

AMC-101

Universal Media Converter and Repeater



FEATURES

- Modular media converter and repeater, operating over fiber optic, UTP, STP and coax lines
- Supports retimed media converting/repeating for:
 - 51 Mbps OC-1
 - 100 Mbps TAXI
 - 155 Mbps OC-3/STM-1
 - 155 Mbps STS-3c over UTP/STP
 - 155 Mbps STS-3c/STM-1 over coax
 - FDDI
 - Fast Ethernet
- Supports transparent conversion of fiber optic signals up to 155 Mbps for:
 - ATM/SDH/SONET
 - Ethernet
 - Token Ring
- Provides Ethernet/Fast Ethernet bridging over fiber optic links
- Complies with ATM Forum and ITU-T G.957 and G.958 specifications
- Supports hot-swappable, electrical and fiber optic modules, including long haul and WDM interfaces

- Supports activation of simultaneous loopbacks towards network and user sides for isolation of the network failure sources

DESCRIPTION

- AMC-101, universal modular media converter, provides retimed or transparent conversion of optical and electrical signals for ATM, SDH/SONET, FDDI, Fast Ethernet and other protocols at data rates of up to 155 Mbps.
- AMC-101 supports the following module types:
 - Retimed modules, which provide clock regeneration and data reshaping
 - Transparent modules, which provide low-cost conversion for applications that do not require repeating or reclocking.
- A long haul fiber optic option is available to provide an increased range of up to 110 km (68 miles).
- The SF1, SF2 and SF3 modules allow AMC-101 to operate over single strand fiber optic cables. The SF1 and SF2 modules use the WDM technology, and SF3 modules utilize proprietary transmission method.

RETIMED MODULES

- AMC-101 provides retimed media conversion for the following protocols over optical and copper cables:
 - 51 Mbps OC-1
 - 100 Mbps TAXI
 - 155 Mbps OC-3/STM-1
 - 155 Mbps STS-3c over UTP/STP
 - 155 Mbps STS-3c/STM-1 over coax
 - FDDI
 - Fast Ethernet.

- When used as a media and interface converter, AMC-101 provides a cost-effective alternative to fiber optic interfaces of routers, ATM devices and ADMs.

- AMC-101 equipped with Ethernet/Fast Ethernet modules performs UTP to fiber optic conversion with or without bridging.

TRANSPARENT MODULES

- AMC-101 with transparent modules provides cost-effective media conversion without repeating and reclocking.
- Transparent modules are recommended for shorter range applications. Otherwise, retimed modules should be used.

AMC-101

Universal Media Converter and Repeater

Table 1. Electrical Interface Modules

Module Name	Retimed/Transparent	Protocols Supported	Cable Type	Connector Type	Impedance	Typical Range (Attenuation) [m/feet]
AMC-M/UTP/155	R/T	STS-3c	UTP Cat 5	Shielded RJ-45	100Ω	100/328 in retimed mode 50/164 in transparent mode
AMC-M/STP/155	R/T	STS-3c	STP Type 1	DB-9	150Ω	100/328 in retimed mode 50/164 in transparent mode
AMC-M/UTP/100	R/T	FDDI	UTP Cat 5	Shielded RJ-45	100Ω	100/328 in retimed mode 50/164 in transparent mode
AMC-M/CX/BNC/155	R	STS-3c, STM-1	Coax	BNC	75Ω	12.7 dB (see note below)
AMC-M/CX/DIN/155	R	STS-3c, STM-1	Coax	DIN 47295 1.6/5.6 coax	75Ω	12.7 dB (see note below)

Note: 135m range is attainable when using RG-59 B/U (at 78 MHz, in accordance with the square root of frequency law).

Table 2. Ethernet/Fast Ethernet Interface Modules

Module Name	Retimed/Transparent	Protocols Supported	Operation Mode	Cable Type	Connector Type	Impedance	Typical Range [m/feet]
AMC-M/10BT/B	R	Ethernet	Ethernet bridge	UTP Cat 5	Shielded RJ-45	100Ω	100/328
AMC-M/100BT/B	R	Fast Ethernet	Fast Ethernet bridge, 100 FX	UTP Cat 5	Shielded RJ-45	100Ω	80/262
AMC-M/100BT/R	R	Fast Ethernet	Media converter, 100 FX	UTP Cat 5	Shielded RJ-45	100Ω	80/262

Note: The AMC-M/10BT/B modules require AMC-101 units installed at the local and remote site of the application.

