

Metrobility® Line Protection and Restoration

Flexible 10Mbps and 100Mbps media, speed, and distance solutions



Patented* redundant interface provides redundant data paths for the Metrobility® Line Protection and Restoration (LPR) devices from Telco Systems. An essential connectivity tool for high priority and mission-critical applications, LPR provides fully redundant data paths, as well as power supply redundancy, for Ethernet devices.

Ensuring High Availability

LPR technology ensures a quick recovery from a physical layer failure. This patented technology converges quickly to minimize packet loss. The low packet frame loss is a maximum loss of 1-3 packets (depending on speed) during a failover transmission.

This physical layer solution is able to isolate failures with a faster recovery time and is simpler to implement when compared to Spanning Tree protocol.

Traffic re-routing

The LPR devices have two operational modes to preserve network availability: Dynamic Recovery Mode or Network Select Mode.

When configured in Dynamic Recovery Mode, link failure is automatically detected and traffic is immediately rerouted to a secondary path or switch. This instantaneous path restoration is ideal for critical areas that require a high degree of fault tolerance.

Network Select Mode enables the administrator to manually redirect traffic to a secondary data path, in order to perform maintenance on the first path, for example. Both options ensure that network downtime does not affect users.

Innovative Traffic Monitoring for Re-Routing

SONAR (Switch on No Activity Received), available on select models, offers an even higher level of protection. By sensing not only link but also the loss of data traffic, the Metrobility SONAR-enabled LPR devices ensure reliability in the event of an upstream switch failure.

Exceptional SNMP Management

Network administrators can also maximize network uptime through proactive management. NetBeacon® ESP element management system provides end-to-end visibility of all Metrobility chassis-based network components and the ability to initiate active control through sophisticated SNMP-based management tools.

Connectivity Options

These LPR solutions support 100Mbps and 1000Mbps networks. Extended distances up to 100km may be achieved through 1550nm singlemode fiber connections.

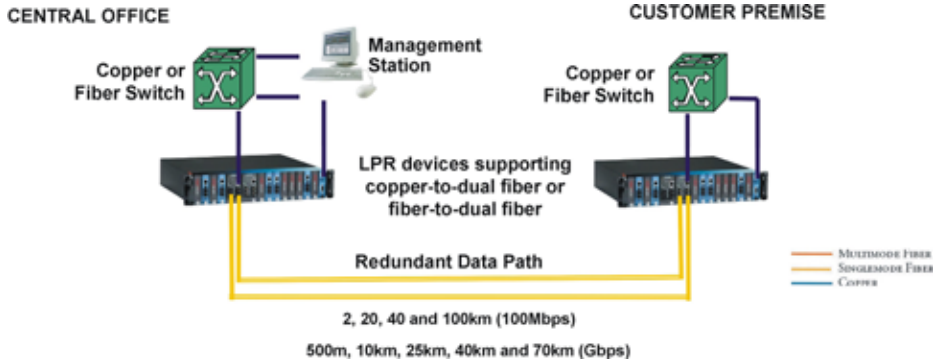
User-configurable Gigabit Ethernet Optics

The Gigabit Ethernet LPR line card utilizes pluggable optics which may be easily replaced as network requirements change. Choose from small form factor (SFP) multimode or singlemode options.

- ❑ **Dynamic Recovery Mode for maximum loss of 1-3 packets during failover transmission**
- ❑ **Network Select Mode for backup and maintenance**
- ❑ **Full signal retiming, regeneration and reamplification allows for maximum segment length**
- ❑ **Optional advanced SNMP-based monitoring and management features for interface line cards**
- ❑ **Interoperates with half-duplex or full-duplex mode devices**
- ❑ **Extended distances up to 100kms**
- ❑ **Managed option - WebBeacon and NetBeacon® ESP - when configured with a management card in a Metrobility platform**
- ❑ **Copper-to-dual copper; Copper-to-dual fiber; Fiber-to-dual fiber**
- ❑ **Frame Size Transparent**
- ❑ **SONAR - Switch on No Activity Received option available on select models**
- ❑ **Strict standard compliance ensures compatibility with other vendors' equipment for flexible connectivity**
- ❑ **NEBS Level 3 Certified (line cards only)**

Metroblity LPR Interface

Back-to-back applications



A typical application of the LPR is to use them in pairs to extend a network's reach between two remote devices. In the back-to-back setup, both primary ports are linked to each other and both secondary ports are linked to each other.

