

# 10/100Mbps AutoTwister®

*Media Conversion and Rate Adaption  
with Auto-Recovery*



- Copper-to-fiber media conversion
- 10/100Mbps speed adaptation
- Half to full-duplex conversion
- Link Loss Carry Forward, Link Loss Return and Auto-Recovery
- Singlemode fiber up to 100km
- Remote troubleshooting features

## The Benefits of Fiber Without a 'Forklift' Upgrade

Metrobility's 10/100 AutoTwister® provides versatile connectivity for evolving network infrastructures being upgraded from existing 10Mbps copper-based networks to 100Mbps fiber networks. The AutoTwister provides media conversion and 10/100 rate adaption in a single unit, extending copper-based networks up to 100km over singlemode fiber.

Now you can achieve all the features of 100Mbps fiber, such as distance and security, while minimizing costs in a mixed media environment.

### Speed Flexibility

As a rate adapter, the card auto-negotiates from 10Mbps to 100Mbps, allowing existing 10Mbps devices to communicate over a 100Mbps backbone. This allows network administrators to retain existing 10Mbps devices while upgrading segments of the network as needed. As a media converter, the card also supports mixed media networks by enabling copper-to-fiber as well as fiber-to-fiber media conversion.

### Remote Troubleshooting

All models incorporate Link Loss Return (LLR) and selected models also offer Metrobility's Auto-

Recovery and Link Loss Carry Forward (LLCF) features to enable troubleshooting remote locations. LLR stops sending link pulses from the transmit port when link pulses are not being received. **Auto-Recovery, used in conjunction with LLR, enables the card to restart the fiber link after a link loss event without a costly troubleshooting trip.**

Additional features include shared network segment isolation, and auto-negotiation of full and half duplex configurations. Bi-directional Wavelength Division Multiplexing (BWDM) is also available to utilize a single strand of fiber to send and receive a two different wavelengths, doubling the capacity of the fiber (refer to Metrobility BWDM datasheet).

The AutoTwister is available for Radiance chassis platforms and as a standalone unit to provide seamless connectivity with all major switch and router manufacturers. It offers a cost-effective solution for fiber connectivity in copper switches to lower the cost per port without sacrificing function.

## The Metrobility Difference

Signal retiming and regeneration for maximum transmission quality

10/100Mbps auto-negotiation on all twisted-pair interfaces

Supports copper-to-fiber and fiber-to-fiber media conversion

Auto-Recovery

Advanced monitoring and management features built into the module support SNMP management via NetBeacon® Element Management System

Provides a seamless path to connect Ethernet and Fast Ethernet networks  
NEBS Level 3 compliant

## Product Highlights

Link Loss Return (LLR) with auto-recovery on fiber optic port for troubleshooting and restoring a remote network connection

Link Loss Carry Forward on copper or fiber ports

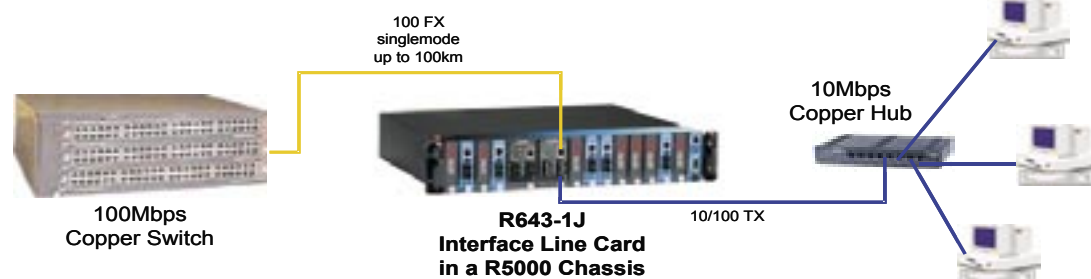
Auto-negotiation on copper interface

Full and half duplex flow control

Forwarding and filtering at full wire speed

Low bit delay

MDI-II to MDI-X switch eliminates crossover cables



## Product Features:

- Auto-negotiation switches on all twisted-pair interfaces
- Link Loss Carry Forward, (LLCF), Link Loss Return (LLR) aids in troubleshooting a remote network connection for all fiber optic ports
- Auto-Recovery restarts fiber link between two back-to-back line cards after a link loss event
- MDI-II to MDI-X switch eliminates the need for crossover cables on twisted-pair ports
- Store-and-forward switching improves overall network performance by buffering packets during times of heavy congestion and prevents the forwarding of corrupted packets
- High-performance switching engine performs forwarding and filtering at full wire speed (148,800 packets per second)
- Provides low bit delay which ensures accurate data flow across the network

