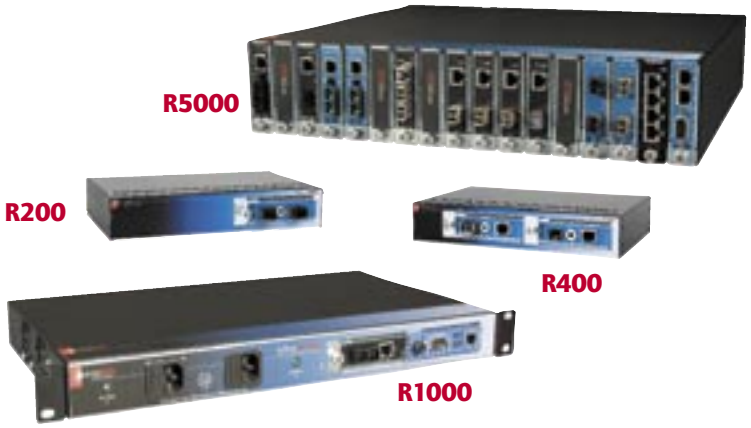
METRObility optical systems

*Simply Brilliant Optical Ethernet*

# Radiance R200, R400, R1000 and R5000 Chassis-based Platforms

***Managed Media, Speed and Distance Solutions***




- *Supports up to 17 connections*
- *Mix and match line cards for greater flexibility*
- *Multiple management options*
- *Minimizes IP address usage*
- *Simple to install and provision*
- *NEBS Level 3 certified*

The **Radiance Chassis Platforms** provide a flexible, scalable and manageable means for integrating coax; Category 3, 4 or 5 twisted pair; and singlemode or multimode fiber optic LAN segments into Ethernet, Fast Ethernet, Gigabit Ethernet, SONET and TDM environments. Metrobility offers four chassis platforms to support its wide range of interface and access line cards.

### Rackmount Chassis

The Radiance R5000 is a NEBS Level 3 *certified* 19" or 23" rack-mountable 2U platform which supports two rear-loading, redundant, load-sharing, hot-swap AC or DC power supplies, 16 slots for connectivity, and one slot for optional management access.

The Radiance R1000 is a NEBS Level 3 *certified* 1U rack-mounted unit with dual, load-sharing AC or DC power, and accommodates two line cards.

The R5000 and R1000 have separate bus paths for management, data and power for more efficient internal communications.

### Standalone Chassis

The R400 is a Class B certified standalone unit which, like the R1000, accommodates two line cards. The R400 is available with external AC power.

The R200 is a Class B certified standalone unit which accommodates a single line card. The R200 is equipped with an internal AC or DC power supply.

By utilizing special brackets, the R200 and R400 devices are able to be mounted to a wall or in a rack.

### Line Card Options

The Radiance Chassis support a wide range of copper to fiber and fiber to fiber connectivity options as well as remote access and wavelength multiplexing.

Radiance Access Line Cards and Services Line Cards support real-time management of each link – including remote loopback testing, and analog statistics for platform power, temperature and optical laser levels, and dynamic bandwidth provisioning, – without consuming any valuable user bandwidth.

Radiance Interface Line Cards offer media conversion, distance, speed, and line protection and restoration options to cost-effectively and reliably distribute fiber optic connections.

### Management and Stacking

Metrobility's Management Card supplies the management access and reports individual line card status to NetBeacon®, Metrobility's SNMP-based element management system. The management card also includes an embedded web kernel called WebBeacon™ to allow remote access using any standard web browser and enables additional management via CLI, telnet and HP OpenView®.

The Radiance Chassis Stacking Line Card is designed to enable up to 7 chassis and 109 remote sites (using Access Line Cards) to be managed under a singe IP address. This ability provides visibility and remote software control over the entire stack, along with notification of a problem or failure to the network administrator. In a stacked configuration, the 'master' chassis must have a chassis stacking line card and an R502-M management card. Three (3) cards are required in chained configuration for stacks greater than four chassis.

The Management Card and Chassis Stacking LIne Card each requires one slot in the chassis.

