



### **FEATURES & BENEFITS**

- **Multiple Output Power Levels Available**
- **Auxiliary Output Allows the Addition of an External Optical Amplifier**
- **Alphanumeric Display Provides Monitoring Functions**
- **Long Distance Transmission Capability**
- **862 MHz Forward Path Transports 80 NTSC Channels + 200 MHz RF Digital**
- **Optional On-line RF Monitoring of the Optical Output**

The XT-1550 Series is a high power, externally modulated, fiber-optic transmission system housed in a rack-mountable chassis. The 1550 nm operational wavelength of this unit permits utilization of optical amplifiers throughout your system and provides the benefit of low fiber loss in the 1550 nm window. The combination of high power, low fiber loss and optical amplification enables your system to transport video and other services over extremely long distances. Available with either +16, +19 or +21 dBm output power, this transmitter system is ideally suited for advanced hybrid fiber-coax (HFC) architectures such as redundant rings, hub interconnects and high-performance AM supertrunks.

A continuous-wave 1550 nm low noise, high power DFB laser feeds a LiNbO<sub>3</sub> electro-optic modulator, where the light is intensity modulated. Automatic power and temperature control circuitry ensure long term stable operation of the device. External modulation inherently provides a low-chirp signal and allows the operator to utilize standard 1310 nm CATV non-dispersion shifted fiber.

The XT-1550 uses proprietary electronic predistortion and modulator bias loop control to optimize

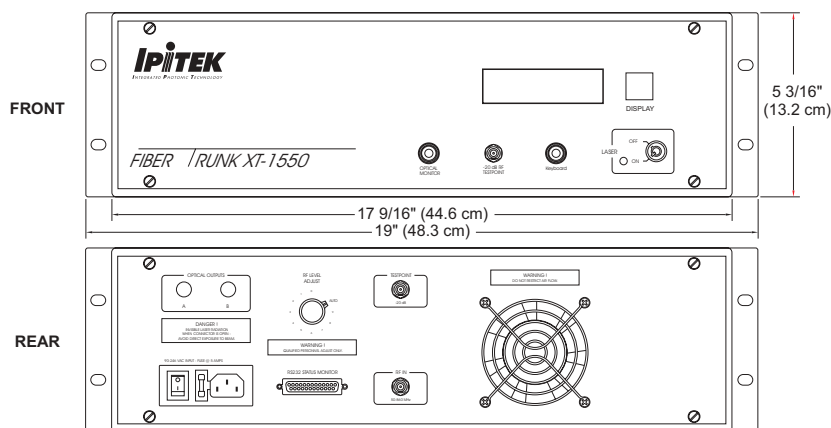
CTB and CSO performance, respectively. In addition, the distortion correction circuitry requires no optimization or adjustment during power up.

The transmitter has wideband Automatic Gain Control (AGC) which allows the Optical Modulation Index (OMI) to be factory preset for optimum performance. The AGC automatically adjusts the OMI for changes in the RF input level.

The XT-1550 is fitted with an auxiliary optical port for feeding an additional external optical amplifier or for local optical distribution. This feature doubles the number of available links per transmitter. An optional optical tap and optical receiver can be internally installed, providing the operator with an RF output. This allows the user to monitor the transmitter optical output without taking the XT-1550 off-line.

A front panel alphanumeric display provides local monitoring of the RF input level, laser temperature, laser bias, laser output power and other critical information. The unit also accepts a keyboard input for user customization of the alarm thresholds and to set a unit ID for remote monitoring.

# MECHANICAL



# SPECIFICATIONS

## Performance: Carrier-to-Noise (CNR), 80 Channels NTSC

Input (dBm)	+2	+1	0	-1	-2	-3
Typ. CNR (dB)	54.5	53.5	52.5	51.3	50.0	48.5
Min CNR (dB)	54.0	53.0	52.0	50.8	49.5	48.0

\*Note: Figures based on input into IPITEK DRR-9 or DTX-R9 receiver.

CSO: ≤ -65 dBc  
 CTB: ≤ -65 dBc  
 XMOD: ≤ -65 dBc  
 Bandwidth: 45 MHz - 860 MHz  
 Frequency Flatness: ±1.0 dB over 45 MHz - 860 MHz, ±0.5 dB over 45 MHz - 550 MHz

### RF Electrical Interface

Nominal Input RF Level: +30 dBmV per channel  
 Input Impedance: 75 ohms  
 AGC: Automatic with manual override  
 AGC Range: ±5.0 dB (80 ch. NTSC)  
 RF Connector: F-type  
 Input Return Loss: ≥16.0 dB (45 MHz - 750 MHz), ≥14.0 dB (750 MHz - 860 MHz)

### Mechanical

Dimensions: 5.25" x 19"/23" x 17"  
 Weight: 22 lbs.  
 Racking: 19" EIA rack or 23" telephone

### RF Optical Monitor Test Point

Level: -20 dB from RF input level ±1 dB  
 Output Impedance: 75 ohms  
 Connector Type: F-type

### Optical Interface

Optical Connector: FC/APC, SC/APC or E-2000  
 Optical Wavelength: 1550 nm ±10 nm  
 Number of Outputs: 2  
 Primary Optical Output: +16, +19 or +21 dBm  
 Optical Power Stability: ±0.5 dB  
 Aux. Optical Output: +10 dBm

### RS-232 Output

RF (AGC) Alarm  
 Laser Temp. Alarm  
 Laser Bias Alarm  
 CSO Alarm  
 EDFA In/Out Alarm  
 EDFA Temp. Alarm  
 Laser Keylock ON State  
 Laser Power State  
 Predistorter Temp. Alarm  
 High Temp. Alarm  
 EDFA Bias Alarm  
 Monitor Mode Status

### Environmental

Operating Temperature: +10°C to +50°C  
 Storage Temperature: -40°C to +70°C  
 Humidity: 5% to 85% Non-Condensing

### Power

Operating Power: 125 watts  
 Input Voltages: 110 or 220 VAC, 50/60 Hz or -48 VDC

\*Warning: high-power invisible laser light is emitted from the optical output ports, avoid direct eye exposure to beams.

# ORDERING INFORMATION

XT	-	1550	-	XX	-	XX	-	X	-	XX	-	X	-	X	-	X
<b>Externally Modulated Transmitter</b>		<b>Wavelength</b>		<b>Power Output</b>		<b>Channels</b>		<b>Gain Control</b>		<b>Rack Size</b>		<b>Input Power</b>		<b>Connector</b>		<b>Polish</b>
		1550 nm		16 = +16 dBm 19 = +19 dBm 21 = +21 dBm		8N = 80 NTSC 4N = 40 NTSC 6P = 60 PAL 4C = 42 CENELEC		A = AGC M = Manual		19 = 19" Rack 23 = 23" Rack		1 = 110/220 VAC 4 = -48 VDC		F = FC S = SC E = E-2000		A = APC

XT	-	1550	-	OM
<b>Externally Modulated Transmitter</b>		<b>Wavelength</b>		<b>Type</b>
		1550 nm		OM = Optical Monitor



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