## Available Models

Radiance	Standalone	Port 1	Port 2	Max. Supported Segment Length <sup>2</sup>		Link Budget
				Port 1	Port 2	
R621-11	2621-11-01	10/100BASE-TX RJ-45	10/100BASE-TX RJ-45	100m	100m	na
R643-13*	2643-13-01* M643-13*	10/100BASE-TX RJ-45	100BASE-FX multimode SC	100m	2km	17dBm
R643-14*	2643-14-01* M643-14*	10/100BASE-TX RJ-45	100BASE-FX singlemode SC	100m	20km	23dBm
R643-15*	2643-15-01* M643-15*	10/100BASE-TX RJ-45	100BASE-FX multimode ST	100m	2km	17dBm
R643-16*	2643-16-01* M643-16*	10/100BASE-TX RJ-45	100BASE-FX singlemode ST	100m	20km	23dBm
R643-17*	2643-17-01* M643-17*	10/100BASE-TX RJ-45	100BASE-FX singlemode SC	100m	40km	33dBm
R643-1E*	2643-1E-01* M643-1E*	10/100BASE-TX RJ-45	100BASE-FX multimode MT-RJ	100m	2km	17dBm
R643-1G*	2643-1G-01* M643-1G*	10/100BASE-TX RJ-45	100BASE-FX multimode VF-45	100m	20km	17dBm
R643-1J*	2643-1J-01* M643-1J*	10/100BASE-TX RJ-45	100BASE-FX singlemode SC	100m	100km	37dBm
R643-1K*	2643-1K-01* M643-1K*	10/100BASE-TX RJ-45	100BASE-FX multimode LC	100m	2km	17dBm
R643-1M*	2643-1M-01* M643-1M*	10/100BASE-TX RJ-45	100BASE-FX singlemode LC	100m	15km	23dBm
R643-1X**	2643-1X-01** M643-1X**	10/100BASE-TX RJ-45	100BASE-FX SM-SC / BWDW 1550nm/1310nm	100m	20km	20dBm
R643-1Y**	2643-1Y-01** M643-1Y**	10/100BASE-TX RJ-45	100BASE-FX SM-SC / BWDW 1310nm/1550nm	100m	20km	20dBm

\* LLCF, LLR and Auto-Recovery.

+ 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.

NOTE: Blue denotes NEBS-certified

## Specifications

### Environmental

Operating Temperature	0°C to 50°C
	-20°C to 70°C (R643 cards only)
Operating Humidity	5% to 95% non-condensing
Storage Temperature	-25°C to 70°C
	-30°C to 70°C (R643 cards only)

### Safety and EMC Compliance

UL, CSA, CE, CB, FCC Part 15, (Class A), EN55022 Class A (emissions), EN55024: 1998 (immunity), DOC Class A (emissions), IEC 825-1, Class 1 Laser Product Class B (2643 only)

Standards Compliance IEEE 802.3/IEEE 802.3u/IEEE 802.3x

### Standalone

#### Dimensions

2641, 2643	1.7"H x 3.3"W x 4.8"L
	12.3cm x 8.3cm x 4.3cm

#### Weight

1 lb; .45 kg

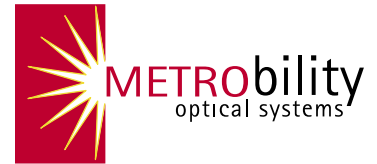
#### Power, Universal

90-250V AC 50/60Hz

#### Accessories:

2100-WM Wall mount bracket for 26xx-series

See Delta Class AutoTwister data sheet for product specifications



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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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<sup>2</sup>Distance: The distances noted in the descriptions are for reference purposes only. The most important factor to achieve the desired distance is the "optical power budget" or fiber optic light measured in dB. The Metrobility descriptions generally indicate the typical transmit power budget for 9/125µm SM; 50/125 or 62.5/125µm MM.

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