

ADVANCED SERVICES TRANSPORT CWDM RETURN PATH TRANSMITTER AST-TXU-CW



The new AST-TXU-CW transmitter is a new generation unit, designed and engineered to meet the growth of subscriber and business services in HFC networks. It expands the system through greater utilization of existing fiber networks, eliminating the need to add additional optical fiber to the system. The AST-TXU-CW transmitter is specifically engineered for optical transport of analog and QAM signals in HFC networks. The transmitter design, coupled with a choice of output powers, allows it to be used for replacement of standard 1310 nm where current fiber loading does not allow the addition of more services or where there is a requirement for carriage of forward DWDM and return CWDM signals over a common fiber. The AST-TXU-CW, with a typical operating frequency range of 5-200 MHz is optimized for transport of analog and QAM signals directly from a node or intermediate location, to the headend.

AST-TXU-CW advanced design transmitter provides superior transport of return video, voice and data services, assuring excellent handling of newer bandwidth intensive services. The transmitter is provisioned so the RF input port is suitable for combined analog and digital signals.

Features and Benefits

- **Low cost alternative for expansion of home delivery and business services**
- **Provides enhanced fiber utilization**
- **ITU compliant CWDM lasers**
- **Optimized for 5-300 MHz return**
- **High Density - up to 210 transmitters in a single rack**

This feature eliminates the requirement for two different transmitters, providing the highest level of flexibility in system operations. Engineered with the latest power efficient components, AST-TXU-CW is both energy efficient and fully hot swappable. The AST-TXU-CW advanced CWDM laser is un-cooled. The transmitter utilizes highly linear DFB lasers with low RIN noise. It provides the linear capability of a standard laser, combined with the spectral purity of an external modulation system.

An onboard micro-controller provides complete monitoring and control of the unit. Software design includes both function control and unit monitoring. The controller system also provides alarm processing and status monitoring functions. These signals are routed to the AST chassis Control and Management module (CMU) which provides unit management through a Local Craft Interface as well as remote management. The management system provides an HMS-SNMP compliant interface to a higher level element manager, such as the IPITEK Node Wizard system or to HP OpenView or Castle Rock SNMPc. Front panel indicators also provide immediate visual indication for Laser On and a summed Fault Alarm.

CONTROL FUNCTIONS

RF Level Adjust

SPECIFICATIONS

RF:

Maximum Bandwidth: 5 - 300 MHz
Typical Operating Range: 5 - 200 MHz

Input Range: 26 dBmV to 36 dBmV, total power

Input Impedance: 75 Ohms

Return Loss: > 16 dB over operational bandwidth

Response Flatness: +/-1.0 dB max(+/-0.5 dB typical) 5- 300 MHz

Optical

Optical Output Power: +3 dBm to +6 dBm
Operating Wavelength 1470 - 1610 nm

Uncooled Laser

Wavelength temperature sensitivity: 0.13nm/0°C Max
 Highly linear DFB laser
 Low Rin Noise -145 dB /Hz Max
 Optical Isolator

Link budget: Typical: 12 dB to 15 dB

PERFORMANCE:

5-300 MHz, analog (CW Carriers) with 4 T Channels at 20 dBmV/Channel and 12% OMI, -9 dBm optical power into AST-RXU Receiver.

CNR: 48 dB minimum
CSO: -55 dBc maximum
CTB: -60 dBc maximum
NPR: 35/13

Mechanical/Electrical:

RF Connector: Type G (quick disconnect)
 RF Test Point: -20 +/- 0.75 dB, relative to RF input level
 Power Consumption: 3.5 W Nominal

Environmental:

Operating Temperature: 0° to 50° C
 Humidity: 50 % to 85%, non-condensing
 Storage Temperature: -40°C to +70°C, 24 hours

ORDERING INFORMATION

AST-TXU-CW	-	PXX	-	XX	-	XX
AST Return Path CWDM Transmitter		Output power		Wavelength (nm)		Optical Connector
		P03 = 3 dBm		47 = 1470		SC = SC/APC
		P05 = 5 dBm		49 = 1490		E2 = E2000/APC
		P06 = 6 dBm		51 = 1510		
				53 = 1530		
				55 = 1550		
				57 = 1570		
				59 = 1590		
				61 = 1610		

