



MP-5000TX

12 GHz RF/Fiber Optic Transmitter

Applications

Ultra-Wideband RF Transmission

Antenna Remoting

Radar Delay Lines

C & X SATCOM

RADAR, EW & ECM

Features

Ultra-Wide Bandwidth, 1.0 MHz to 12 GHz

High Dynamic Range

Low Noise DFB Laser

Uni-Polar Power Supply

Status Monitoring: RS-232 (opt)

ITU CDWM & DWDM Compatible

The MP-5000TX is a RF/fiber optic Transmitter designed for antenna remoting and broadband RF transmission applications using singlemode fiber optic cable.

The transmitter uses a high efficiency Distributed Feedback (DFB) laser diode with an operating wavelength selected from the ITU CWDM or DWDM grid. The transmitter provides low noise and high dynamic range performance over a wide operating temperature range. Temperature stability is controlled with an integrated thermo-electric cooler (TEC).

The transmitter provides status monitoring through the use of an onboard processor that communicates with a host computer over an RS-232 I/O interface. The I/O parameters include laser bias current, temperature and alarm status. When the MP-5000TX RF/Fiber Optic Transmitter is linked with the MP-5000RX 12 GHz RF/Fiber Optic Receiver, the combination provides an excellent choice for your ultra-wideband RF to Fiber Optic conversion applications. The MP-5000TX can also be paired with the MP-2320RX to provide a high performance 3 GHz link with 0.0 dB link gain.

Specifications

Optical		General	
Operating Wavelength	ITU CWDM or DWDM Grid	Power Supply	+8.0 Vdc to +24.0 Vdc
Optical Output Level (min)	+3.0 dBm	Optical Input Receptacle	Pigtail, FC/APC, SC/APC or AVIM APC
E/O Diff. Eff. (min)	0.1 W/A	RF Output Connector	SMA(f), 50 ohm
Line Width (3 dB)	10 MHz	DC Connector	DB-9
Side Mode Suppression (typ)	45.0 dB	Operating Temperature	-40°C to +85°C
		Storage Temperature	-55°C to +85°C
		Local Alarm	LED: Optical Power Failure
RF Channel		Optical Power Monitor	1 V/mW ± 10%
Modulation Bandwidth	<i>Model A:</i> 1 MHz to 12 GHz <i>Model B:</i> 100 MHz to 3 GHz	Remote Alarms	Open Collector and RS-232 Interface
Flatness (max)	±2.0 dB	Standard Conformity	CE
VSWR (max)	2.0:1	Dimensions	5(l)" x 3(w)" x 1(h)"
1 dB Comp. Level (min)	18.0 dBm ⁽¹⁾		
Input IP-3 (min)	30.0 dBm ⁽¹⁾		
Input Damage Level	20.0 dBm ⁽¹⁾		
RF Link Gain (min)	<i>Model A:</i> -30.0 dB @ 1.0 dB Optical Loss ⁽¹⁾ @ 12 GHz <i>Model B:</i> 0.0 dB @ 1.0 dB Optical Loss ⁽²⁾ @ 3 GHz		
Noise Figure (max)	<i>Model A:</i> 45.0 dB @ 1.0 dB Optical Loss ⁽¹⁾ @ 12 GHz <i>Model B:</i> 30.0 dB @ 1.0 dB Optical Loss ⁽²⁾ @ 3 GHz		
Note (1): Overall link performance as measured from RF Input/Output when linked with the MP-5000RX			
Note (2): Overall link performance as measured from RF Input/Output when linked with the MP-2320RX			