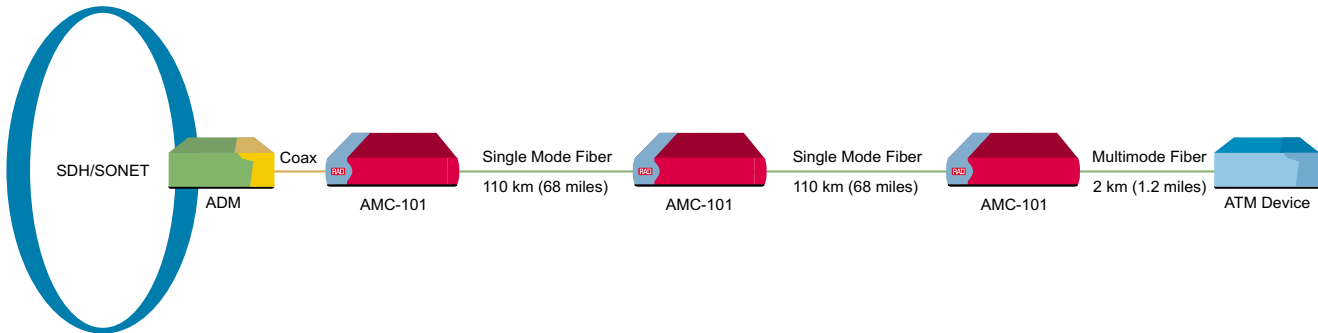


Figure 1. AMC-101 Operating as Media Converter and Repeater

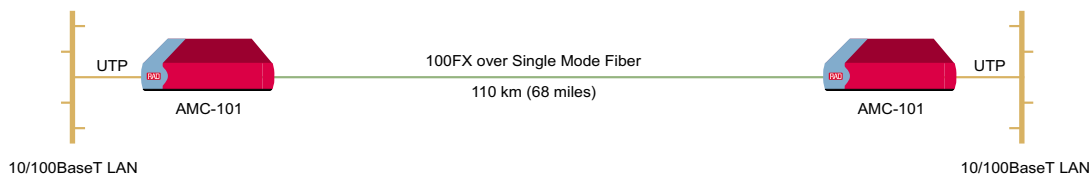


Figure 2. AMC-101 Extending LAN Services over Fiber Optic

Universal Media Converter and Repeater

Table 3. Fiber Optic Interface Modules

Module Name	Retimed/ Transparent	Transmitter Type, Wavelength	Protocols Supported	Connector Type	Fiber Type	Typical Optical Power	Receiver Sensitivity	Typical Range According to Data Rates [km/miles]		
								51 Mbps	100 Mbps	155 Mbps
AMC-M/MM/ST/85	T	LED, 850 nm	Token Ring, Ethernet	ST	62.5/125, multimode	-18 dBm	-30 dBm	2/1.2	2/1.2	2/1.2
AMC-M/MM/SC/13 AMC-M/MM/ST/13	R/T	LED, 1310 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST	62.5/125, multimode	-18 dBm	-31 dBm	4/2.4	2/1.2	2/1.2
AMC-M/SM/SC/13 AMC-M/SM/ST/13 AMC-M/SM/FC/13	R/T	LED, 1310 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-15 dBm	-31 dBm	25/15.5	25/15.5	20/12.4
AMC-M/SM/SC/13L AMC-M/SM/ST/13L AMC-M/SM/FC/13L	R/T	Laser, 1310 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-12 dBm	-31 dBm	40/25	25/15.5	20/12.4
AMC-M/SM/SC/13LH AMC-M/SM/ST/13LH AMC-M/SM/FC/13LH	R/T	Laser (long haul), 1310 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-2 dBm	-34 dBm	60/37	50/31	40/25
AMC-M/SM/ST/15L AMC-M/SM/FC/15L	R/T	Laser, 1550 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	ST, FC	9/125, single mode	-12 dBm	-31 dBm	50/31	25/15.5	20/12.4
AMC-M/SM/SC/15LH AMC-M/SM/ST/15LH AMC-M/SM/FC/15LH	R/T	Laser (long haul), 1550 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-2 dBm	-34 dBm	110/68	100/62.1	80/49.7
AMC-M/SF1/SC AMC-M/SF1/ST AMC-M/SF1/FC	R/T	Laser (WDM), Tx – 1310 nm Rx – 1550 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-12 dBm	-29 dBm	35/21.7	25/15.5	20/12.4
AMC-M/SF2/SC AMC-M/SF2/ST AMC-M/SF2/FC	R/T	Laser (WDM), Tx – 1550 nm Rx – 1310 nm	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC, ST, FC	9/125, single mode	-12 dBm	-29 dBm	35/21.7	25/15.5	20/12.4
AMC-M/SF3	R/T	Laser (single fiber), 1310 nm Tx and Rx	TAXI, FDDI, Fast Ethernet, STS-1, STS-3c/STM-1	SC-APC	9/125, single mode	-12 dBm	-27 dBm	20/12.4	20/12.4	20/12.4

