode fiber optic links of up to 500 meters in length, while the LTX-55XX-1310 transmits at 1310nm over single-mode fiber to span distances exceeding 10 km.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, transmission of high quality video, and precise noise-free signal transmission in hostile EMI environments.

FEATURES AND BENEFITS

- One analog plus up to four digital channels
- DC to 25 MHz analog bandwidth
- Input ranges of ± 1 V and ± 5 V
- Analog signal digitized to 12 or 14 bit precision
- DC to 48 Mb/s data rate (each channel)

MADE IN THE USA

LTX-551X-Specifications		
	LTX-5510	LTX-5515
Analog Signal Bandwidth	DC to 12.5 MHz (-3 dB)	DC to 25 MHz (-3 dB)
Input Voltage Ranges	+/- 1 V or +/- 5 V (selectable)	
Resolution	12 or 14 bit	
Transfer Accuracy	+/- 0.1% Full Scale, +/- 20 mV offset	
Signal Latency (with one meter of fiber)	Approximately 300 nS	
A/D Sampling Rate	50 Megasamples/S	100 Megasamples/S
Input Impedance	50 Ohms or 1 Megohm || 20 pF, (selectable)	
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load	
Output Impedance	50 Ohms	
Digital Inputs	TTL, LVTTL, CMOS compatible	
Digital Outputs	LVTTL (0 - 3.3 V)	
Digital switching Rates	0 - 12 MHz	0 - 24 MHz
Digital Signal Edge Uncertainty	0 - 20 nS	0 - 10 nS
Laser Wavelength	850 nm+/- 20 nm or 1310 nm +/- 20 nm	
Optical Transmission Rate	1.0 Gb/S	2.0 Gb/S
Loss Budget	15 dB max	
Optical Return Loss	> 15 dB	
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations	
Typical Trans. Distances MM	500 M - 50/125µ and 300 M - 62.5/125µ	250 M - 50/125µ and 150 M - 62.5/125µ
Typical Trans. Distances SM	10 KM with 9/125 micron fiber	
Fiber Optic Connectors	ST standard, FC optional	
LED Annunciators Provided	Input Overload (TX), Optical Signal (RX)	
Power Requirements	9 - 24V DC, 500mA	
Power Supply Included	95 - 260 VAC, 50 - 60 Hz, 16 VA Max - Output 9VDC/.67A with Universal, US, UK, Continental Europe and Australian plugs included	
Fiber Optic Connectors	ST standard, FC available upon request	
LED Annunciators Provided	Input Overload (transmitter), Optical Signal - ON (receiver)	
Tx and Rx Dimensions	6.89L x 4.1W x 1.6H in. (175L x 105 W x 40 H mm)	
Operating Temperature	0 - 40 C	
Weight (each)	16.2 oz. (0.46 Kg)	
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee	
Accessories Supplied	5 pin DIN DB25 Connectors for Digital Inputs/Outputs and Power Supply With International Mains	

To Order: LTX-551X-X-X

Optical Transmission Rate:
0 = 1 gigabit
5 = 2 gigabit

Laser Wavelength:
850 = 850nm Multi-mode
1310 = 1310nm Singlemode

Analog Bit Rate
Blank = 12 bit
14 = 14 bit

LTX-552X

Digital Fiber Optic Link

Technical Specifications

TREND NETWORKS

Depend On Us

INTRODUCTION

The LTX-552x conveys sixteen independent channels of digital information over a fiber optic link ranging from meters to more than 10 kilometers.

Each of the 16 incoming TTL channels is sampled at up to 5 x 107 times per second, multiplexed and transmitted serially over an optical fiber at up to 2 gigabit per second. The receiver acquires this digital data and de-multiplexes it to 16 separate output ports. Each of these channels may be toggled at rates ranging from 0 to 48 Mb/S.

Two models are available. The LTX5520 transmits serially at 1 gigabit and the LTX5525 transmits at 2 gigabit over either SM or MM fibers. The distance between units determines the fiber required to complete the link. 850 nm units operate on multi-mode fiber up to 500 meters in length, while 1310 nm units operate with single-mode fiber to span distances exceeding 10 kilometers.

The LTX-5510 precision analog fiber optic link was the first in our series of "Signal Transporters". It digitizes an analog signal at a 50 Ms/S rate with 12-bit precision and reconstructs the signal at the LTX-5510 receiver by means of a fast D/A converter. If the user employs the LTX-5520 receiver with the LTX-5510 transmitter, the result is a remote fiber-coupled 12-bit data acquisition system.

Similarly one can employ the LTX-5520 transmitter with the LTX-5510 receiver to generate fast high-resolution analog signals at a remote location.

Applications include data acquisition for plasma physics experiments, signal transmission and control of equipment at high voltage potentials, operation through Faraday shields, and precise noise-free signal transmission in hostile EMI environments.

FEATURES AND BENEFITS

- Channel capacity up to 50 Mb/S
- Outputs are LVTTL (0 - 3.3 V)
- Accepts LVTTL and/or CMOS/TTL inputs
- 1310 nm version for SM links up to 10 KM
- 850 nm version for multimode links up to 500 Meters
- Transmits 16 independent TTL signals over a single fiber
- Paired with LTX-551x to configure remote high speed 12 or 14-bit A/D and D/A converter modules

MADE IN THE USA

LTX-552X-Specifications		
	LTX-5520	LTX-5525
Number of independent Channels	16	
Signal Latency (with one meter of fiber)	Approximately 300 ns	
Input Impedance	50 Ohms or 1 Megohm || 20 pF, selectable	
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load	
Output Impedance	50 Ohms	
Digital Inputs	TTL, LVTTL, CMOS compatible	
Digital Outputs	LVTTL (0 - 3.3 V)	
Digital switching Rates	0-12.5 MHz (up to 24 Mb/s)	0-24 MHz (up to 48 Mb/s)
Digital Signal Edge Uncertainty	0 - 20 ns	0 - 10 ns
Laser Wavelength	850 nm+/- 20 nm or 1310 nm +/- 20 nm	
Optical Transmission Rate	1.0 Gb/S	2.0 Gb/S
Loss Budget	15 dB max	
Optical Return Loss	> 15 dB	
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations	
Typical Trans. Distances MM	500 M - 50/125µ and 300 M - 62.5/125µ	250 M - 50/125µ and 150 M - 62.5/125µ
Typical Trans. Distances SM	10 KM with 9/125 micron fiber	
Fiber Optic Connectors	ST standard, FC optional	
Signal Connectors	DB25 on input and output	
Power Requirements	9 VDC (Optional 9 - 24 VDC, 500mA)	
Power Supply Included	95 - 260 VAC, 50 - 60 Hz, 16 VA Max - Output 9VDC/.67A with Universal, US, UK, Continental Europe and Australian plugs included	
LED Annunciators Provided	Input Overload (transmitter), Optical Signal - ON (receiver)	
Operating Temperature	0 - 40 C	
Tx and Rx Dimensions	175 L x 105 W x 40 H	
Weight (each)	0.46 Kg	
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee	
Accessories Supplied	DB25 Connectors for Figital Inputs/Outputs and Power Supply With International Mains	

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LTX-552X-X-X

Optical Transmission Rate:
0 = 1 gigabit
5 = 2 gigabit

Laser Wavelength:
850 = 850nm Multimode
1310 = 1310nm Singlemode

Optical Connector
Blank = ST
FC = FC

WEWANt

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