

ANDREW 8220 Series MAU

QuickStart Guide

for the

Andrew 8220 E Series Media Access Unit (MAU)
Andrew 8220 Plus Series Media Access Unit (MAU)

PACKAGE CONTENTS

Your shipment container includes the following items:

- Product chassis
- Rack mount kit for 19 inch cabinets
- This *QuickStart Guide*

THE 8220 SERIES MAUs

The Andrew 8220 Media Access Unit (MAU) product line consists of the E Series and the Plus Series.



Andrew 8228 Plus MAU

- Neither series requires AC power, and both are compatible with the IBM model 8228 MAUs.
- Model 8228 E Series MAUs are preset at the factory. However, they may require an insertion tool (Andrew part # 301-0313-01 or IBM equivalent) for installation.
- All Plus Series MAU's (including the 8224 Plus, the 8228 Plus, and the 8216 Plus) have an internal lithium battery and reset switch, which is used to reset and align their internal relays at the time of installation. These units should be reset before attaching powered workstations.

RING IN AND RING OUT CABLING

Ring In and Ring Out ports expand a given ring by attaching two or more MAUs to form a **main ring**. Units are attached by cabling Ring Out on the original MAU unit to the Ring In of the new MAU. The Ring Out of the last MAU should be cabled back to the Rin of the first MAU to complete the ring and maintain a backup path. If these non-powered MAUs are to be interconnected between wiring closets without the use of repeaters, please refer to the **Adjusted Ring Length** section on page 2 for obtaining information on calculating the ARL and maintaining a backup path.

ANDREW BULLETIN BOARD (BBS)

Andrew Corporation makes available application notes, specifications and user manuals on the Andrew BBS at (310) 784-8089. Data rates from 2,400bps to 28,800bps at 8N1 are supported.

Some large files are provided in Portable Document Format (PDF), and may be viewed or printed using Adobe's Acrobat Reader version 3.0 software. This popular reader is available free of charge on the Internet directly from Adobe at <http://www.adobe.com>. It is also available at no charge on the Andrew BBS.

HOW TO REACH US . . .



ANDREW

Andrew Corporation
2235 First Street, Suite #115
Simi Valley, CA 93065

Sales: (800) 328-2696

Tech Support: (800) 8 ANDREW
(800) 826-3739

Andrew BBS: . . (310) 784-8089
(2400bps–28800bps at 81N)

Fax-on-Demand: (800) 861-1700
(708) 873-3614

World Wide Web:
<http://www.andrew.com>

STATUS LEDs

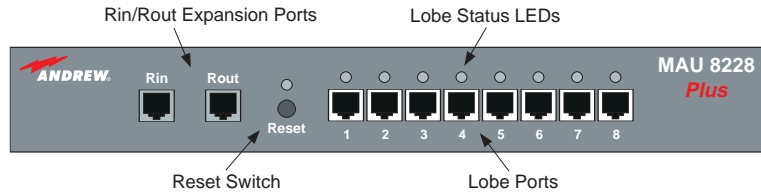


Figure 1. Front Panel of the Andrew 8228 MAU showing status LEDs

All Andrew 8220 Series MAUs have a status LED on each lobe port. The LED is illuminated when an attached workstation is provided access to the network. *Plus Series* MAUs have an additional LED over the Reset push button switch. This LED shows that the battery is good by illuminating when the switch is depressed.

CABLE LENGTH

The maximum length of a lobe port cable is determined by a number of factors including the speed of the ring (4 or 16 Mps) and the type of cable used. The EIA/TIA 568 A/B Building Cabling Specification recommends the maximum workstation-to-wiring closet cable length to be no more than 330 feet (100 meters) using Category 5 cable. If other cable types or longer distances are required, please refer to Table A below.

Table A. Cable Characteristics

Network Cabling Medium		Transmission Distance (max.)*	
UTP Cable	Workstations	16 Mbps	4 Mbps
Type 3	72 (max.)	180 ft (55 m)	450 ft (137 m)
Category 4†	225 (max.)	300 ft (91 m)	750 ft (229 m)
Category 5†	260 (max.)	330 ft (100 m)	825 ft (251 m)
STP Cable			
Types 1 & 2	260 (max.)	400 ft (122 m)	1000 ft (305 m)

* Maximum lobe length equals maximum transmission distance with all MAUs in same closet.

† UTP categories have improved distances due to more frequent and uniform twists per foot. Category 5 cable can support 100 Mbps.

ADJUSTED RING LENGTH

Individual MAU's may be connected together to form a **main ring** by interconnecting the MAU's Rin to Rout. Each cable uses a single twisted pair for the primary data path and a second twisted pair for a backup path.

If a network is being installed with 8220 Series MAUs in multiple wiring closets and repeaters are **not** being used, the **Adjusted Ring Length (ARL)** needs to be calculated. This is necessary to always maintain an operational backup path. Assistance with this calculation can be obtained on the Andrew BBS or from Andrew Technical Support.

CABLE PAIRS

The cable used with the MAU requires a twisted pair for Transmit functions and a second twisted pair for Receive functions. All cables should be wired straight through.

Figures 2 and 3 below show cabling for RJ type connectors. Figure 3 refers to the cable end view of the RJ45 connector.

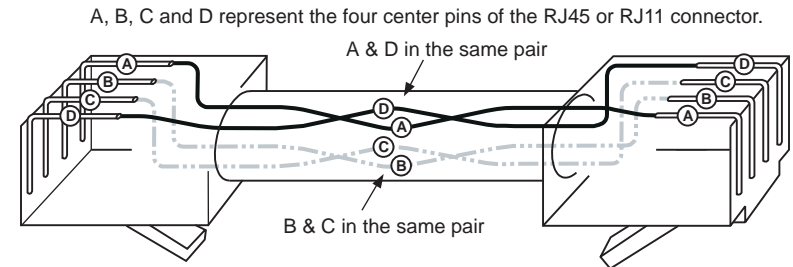


Figure 2. Straight-through cable wiring with RJ type connectors

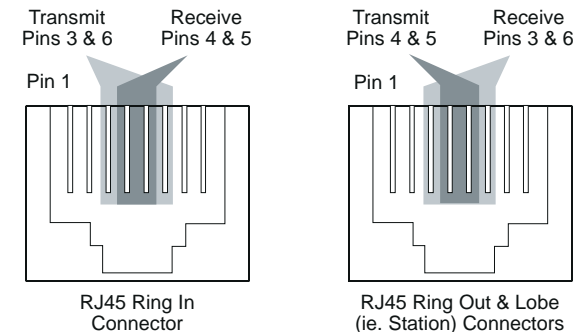


Figure 3. Cable end view of the RJ45 connector showing transmit & receive pins

Figure 4 below shows the equivalent cabling when DC (MIC) type connectors are used with types 1 and 2 cabling.

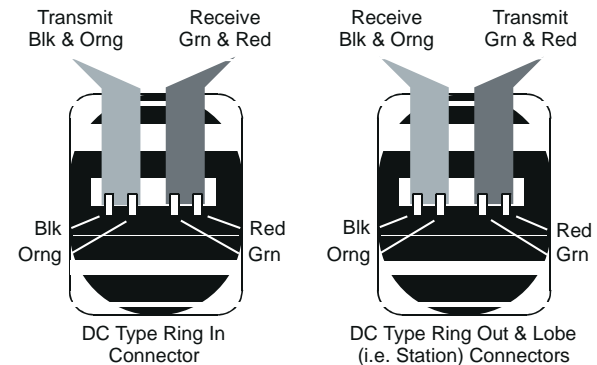


Figure 4. Transmit and Receive pins on DC (MIC) type connectors