Ordering Information

Part Number	Description
100Mbps Standalone	
2731-11	Standalone, 100M TX to 100M Dual TX 100m
2731-13	Standalone, 100M TX to 100M Dual FX MM/SC [1310nm 17.0dB] 2km
2731-14	Standalone, 100M TX to 100M Dual FX SM/SC [1310nm 23.0dB] 20km
2731-15	Standalone, 100M TX to 100M Dual FX MM/ST [1310nm 17.0dB] 2km
2731-16	Standalone, 100M TX to 100M Dual FX SM/ST [1310nm 23.0dB] 20km
2731-17	Standalone, 100M TX to 100M Dual FX SM/SC [1310nm 33.0dB] 40km
2731-1J	Standalone, 100M TX to 100M Dual FX SM/SC [1550nm 34.0dB] 100km
100Mbps Line Cards with SONAR	
R732-11	100M TX to 100M Dual TX with SONAR 100m
R732-13	100M TX to 100M Dual FX MM/SC [1310nm 17.0dB] 2km SONAR
R732-14	100M TX to 100M Dual FX SM/SC [1310nm 23.0dB] 20km SONAR
R732-15	100M TX to 100M Dual FX MM/ST [1310nm 17.0dB] 2km SONAR
R732-16	100M TX to 100M Dual FX SM/ST [1310nm 23.0dB] 20km SONAR
R732-17	100M TX to 100M Dual FX SM/SC [1310nm 33.0dB] 40km SONAR
R732-1J	100M TX to 100M Dual FX SM/SC [1550nm 34.0dB] 100km SONAR
1000Mbps with SONAR	
R752-11	Line Card, 1000Base-T to Dual 1000BASE-T
R752-1S	Line Card, 1000Base-T to Dual 1000BASE-X (+Order 2 Pluggable Optics separately)
R752-SS	Line Card, 1000BASE-X to Dual 1000BASE-X (+Order 3 Pluggable Optics separately)
2752-11-01	Standalone, 1000Base-T to Dual 1000BASE-T
2752-1S-01	Standalone, 1000Base-T to Dual 1000BASE-X (+Order 2 Pluggable Optics separately)
2752-SS-01	Standalone, 1000BASE-X to Dual 1000BASE-X (+Order 3 Pluggable Optics separately)
+Small Form-factor Pluggable (SFP) fiber optics	
O211-xx	Optic, 1000Base SFP MM or SM (500m to 100km)
O311-10-31	Optic, 1000Base SFP SM/SC BWDM [1310nm/1490nm] 10km
O311-10-49	Optic, 1000Base SFP SM/SC BWDM [1490nm/1310nm] 10km
+SFP Optics, Wavelength-specific (CWDM) - Use in conjunction with Metroblity R4000 CWDM Multiplexer and OADM	
O411-80-xx	Optic, Wavelength-specific (CWDM) SFP LC, 1310nm to 1610nm, 80km

Key Applications

- Unique dual port interface line cards provide data link redundancy to meet critical network uptime requirements
- Complete range of fiber optic connector types provide network design flexibility

Specifications

Interfaces

Data Rate 100Mbps

Standards Compliance

- IEEE 802.3
- IEEE 802.3u
- IEEE 802.3z
- IEEE 802.3ad
- NEBS Level 3 certification (line cards only)

Safety and EMC Compliance

- UL, CSA, CB
- EN60950 (safety)
- EN55024:1998 (immunity)
- IEC 825-1 Classification (eye safety)
- Class 1 Laser Product (eye safety)
- FCC Part 15 Class A
- DOC Class A (emissions)
- EN55022 Class A (emissions)

General

Environmental

- Operating Temp 0°C to 50°C
- Operating Humidity 5% - 95% non-condensing
- Storage Temp -30°C to 70°C

Physical Specifications

2752-1S-01 & 2752-SS-01

- Power - Input 90-250V AC 50/60Hz
- Dimensions 1.5"H x 5.75"W x 4.5"L
3.8cm x 14.6cm x 11.4cm
- Weight 1 lbs (.45kg)

2752-11-01

- Power - Input 120-240V AC 50/60Hz
- Dimensions 1.5"H x 5.75"W x 4.5"L
3.8cm x 14.6cm x 11.4cm
- Weight 1.26 lbs (.57 kg)

2731

- Power - Input 120-240V AC 50/60Hz; 36-72V DC
- Physical Case Impact-resistant plastic construction
- Dimensions 1.6"H x 5.8"W x 4.3"L
14.6cm x 11.0cm x 4.2cm
- Weight (including power supply) 1 lbs, 0.45 kg



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