



# LIGHTEXPLORER

## Optical Transport Platform

### AT-LX3800U

8 slot Multiservice chassis

### AT-LX3811

Multi-rate line cards

#### Overview

The LightExplorer Optical Transport Platform uses Coarse Wave Division Multiplexing (CWDM) technology combined with a modular line card format to enable multi-service transport up to 80km on a single fiber pair. The AT-LX3800U 8-slot multiservice chassis has an integrated CWDM multiplexer which combines the individual wavelengths from the AT-LX3811 line cards. By integrating the CWDM technology inside the chassis, installation, turn-up, and configuration time are all reduced while maintaining overall ease-of-use.

The AT-LX3800U allows for multiple services and protocols to be combined over a single fiber pair. Overall design considerations are simplified and transport costs are reduced by allowing the same pair of fiber to transport varied services in their native format. Applications such as storage, telephony, data, and video can be combined for transport without difficult and costly protocol conversion. Security between services is also maintained due to dedicated CWDM wavelengths for each service.

The line card format of the LightExplorer platform allows users to purchase line cards as their bandwidth and service needs dictate. By reducing the overall initial costs, a quicker return on the investment can be realized while at the same time allowing tighter control of critical operating expenses. Also, by utilizing the same fiber infrastructure or leased fiber pair, incremental service additions can be quickly deployed without a costly 'truck roll' to turn-up additional fiber strands or disruption to existing services.

#### Unique Migration Path

The AT-LX3811 line cards allow networks to migrate using the growth strategy of the enterprise. Legacy services can be transported while new services or protocols can be added as needed. For example, an all Ethernet network could add a storage network using a different protocol and transport both across a single pair of fibers. Or, a legacy network could add Ethernet from end-to-end without having to migrate away from the legacy services.

#### Hot Swappable Line Cards

All LightExplorer line cards are hot-swappable, making service additions easy and convenient. Also, due to the multiprotocol nature of the AT-LX3811, sparing is simplified because any AT-LX3811 line card is capable of accepting services ranging from 100Mbps to 2.7Gbps. Additional line cards can be purchased and even installed without having to make a decision as to what service will be run on the line card. Also, by utilizing the Small Form-factor Pluggable (SFP) format, an industry standard, the line cards' client-side can be configured to meet existing infrastructure requirements.

#### Integrated Management

The AT-LX3800U chassis has integrated SNMP management with either RS-232 or 10/100 Ethernet connections. Full diagnostics and alarm reporting give network managers visibility into system status and allows preventative measures to be taken and minimize downtime.

#### Applications

- Flexible, transparent deployment of multiple services
- Aggregate traffic from multiple remote sites to central site
- Multiprotocol data service backup
- Service regeneration for transport distances in excess of 80km
- Network expansion while preserving legacy protocols or services

#### Key Features

- Multiprotocol transport
- Multi-rate from 100Mbps to 2.7Gbps
- Multiplex all 8 slots across a single fiber pair up to 80km
- Hot-swappable power supplies (AC/DC)
- Integrated SNMP Management
- Comprehensive alarm and event log
- Combined maximum bandwidth of over 20Gbps per fiber strand
- Modular design using up to eight AT-LX3811 line cards reduces initial capital expense
- Each line card connects using Small Form Pluggable (SFP) optics, allowing users to connect to a wide range of interfaces
- LightExplorer can be deployed with WaveGlider, to build complex 'Add/Drop' optical networks

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## Technical Specifications

### Multiplexing Port Specifications

#### (Tx & Rx)

Connector Type	SC
Wavelengths	Ch#1 = 1470nm Ch#2 = 1490nm Ch#3 = 1510nm Ch#4 = 1530nm Ch#5 = 1550nm Ch#6 = 1570nm Ch#7 = 1590nm Ch#8 = 1610nm
Optical Transmit Power	Min = .5dB Max = +2dB
Optical Receive Sensitivity	Min = -26.5dB Max = -5dB (saturation)
Maximum Chromatic Dispersion:	<3dB (80km, 20ps/nm/km)
Minimum Power Budget:	<26dB
Maximum Bandwidth per Fiber Strand:	21.6Gbps

### AT-LX3811 Line Card Specifications

Pluggable Slot: Small Form-factor Pluggable (SFP)

#### Wavelengths

AT-LX3811/1	= 1470nm (Tx/Rx)
AT-LX3811/2	= 1490nm (Tx/Rx)
AT-LX3811/3	= 1510nm (Tx/Rx)
AT-LX3811/4	= 1530nm (Tx/Rx)
AT-LX3811/5	= 1550nm (Tx/Rx)
AT-LX3811/6	= 1570nm (Tx/Rx)
AT-LX3811/7	= 1590nm (Tx/Rx)
AT-LX3811/8	= 1610nm (Tx/Rx)

#### Reliability

MTBF 81,000 hours

#### Power Specifications

Input Voltage	AC 90-264 (operation range) DC 36-72VDC
AC input frequency	47-63Hz
Power consumption (max)	37.37 Watts

### Environmental Specifications

Operating Temp.	0°C to 40°C
Storage Temp.	-20°C to 75°C
Operating Relative Humidity	5% to 95% non-condensing
Storage Relative Humidity	5% to 95% non-condensing
Operating Altitude Range	Up to 10,000ft

### Physical characteristics

Dimensions 44cm x 46.6cm x 4.4cm  
(W x D x H) (17.344" x 18.344" x 1.72")

Weight 8.1kg (17.75lbs)

### Electrical/mechanical approvals

Electrical Safety	UL 60950 (cULus), 21CFR, Part 1040, EN 60950, EN 60825 (TUV/GS)
EMI/RFI	FCC Class A, EN 55022 Class A, VCCI Class A
Harmonics and Flicker	EN 6100-3-2, EN 6100-3-3
Immunity	EN 55024

### Ordering Information

#### AT-LX3800U-xx

Multiservice Transport System

Where xx =	10 for U.S. power cord 20 for no power cord 30 for U.K. power cord 40 for Australian power cord 50 for European power cord 80 for -48v power supply
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#### AT-LX3811/x

Multi-rate Line Card

Where x =	1 for slot number one 2 for slot number two 3 for slot number three 4 for slot number four 5 for slot number five 6 for slot number six 7 for slot number seven 8 for slot number eight
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#### AT-LXPWR/xx-yy

AT-LX3800 Power Supply

Where xx =	AC or DC
and yy =	10 for U.S. power cord 20 for no power cord 30 for U.K. power cord 40 for Australian power cord 50 for European power cord 80 for -48v power supply

#### AT-LX3801

Blank Slot Cover (included with chassis purchase)

### AT-SP Series Small Form-Factor Pluggables (SFP)

AT-SP2670/SR	2km multi-rate (100Mbps-2.67Gbps) on 9 micron single-mode fiber
AT-SP2670/IR	15km multi-rate (100Mbps-2.67Gbps) on 9 micron single-mode fiber
AT-SPSX	500m based on 50 micron multi-mode fiber 300m based on 62.5 micron multi-mode fiber
AT-SPLX10	10km based on 9 micron single-mode fiber
AT-SPLX40	40km based on 9 micron single-mode fiber
AT-SPZX80	80km based on 9 micron single-mode fiber
AT-SPZX80/xxxx	80km based on 9 micron single-mode fiber
Where xxxx =	1470 (1470nm wavelength) 1490 (1490nm wavelength) 1510 (1510nm wavelength) 1530 (1530nm wavelength) 1550 (1550nm wavelength) 1570 (1570nm wavelength) 1590 (1590nm wavelength) 1610 (1610nm wavelength)

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