IPITEK
INTEGRATED PHOTONICS TECHNOLOGY
ISO 9001 Registered

ADVANCED SERVICES TRANSPORT

RETURN PATH OPTICAL RECEIVER

AST-RXU

Features and Benefits

- **5 to 200 MHz Return bandwidth**
- **Wide range optical input**
- **Adjustable High Level output**
- **Choice of Single or Dual Receiver**
- **Space efficient - up to 420 receivers in a Standard 70" Rack**
- **Minimizes heat and power requirements**

Standard Return Modules:

The AST-RXU Return Path Receiver family provides a full 5-200 MHz return bandwidth and offers very efficient methods for handling return path signals. The receiver family is available in factory configured modules with a choice of 1 or 2 receiver modules per unit. Both of the Return Optical Receiver modules include front panel indicators that provide immediate visual status of each of the receivers in the unit. The unit also includes 75 ohm front panel test points for ease of monitoring.

The receiver design utilizes a new, high efficiency photo detector and advanced RF circuitry. The optical input range accepts optical input levels from -18 dBm to +3 dBm without the need for padding the optical input or using different modules with varying input ranges. Full +40 dBmV output is achieved at –9 dBm optical input.

All receivers have a bandwidth of 5-200 MHz, assuring the ability to handle a wide variety of return signals. The AST return units provide both high performance and wide dynamic range. The receiver has an NPR of >40 dB.

With a wide optical input range, the AST optical receiver is not restricted to short haul duty only and may be used for virtually any application. The receiver can handle any signal over a range of a few kilometers to greater than 57 km when used with 1310 nm return transmitters. The AST receiver uses a wide window input detector and will operate with 1310 nm, 1550 nm, or CWDM and DWDM signals. It can easily be used at the receiving end of a 1550 nm standard or 1550 nm ITU-DWDM return path system.

The receiver can serve as the termination of a single standard or ITU-DWDM 1550 nm transmitter over a distance greater than 80 km. It can also serve as the receiver for any wavelength of an 8 or 16 DWDM system. The system can easily terminate an 8 wavelength system, providing a 60 km budget with no additional amplification.

The receiver can also serve as the termination for a 16 channel DWDM system, which has additional optical amplification. Properly designed, a DWDM return path network can deliver signals over distances of 120 km.

CONTROL FUNCTIONS

RF Output Adjustment

IPITEK FIBER OPTIC HFC ACCESS

Specifications

Optical:

Optical Input Wavelength:	1200 - 1600 nm
Optical Input Power:	-18 to 0 dBm, each optical input
Equivalent Noise Current:	<7pA/ √ Hz
Optical Connector:	SC/APC or E-2000/APC

RF:

Operational Bandwidth:	5 MHz to 200 MHz
Frequency Response, p-v:	±0.5 dB
Frequency Response, slope:	<1.0 dB
Output Impedance:	75 ohms
Output Return Loss:	≥16 dB
Nominal Output Level:	+40 dBmV, ±0.5 dB @ -9 dBm, 7% OMI
Gain Control Range:	20 dB
RF Flatness:	1.0 dB p-p @ nominal gain

Performance:

Noise Power Ratio (NPR):	> 40 dB
NPR Dynamic Range:	>15 dB
Isolation Between Receivers:	>65 dB

Mechanical/Electrical:

RF Connector:	Quick Disconnect
RF Test Points:	-20. ±0.5 dB

Environmental:

Operating Temperature:	0°C to 50°C (+32°F to +122°F)
Humidity:	to 95% non-condensing
Storage Temperature:	-40°C to +85°C, 24 hours

ORDERING INFORMATION

AST-RXU	-	X	-	XX
AST Single/Dual Return Path Optical Receiver		Number of Receivers 1 = Single Receiver 2 = Dual Receivers		Optical Connector E2 = E2000/APC SC = SC/APC

IPITEK reserves the right to modify product specifications without notice.

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