

Radiance Access Optical Network Unit

Managed Remote Site Standalone



The **Radiance Access Optical Network Unit (ONU)** from Metrobility Optical Systems® provides a copper-to-fiber service demarcation point at the customer premise for the delivery of optical Ethernet services. The ONU communicates to a Radiance Access Line Card in a managed Radiance chassis at the central office.

Metrobility's Radiance remote management over Ethernet Access technology provides the high level of manageability without an IP address or SNMP agent. This patented technology utilizes a management channel embedded in the inter-packet gap (IPG) between Ethernet frames to send management information in real time across a network. Utilizing Metrobility's Radiance technology, the service provider can reach across a metropolitan area network to communicate, test and reconfigure the ONU, without reducing the available bandwidth to the customer site, and without managing an additional IP address.

Metrobility's Radiance technology supports the IEEE 802.3ah operations, administration and maintenance standards for placing Ethernet in the first mile by enabling the following functions:

- Real-time collection of power levels with notification of alarm conditions
- Receive Path Failure
- Line Quality through RMON Group 1 statistics
- Remote loopback

Radiance also provides the following additional capabilities:

- Real-time collection of temperature levels
- Optical power monitoring
- 10/100Mbps auto-negotiation (RA21 only)

Utilizing Radiance technology, configuration updates, maintenance, and diagnostics can be performed remotely. These features enable service providers to cost effectively troubleshoot remote optical Ethernet links to lower the overall cost of ownership and provide greater customer satisfaction. The solution also reduces the costs associated with activating optical services by minimizing the need for new equipment.

Remote Site Management

Network managers can manage each ONU remotely, adjust operating parameters quickly and even switch hardware settings across the network using Metrobility's **NetBeacon® Element Management System**. NetBeacon is an SNMP element and service provisioning software that supports functional, operational and environmental monitoring and management of Metrobility managed devices.

All data is gathered from a managed Metrobility chassis, generally the Radiance R5000, at the central office. The **Radiance R5000 Central Service Platform** is a NEBS-certified, carrier-class intelligent platform that is installed at the central office or the point of presence. The Radiance R5000 Central Service Platform connects to the Layer 2 or 3 switch or router at service provider's network.

- *Remotely controlled loopback testing of optical links*
- *Real-time statistics to enable Quality of Line monitoring*
- *Real-time analog monitoring for optical power, temperature and voltage*

The Metrobility® Difference

Remote real-time management and testing eliminates truck rolls and maximizes customer satisfaction

Remote real-time monitoring of optical power budgets (RA21-14, -16, -17 and -1J)

ITU Grid CWDM wavelength-specific option

NetBeacon, Metrobility's management software, provides proactive management including automatic pager and email notification of alarm conditions

Remote monitoring via the web using the WebBeacon™ management kernel allows quick and easy access to link status

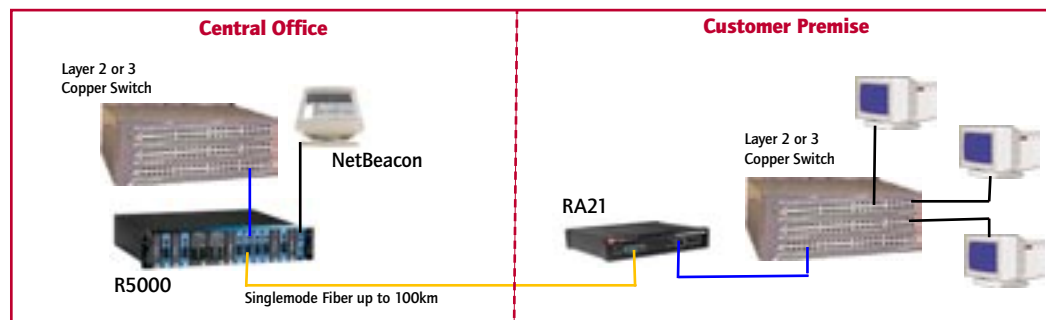
Product Highlights

10/100Mbps, copper to multi-mode and singlemode fiber with auto-negotiation

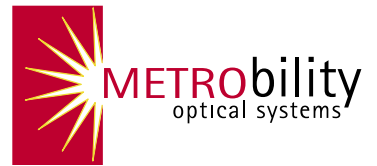
Single-strand bi-directional wavelength division multiplexing (BWDM)

