Metrobility® Ethernet Media Converters

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

100Mbps R141 & 2141

10Mbps R111 & 2111

The Ethernet and Fast Ethernet media converters by Telco Systems offer versatile speed, media, and distance to cost-effectively distribute fiber optic connections. These units provide seamless connectivity within the LAN, or between the LAN and public or private networks. These Metrobility® devices are available as a preconfigured 10Mbps unit, a selectable 10 or 100Mbps unit, or an auto-negotiating 10/100Mbps unit.

These mixed-media devices offer seamless integration of copper and fiber connections providing full signal restoration for accurate data transmission and maximum cable length support.

The interface line cards are supported in all of the Metrobility platforms and can be managed when configured with a R502-M management card. The standalone options utilize a rugged fabrication to offer superior reliability for the most demanding environments. Each standalone is equipped with an external, universal AC power supply.

10Mbps – Preconfigured

The Metrobility R111 and 2111 preconfigured media converters offer transparent integration of fiber optic connectivity or copper-to-coaxial integration for 10Mbps Ethernet networks.

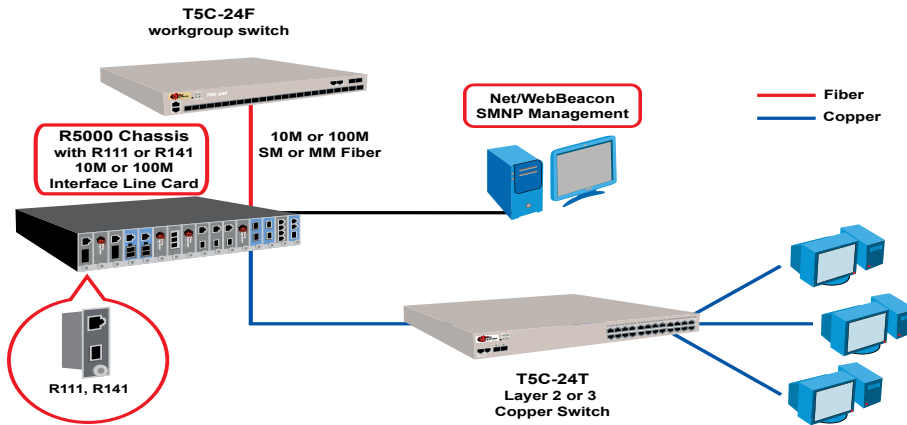**10 and/or 100Mbps – DIP-switch or software settable**

The Metrobility R141 line card and the 2141 standalone is a transparent two-port, copper-to-fiber media converter that can be set to either 10Mbps on both ports or 100Mbps on both ports.

The R141 line card is supported in all Metrobility chassis options. When configured with athe R502-M management card, the line card may be locally managed through a web browser or with NetBeacon® ESP Element Manager.

- **Complete range of fiber optic connector types provide network design flexibility**

- **Managed option-NetBeacon® and WebBeacon - when configured with a management card in a Metrobility platform**

- **High-quality, reliable design lowers long term cost of ownership**

- **Full signal restoration - with low bit delay - allows for maximum segment length**

- **Fully IEEE 802.3 compliance ensures compatibility with other vendors' equipment for flexible connectivity**

- **Single-strand, bi-directional wavelength multiplexing (BWDM) option**

- **Interoperates with half-duplex or full-duplex mode devices**

- **Class B certified models**

Metrobility® Ethernet Media Converters

Variable speed, media and distance connections

T5C-24F
workgroup switch

R5000 Chassis
with R111 or R141
10M or 100M
Interface Line Card

R111, R141

10M or 100M
SM or MM Fiber

Net/WebBeacon
SMNP Management

— Fiber
— Copper

T5C-24T
Layer 2 or 3
Copper Switch

Key Applications

- ☐ **Copper-to-fiber conversion**
- ☐ **Distance extension of 2km, 20km, 40km and 100km**

Specifications

Interfaces

Data Rate

- R141   10Mbps and 100Mbps
- 2141   100Mbps half duplex
     200Mbps full duplex
- R111 and 2111   10Mbps half duplex
     20Mbps full duplex*

Network Connections

- Connector   Shielded RJ-45, 8-pin jack
- Impedance   100 ohms nominal
- Supported Link Length   100 m
- Signal Level Output (peak differential)
     2.2 to 2.8 V (10Mbps)
     0.95 to 1.05 V (100Mbps)
- Signal Level Input
   R141 and 2141   585 mV minimum (10 Mbps)
     200 mV minimum (100 Mbps)
   R111 and 2111   350 mV minimum
- Cable Type   CAT 3, 4, 5 UTP/STP (10Mbps)
     CAT 5 or 5E UTP/STP (100Mbps)

Standards Compliance

- IEEE 802.3
- IEEE 802.3u

Safety and EMC Compliance

- UL, CSA, CB
- EN60950 (safety)
- EN55024:1998 (immunity)
- IEC 825-1 Classification (eye safety)
- Class 1 Laser Product (eye safety)

R111 and 2111

- FCC Part 15 Class A
- ICES-003 Class A (emissions)
- EN55022 Class A (emissions)

R211 and 2141

- CE
- EN55024:1998 (immunity)
- EN55022 Class B (emissions)
- FCC Part 15 Class B
- ICES-003 Class B (emissions)
- IEC 825-1 Classification (eye safety)
- Class 1 Laser Product (eye safety)

General

Environmental

- Operating Temp   0°C to 55°C (2111 and 2141)
     0°C to 50°C (R111 and R141)
- Operating Humidity   5% - 95% non-condensing
- Storage Temp   -30°C to 70°C (2111 and 2141)
     -25°C to 70°C (R111 and R141)

Physical Specifications

R111 and R141
- Power - Input   5 V DC @1.0 A, 5.0 W

2111 and 2141
- Power
   AC Input   90~250V 50/60Hzs
   DC Output   5 V DC @1.2 A, 5.0 W
- Dimensions
     4.83" L x 3.26" W x 1.71" H
-      12.3 cm x 3.26 cm x 4.3 cm
- Weight   3.2 oz (0.09kg)

Ordering Information

Part Number		Description	Connector	Distance
Line Card	Standalone			
10Mbps Pre-Configured				
R111-13-B	2111-13-B	10BASE-T to 10BASE-FX (MM)	SC	2km
R111-15-B	2111-15-B	10BASE-T to 10BASE-FX (MM)	ST	2km
10Mbps or 100Mbps Settable				
R141-13	2141-13	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (MM)	SC	2km
R141-14	2141-14	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM)	SC	20km
R141-15	2141-15	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (MM)	ST	2km
R141-16	2141-16	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM)	ST	20km
R141-17	2141-17	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM)	SC	40km
R141-1J	2141-1J	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM)	SC	100km
R141-1X *	2141-1X	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM – BWDM) 1550nm/1310nm	SC	20km
R141-1Y *	2141-1Y	10BASE-T to 10BASE-FX or 100BASE-T to 100BASE-FX (SM – BWDM) 1310nm/1550nm	SC	20km

* Must be ordered in pairs (-1X and -1Y). Each end of the link must be configured with a different receive and transmit wavelength.