Notes: Typical ranges are calculated according to attenuation of 0.4 dB/km for 1310 nm and 0.25 dB/km for 1550 nm modules.
The Fast Ethernet and FDDI protocols are supported by the retimed modules only.

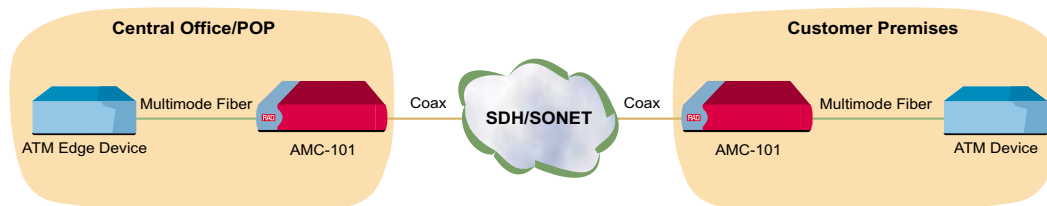


Figure 3. AMC-101 Extending ATM Services over SDH/SONET

AMC-101

Universal Media Converter and Repeater

SPECIFICATIONS

- **Interface Modules**
See Table 1, Table 2 and Table 3
- **Data Rate**
Up to 155 Mbps
- **Alarm Relay**
Dry contact via 9-pin, D-type, female connector
- **Indicators**
PWR – ON when unit is powered up
WRAP – ON when a loopback is running towards the user and network sides
FLT – Blinks when illegal combination of card types and selected data rate is detected
SIG – ON when valid signal is received or blinks when the signal is out of frame
- **Controls**
WRAP – Activates a loopback towards the user and network sides
Rate/mode selector – Selects the operation rate (51, 100, 155 Mbps) or transparent mode (OTHER)
- **Power**
AC: 100–240 VAC, 50 or 60 Hz, 16W
DC: -48 VDC
- **Physical**
Height: 44.0 mm / 1.7 in
Width: 21.6 cm / 8.5 in
Depth: 24.2 cm / 9.5 in
Weight 1.1 kg / 2.4 lb
- **Environment**
Temperature: 0–40°C/32–104°F
Humidity: Up to 90%, non-condensing

ORDERING

AMC-101/*

Universal media converter and repeater

AMC-M/#

Interface module for AMC-101

Note: Refer to Table 1, Table 2 and Table 3 for the complete module names.

* Specify power supply:
AC for 100 to 240 VAC
48 for -48 VDC

Specify module type:
R for retimed
T for transparent

RM-17

Special hardware for mounting one or two AMC-101 units in a 19-inch rack



data communications

For Sales and Technical:

Pulse, Inc.
www.pulsewan.com
sales@pulsewan.com

Toll Free (USA)
Tel: 888-785-7393

International:
Tel: 1-561-279-7700