## The Metrobility® Difference

2U, 17-slot chassis minimizes rack space required (R5000)

Optional management card for SNMP management

Separate bus paths for data, management and power (R5000 and R1000)

Strict standards compliance ensures interoperability with other vendors' equipment

Optional redundant load-sharing power supply for continuous network operation (R5000 and R1000 only)

R5000 and R1000 DC option are NEBS Level 3 certified

## Product Highlights

Rugged rackmount ears with heavy-duty handles (R5000 and R1000 only)

Mix and match up to 17 line cards to support a wide range of requirements including copper-to-fiber, fiber-to-fiber, link redundancy, single-strand BWDM, and CWDM

## Radiance Chassis Platform Features

- Single slot unit (R200) with an internal AC or DC power supply for continuous uptime
- Two-slot unit (R400) with an optional second power supply for continuous uptime
- Two-slot 19" 1U rackmount (R1000) with dual AC or DC power options
- 17-slot 2U rackmount (R5000) with an optional redundant power supply for continuous uptime
- Supports any combination of hot-swap, plug-and-play Interface or Access Line Cards for non-stop operation and high MTBF
- NEBS Level 3 certification awarded on the R5000 and R1000 DC option

## Models

### R200 Platform

| | |
|---|---|
| R200-AC | Single slot platform with single internal AC power supply |
| R200-DC | Single slot platform with single internal DC power supply |

### R400 Platform

| | |
|---|---|
| R400-2HS-1A | 2-slot platform with single external AC power supply |

### R1000 Platform

| | |
|---|---|
| R1000-AAF | 2-slot platform with two front-facing AC power supplies |
| R1000-AAR | 2-slot platform with two rear-facing AC power supplies |
| R1000-DDF* | 2-slot platform with two front-facing DC power supplies |
| R1000-DDR* | 2-slot platform with two rear-facing DC power supplies |

### R5000 Platform

| | |
|---|---|
| R5000-17HS* | 17-slot platform two bays for optional AC/DC power supplies |
| ACPS-17HS | AC Power Supply |
| DCPS-17HS* | DC Power Supply |

### NetBeacon Element Management System

| | |
|---|---|
| NetBeacon | CD with Management Software for Windows and UNIX versions and Database Plug-in |
| R502-M* | Management Line Card, Dual Port |
| R104-11* | Chassis Stacking Line Card |

*NEBS certified

## Specifications

### R200

| | |
|---|---|
| Dimensions | 8.625"L x 5.5"W x 1.625"H<br>21.9cmL x 14cmW x 4.1cmH |
| Weight | 1.18 lb; 0.54 kg |
| Power | 100-250V AC; 48V DC (SELV) |

### R400

| | |
|---|---|
| Dimensions | 8.625"L x 5.5"W x 1.625"H<br>21.9cmL x 14cmW x 4.1cmH |
| Weight | 2 lbs; 0.9 kg |
| Power | 90-264V AC; 50/60Hz |

### R1000

| | |
|---|---|
| Dimensions | 10.0"L x 17.0"W x 1.72"H<br>25.4cmL x 43.18cmW x 4.3cmH |
| Weight | 9.5 lbs (3.5 kg) |
| Power | 100-240V AC; 36V-72V DC |

### R5000

| | |
|---|---|
| Dimension | 15.0"L x 17.0"W x 3.5"H<br>31.1cmL x 43.2cmW x 8.9cmH |
| Weight | 17.0 lbs (7.0 kg) |
| AC Power | 100-120/200-240V |
| DC Power | 36V-72V |

### Environmental Specifications

| | |
|---|---|
| Oper. Temp. | 0°C to 50°C |
| Oper. Humidity | 5% to 95% non-condensing |
| Storage Temp. | -25°C to 70°C |
| Compliance | IEEE 802.3/IEEE 802.3u<br>IEEE 802.3z (R5000 only) |
| Safety | UL, CE, CSA, EN60950<br>CB (R200 and R5000 only), |
| EMC | R200 and R400: FCC Part 15, EN55022 and ICES-003 Class B<br>EN55024: 1998<br>R1000 and R5000: FCC Part 15, VCCI, EN55022 and ICES-003 Class A<br>EN55024: 1998<br>NEBS Level 3 certification (DC only) |

## Interface Line Card Features

- Full signal restoration, retiming and reshaping allows for maximum segment length
- All fiber optic ports support half-duplex and full-duplex mode and Link Loss Carry Forward (LLCF) enable/disable switch
- All twisted pair ports have built-in MDI-II/MDI-X switch to deliver crossover functionality without the need for crossover cables
- Full complement of LEDs per module, including receive activity/power/link

## Access Line Card Features

- Quality of Equipment Monitoring
  Monitors both ends of optical link
- Quality of Line Monitoring
  Remote loopback through optical link
- Quality of Optical Amplitude
  Real-time measurement of the receive and transmit levels of the optical transceivers
- Dynamic bandwidth provisioning in 1Mpbs increments
- Full signal restoration - with low bit delay - allows for maximum segment length

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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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