



Communications Technology Solutions

Installation Manual
CBM IP-MPA
Internet Protocol – Multi Protocol Adapter

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Preface

Warranty

CBM of America warrants that its equipment is free from defects in material and workmanship. The warranty period is one year from the date of shipment. CBM of America's obligation under this warranty is limited to the repair or replacement of the defective equipment provided it is returned to CBM, shipping prepaid, within a reasonable period of time. This warranty shall not apply to equipment that has been subject to accident, misuse, alterations, or repairs not made or authorized by CBM.

Copyright

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Scope

This manual describes how to install and initially configure the CBM IP-MPA. This document is intended for use by trained technicians and installers and assumes a working knowledge of central office procedures and protocols.

Organization

The information contained in this document is arranged in two parts:

- Product Overview provides a physical description of the IP-MPA and associated features.
- Installation and Operation details the necessary procedures required to install and initially configure the IP-MPA.

NEBS Compliance

This Class 2 data communications equipment has been Level 3 NEBS compliance tested and approved under the guidelines specified by the Bellcore GR-63-CORE, and Bellcore GR-1089-CORE Technical References. The CBMIP-MPA conforms to the UL Standard for Safety, ANSI/UL 1950, Third Edition.

Support

CBM of America maintains a support organization for the installation and operational of this product. Call 800-881-8202 to request support between the hours of 8AM & 5PM EDT Monday through Friday. Select option 4 for technical support. Please have the serial number of the product available.

Web based support is also available 24 hrs a day 7 days a week via the CBM New Product Support Portal at: www.cbmusa.com/product-support Enter your email, name, product category and problem severity level and your request for assistance will be routed to one of our support engineers for response. If you would like a call back from one of our support engineers, please make sure to enter your call-back phone number.

Documentation

In addition to this Installation Guide, a copy of the IP-MPA User Manual & Software Release Notes can be accessed via www.cbmusa.com / Click Tab - On-line Manuals / Select CBM Products.

Product Overview

Product Description

The CBM IP-MPA is a DC Powered, NEBS Level 3 certified single port multiple protocol conversion/mediation adapter. The CBM IP-MPA provides seamless inter-networking of dissimilar network devices and allows for individual mediation of legacy connections to IP based networking infrastructure. The CBM IP-MPA's serial port is synchronous or asynchronous and supports speeds up to 115.2kbps. Protocols such as asynchronous, HDLC, SDLC, and X.25 are all supported and software selectable for the serial port.

Physical Specifications and Features

- One 10 Base-T RJ45 Ethernet Port with activity indicator.
- One serial port female DB25 port supporting RS-232/V.11/RS-530.
- Serial port supports Asynchronous, HDLC, SDLC, BX.25 and X.25 protocols.
- Mediates IP, TCP, Telnet, RTP, ARP & SNMP protocols
- Unit Width=3.1" x Depth = 4.3" x Height = 1.1" (1.7" with bracket).
- Standard 19 inch relay rack mounting shelf can accommodate 5 IP-MPA units, the 23 inch relay rack model can house 6 units, 1.75 inches high(One Rack Unit - 1RU).
- Mounting IP-MPA without shelf in a vertical orientation directly on the rack upright occupies 3.5 inches of relay rack space.
- Unit supports -48VDC and Power Over Ethernet (POE). -48VDC uses the Mate and Lock Phoenix power connector on the device. Unit operates regardless of polarity on this connector. Power adapter also available from CBM to convert from 110VAC to -48VDC.
- Fully NEBS Level 3 Certified.

Operational Specifications

- Operating Voltage
 - AC to DC Power Supply
 - 9mA Nominal
 - 15mA Maximum
 - DC Standalone
 - 21mA Nominal
 - 30mA Maximum
- Operating temperature 5 to 40 degrees C (41 to 124 F).
- Operating humidity 5% to 90% non-condensing.

