

# Bidirectional Analog/Digital Fiber Optic Link

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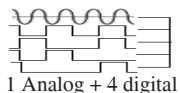
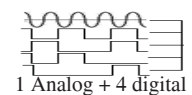
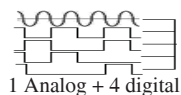
## Features:

- Single Fiber Transceivers
- DC-25MHz Analog
- Four Independent Digital Channels
- 0 to 50 Mb/s Per Digital Channel
- +/-5V or +/-1V Full Scale I/O
- Digital LVTTTL, CMOS/TTL Input
- Analog I/O - 12 bit Precision
- AC/DC Operation



Transmit and receive precise analog data from DC to 25 Mhz over a single optical fiber!

The LTX-7215 Bidirectional Fiber Optic Link multiplexes one analog signal along with up to 4 independent TTL/CMOS/LVTTL digital channels to over 10 kilometers with a single fiber. The incoming analog data is digitized to 12 bit precision at 100 mega samples per second and the digital channels operate at data rates of 0 to 50Mb/s. This is then transmitted at 2 Gb/s second for distances up to 10 kilometers. The digital signal is then received and the analog signal is accurately reproduced at the far end of the fiber optic link. The analog signal bandwidth may be from DC to 25 MHz (-3dB). The LTX-7215 has input voltage ranges of  $\pm 1$  Volt or  $\pm 5$  Volts. The input impedance of the analog channel may be set to 50 ohms or 1 megohm (75 ohms is optional). The LTX7215 series has a battery option that will allow for up to 3 hours of operation for experiments at extremely high potentials. 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.



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# LTX-7215 Specifications



## Analog Channels

Number of Analog Channels	1
Analog Signal Bandwidth	DC to 25MHz (-3 dB)
Resolution	12 Bits
Input Voltage Ranges	+/- 1 V or +/- 5 V
Transfer Accuracy	+/- 10 mV offset, +/- 0.1% Full Scale(100Hz sine wave 8v pk-pk)
Output Impedance	50 Ohms
Output Drive Capability	+/- 5 V open circuit, +/- 2 V into 50 ohm load
Input Impedance	50 Ohms or 1 Megohm    20 pF, (selectable)
A/D Sampling Rate	100 Mega samples p/s

## Digital Channels

Number of Digital Channels	4
Digital Inputs	TTL, LVTTTL, CMOS compatible
Digital Outputs	LVTTTL ( 0 - 3.3V )
Signal Latency (with one meter of fiber)	Approximately 300 ns
Digital Channel Switching Rate	0 - 50 Mb/s
Digital Signal Edge Uncertainty	0 - 10 ns

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the challenge of  
custom applications

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with your  
requirements

## General

Laser Wavelength	1310 nm +/- 20 nm
Optical Transmission Rate	2.0 Gb/S
Loss Budget	7 dB
Laser Safety Classification	Class I safety per FDA/CDRH and IEC-825-1 regulations
Typical Transmission Distances	10 km with 9/125µm (SM) fiber
Fiber Optic Connectors	ST standard, FC available upon request
Analog Connector	BNC
Digital Connector	(Cable and Breakout Board Supplied)
LED Annunciators Provided	Input Overload, Optical Signal and Power
Power Supplies	Wall Mount, Universal, US, UK, Continental Europe and Australian plugs included
Power Requirements	95 - 260 VAC, 50 - 60 Hz, 16 VA Max.
Batteries/hrs of Operation	6 AA NiMH / 3 hrs
Operating Temperature Range	0 - 40 C
Transmitter Dimensions ( mm )	214 L x 114 W x 59 H
Weight (each)	0.578 Kg
Standard Warranty	Two Years, Components and Workmanship, 30 day Satisfaction Guarantee

TTI reserves the right to change specifications without notice.

## Ordering Information

LTX-7215-1310	Singlemode, 2.0 Gb/s Analog/Digital Signal Transporter
LTX-7215-1310-BAT	Singlemode, 2.0 Gb/s Analog/Digital Signal Transporter with Battery Pack



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