Supported distances up to 100km

High MTBF ensures long life and lower cost of ownership



Radiance Access Optical Network Unit Management Features



NetBeacon chassis view



Quality of Equipment Monitoring



Voltage and Temperature

Quality of Line Monitoring



RMON Group 1 Statistics

Quality of Optical Amplitude



Realtime measurement of the receive and transmit levels of the optical transceivers



Database option provides a history of up to 28 days for power, temperature, voltage, optical power, and RMON Group 1 statistics.

Receive Path Failure Indicators



Remote Loopback and Far End Fault

Available Models

| Model # | Port 1 | Port 2 | Max. Supported Segment Length | | Model # | Port 1 | Port 2 | Max. Supported Segment Length | |
|-----------------------------------|---------------------|--------------------------|-------------------------------|--------|---------|---------------------|--------------------------|-------------------------------|--------|
| | | | Port 1 | Port 2 | | | | Port 1 | Port 2 |
| 10/100Mbps Copper-to-Fiber | | | | | | | | | |
| RA21-13 | 10/100BASE-TX RJ-45 | 100BASE-FX multimode SC | 100m | 2km | RA21-47 | 10/100BASE-TX RJ-45 | 100BASE-FX 1470 nm SM LC | 100m | 60km |
| RA21-14 | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode SC | 100m | 20km | RA21-49 | 10/100BASE-TX RJ-45 | 100BASE-FX 1490nm SM LC | 100m | 60km |
| RA21-15 | 10/100BASE-TX RJ-45 | 100BASE-FX multimode ST | 100m | 2km | RA21-51 | 10/100BASE-TX RJ-45 | 100BASE-FX 1510nm SM LC | 100m | 60km |
| RA21-16 | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode ST | 100m | 20km | RA21-53 | 10/100BASE-TX RJ-45 | 100BASE-FX 1530nm SM LC | 100m | 60km |
| RA21-17 | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode SC | 100m | 40km | RA21-55 | 10/100BASE-TX RJ-45 | 100BASE-FX 1550nm SM LC | 100m | 60km |
| RA21-1J | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode SC | 100m | 100km | RA21-57 | 10/100BASE-TX RJ-45 | 100BASE-FX 1570nm SM LC | 100m | 60km |
| RA21-1X** | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode SC | 100m | 20km | RA21-59 | 10/100BASE-TX RJ-45 | 100BASE-FX 1590nm SM LC | 100m | 60km |
| RA21-1Y** | 10/100BASE-TX RJ-45 | 100BASE-FX singlemode SC | 100m | 20km | RA21-61 | 10/100BASE-TX RJ-45 | 100BASE-FX 1610nm SM LC | 100m | 60km |

**Each end of the link must be configured with a different receive and transmit wavelength. Order a -1X for one end and a -1Y for the opposite end, e.g. R231-1X -----> RA21-1Y.

Accessories

2731-WM Wall mount bracket

Specifications

Environmental

| | |
|-----------------------|---------------|
| Operating Temperature | 0°C to 50°C |
| Operating Humidity | 5% - 95% |
| Storage Temperature | -30°C to 70°C |

Regulatory

| | |
|----------------|-------------------------------------|
| Compliance | IEEE 802.3, 802.3u, 802.3x, 802.3ad |
| Safety and EMC | FCC, Class B, UL, CE, CSA, CB |

Dimensions

4.5"L x 5.75"W x 1.5"
11.4cm x 14.6cm x 3.8cm

Weight

1.26 lb; .57 kg

Input Power

120-240V AC 50/60Hz

Output Power

5V DC @ 2A, 10W average

Note: Actual segment length is dependent on the quality of fiber cable plant and loss budget of each device. See manual for cable type and product specifications. Singlemode enhanced fiber is recommended for optimum transmission integrity.

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Metrobility Optical Systems is an innovative next generation optical networking company whose focus is on delivering optical access platforms and to harness the power of Ethernet and fiber optics to deliver superior network edge access, connectivity and wavelength multiplexing solutions.

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