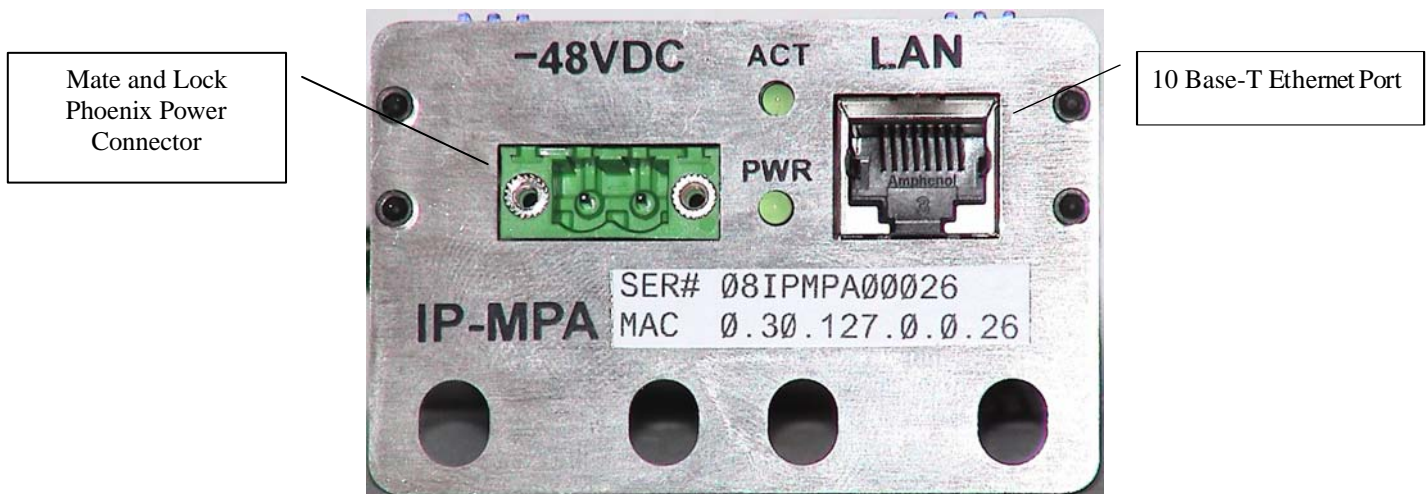
Part Numbers

Part Description (Included w/ IP-MPA)	Part Number Ordering
IP-MPA Unit	CBMIP-MPA
IP-MPA Adapter RJ45-DB25F	CBMIP-MPA-ADP
2 Ft. Green 10 AWG Ground Wire W/ Lug	CBMIP-MPA-GND
Ground Lug for IP-MPA (10 AWG)	CBMIP-MPA-GLUG
10X32 Nut & Star Washer for IP-MPA Ground Lug	CBMIP-MPA-NUT
Terminal Block Plug (Phoenix Connector)	CBMIP-MPA-TERMBLK

Installation and Operation

Unpacking and Handling

Inspect the IP-MPA carefully for any damage that may have occurred during shipment. If any damage is observed, contact CBM of America with the serial number and the packing list from the unit. Save the shipping container to return any damaged units.



Front View

Female DB25
RS-232/V.11/RS-530
Serial Port



Grounding Lug

Rear View

Installation of the IP-MPA

The IP-MPA can be mounted in a standard 19 inch or 23 inch relay rack (with or without mounting shelf). To install:

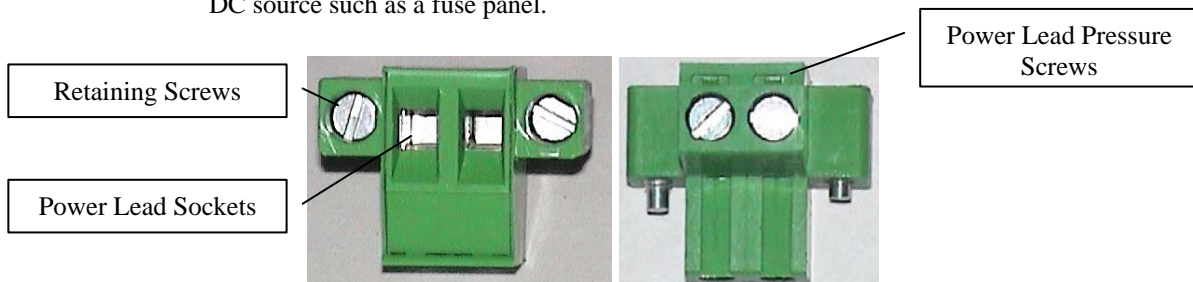
- Mount IP-MPA to relay rack. This is accomplished by:
 - directly mounting to upright of relay rack



- If mounting shelf is to be used – secure shelf first to the rack, then mount any IP-MPA's on the shelf. If multiple IP-MPA will be mounted, consider attaching ground lead to IP-MPA's prior to securing to shelf.



- Secure Ground Lead to IP-MPA with provided nuts and star washers and ground lug after attaching to 10 AWG ground cable.
- Connect other end of Ground Lead to prepared surface on Relay Rack. This will require the attachment of needed ground lug to the other end of the Ground Lead. The Relay Rack lug and 10 AWG Ground Lead are included with the IP-MPA.
- With power removed, connect power cables to the connector provided (see pictures below). Tighten the two pressure screws to secure the power leads. The connector then can be inserted into the keyed socket on the front of the IP-MPA. Tighten the two retaining screws. Polarity is a non issue as the IP-MPA will accept negative feed and return in either combination. Fuse accordingly as maximum draw is 30mA from a direct DC source such as a fuse panel.



- The unit will operate utilizing POE through the LAN port connection.
- Both -48VDC and POE can be connected and powered at the same time, if the customer wishes to provide diverse power feeds to device.
- The connection can then be made from the Local Area Network to the LAN port on the rear of the IP-MPA.

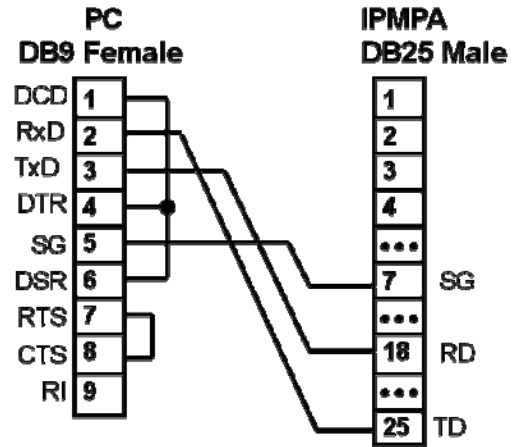
Initial Configuration

In most cases, CBM will stage the IP-MPA with an IP address specified by the customer. This allows for a “plug and play” scenario. Customer will have the ability to telnet to the unit to provision. If this is not the case, basic local configuration will be needed to make the unit available to the TCP/IP network. A local configuration kit will be necessary to connect a local PC to the IP-MPA for this step. The kit can be ordered or you can build one following the diagram on page 9 under “Pin Configurations”.

- Utilize IPMPA-ADPTR-PC-KIT for connection of PC DB9 serial port to DB25 serial port on the IP-MPA. IP-MPA should be powered down at this point.
- Open Hyperterm or application of choice on PC to allow for serial port communication
- Set application to 9600 baud – 8 Bits – 1 Stop - None (for parity) for the PC serial port.
- Make the connection from the PC application to the PC serial port, then power on the IP-MPA.
- During the boot sequence you receive the following warning, **Warning serial console will be disabled after 5 seconds Press Cntrl-C to maintain use of the serial console**. You will then receive the console prompt below. Enter the following text:
 - <IP-MPA>
 - <IP-MPA> login passwd=initial
 - <IP-MPA> remove mod
 - <IP-MPA> local ipaddr=192.168.1.100 submask=255.255.255.0
 - <IP-MPA> gateway ipaddr=192.168.1.1
 - <IP-MPA> restore mod
 - *Please note that the address information above is provided for example purposes only. The actual IP address, subnet mask, and gateway will need to be obtained from the customer directly and be unique to each IP-MPA*
- After this process is complete, and unit is connected to network backbone, customer should try a simple ping to the IP-MPA to ensure its availability to the network .
- After a successful ping, a telnet to the unit utilizing port 1023 should be attempted.
 - Customer on remote machine would enter:
 - telnet xxx.xxx.xxx.xxx 1023 (x’s denote actual IP address of IP-MPA)
 - prompt <IP-MPA> should appear

Pin Configurations

DCE DB9 Console Cable



For Console Connection to PC/Laptop

ADDENDUM A

OPTIONAL IP-MPA ACCESSORIES & PARTS

CBM Part No.	Description
ADPG148-B	Adapter Sync 25 Pin DCE-M For IPMPA To 5E
ADPG150	Adapter Sync 25 Pin DCE-F
ADPG2116	RS232 To RS449 Converter DB25M to DB37F
CBLG-IPMPA-DCPWR	15FT RD/BLK Twisted Wire w/Terminal Block Plug
CBLG2124-1	DB25M To DB25F Extender Cable
CBLG988-X	CAT 5E 4PR 24awg PVC WECO568B Wiring Gray
CBMIP-MPA-5PK	Mounting Shelf 1RU 19" For (5) IP-MPAs
CBMIP-MPA-6PK	Mounting Shelf 1RU 23" For (6) IP-MPAs
9PADPACU(F)	DB9 To RJ45 PC Adapter