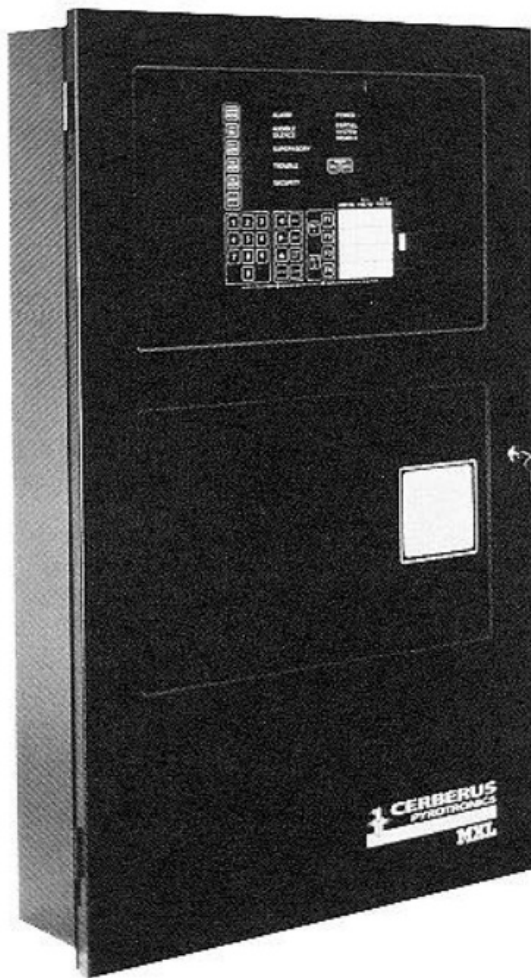




# CERBERUS PYROTRONICS MXL Advanced Protection System Owner's Manual

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Manual 





**Owner's Manual**

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## **ENGINEER AND ARCHITECT SPECIFICATIONS**

- FirePrint™ Application Specific Detection
- Capacity for over 2,000 Intelligent Input Devices
- Dynamic Supervision of Intelligent Devices
- Security Device Monitoring
- Sprinkler Supervision
- Intelligent/Analog Detection Circuits, Style 6 (Class A) or Style 4 (Class B)
- Detector Sensitivity Readout/ Printout per NFPA 72 Chapter 7
- Style D (Class A) or Style B (Class B) Conventional Initiating Circuits
- Style Z (Class A) or Style Y (Class B) Notification Appliance Circuits
- Degraded Mode Operation
- Distributed Processing
- 80 Character Backlit Alphanumeric Display

- Thermal Strip Printer
- Supervised Remote Printer
- 32 Character Custom Messages
- Multiple Command Stations
- Compare System Software
- Fully Field Programmable Via Laptop Computer
- Menu Driven Operator Commands
- Central & Distributed Architecture
- ChronoLINK 800 Event History Logging With On Line & Off Line Reports
- User Help Screens
- Multiple Levels of Password Protection
- EnviroLINK — Automatic Environmental Compensation for Smoke Detectors
- One Person Walk Test by Zone or System
- Alarm Verification by Device or Zone
- Logic Controlled Output Functions
- Time Base Controlled Output Functions
- Holiday Schedule
- City Tie/Lease Line
- Coded Outputs
- Supervised Serial Annunciator Driver/Input Interface
- Interactive VDT – Monochrome & Color
- Color Graphics Option
- Complies with NFPA 72
- NEC 760 Power Limited Circuits (UL 864 Compliant)
- 16 Gauge Steel Enclosure
- Listed 864, 1076, ULC Listed
- FM, CSFM, NYMEA, City of Chicago and U.S. Coast Guard Approved
- Pre-action Releasing (NFPA 13)
- FM Approved for Sprinkler & Deluge
- FM Approved for Intrinsically Safe Applications
- Halon & FM-200 Releasing Approval (NFPA 12A & NFPA 2001)
- Multi-Language Display
- Intelligent Interface to Building Management Systems
- Operates as an Interactive Peer with Other MXLs, MXL-IQs or MXLVs in a LifeLink Network
- CXL Command Center Monitoring
- Pre-Alarm Operation
- FireFinder Graphics

## **Description**

The MXL is a microprocessor based advanced protection system. Its use of unique multiprocessor “Network” design along with its ability to utilize both analog and conventional detection devices make it the most flexible and reliable system in the life safety field. The MXL is ideally suited for commercial, institutional and industrial fire, security and control applications. It complies with the requirements of NFPA 72. It is UL 864 and 1076 security listed as well as FM, ULC, CSFM, City of Chicago, U.S. Coast Guard and NYMEA approved. It is also UL listed for

releasing per NFPA 12A, 13 and 2001 for FM-200, Halon, Pre-Action Sprinkler and Deluge.

The basic MXL control unit consists of the following subassemblies: MMB-2 Main Control Board; MPS-6, MPS12 with MMB-2 Power Supply; MKB-2 Annunciator and Key-board; MME-3, MLE-6 or MSE-2 Enclosures.

Optional modules which can be installed with the MXL System include: MOM-2/4 Expansion Card Cage; ALD-2I Analog Loop Driver; CRM-4 Controllable Relay Module; NIM-1R Network Interface Module; REP-1 Network Repeater Module; XLD-1 "X" Series Loop Driver; CSM-4 Controllable Signal Module; CZM-4 Conventional Zone Module; PIM-1 Peripheral Interface Module; CMI-300 CXL Modem Interface Module; MOD-16 Output Driver; MOI-7 Network Interface; MID-16 Input Module; PSR-1 Remote Supply; MPS-12 DC Supply; MXL-VDT Interactive Video Display Terminal; NET-4 Style 4 Network Interface; NET-7 Style 7 Network Interface; MXL-G Color Graphics; MXL-GT Color Terminal; a full range of "I and IL" Series intelligent detectors and devices (see data sheets).

### **MMB-2 Main Control Board**

The function control of the MXL is contained on the MMB-2 Main Control Board. The MMB-2 controls, operates and monitors input device identity, network communications as well as operator commands that are entered through the MKB annunciator/keyboard. All operations are supported by either the MPS-6 or the MPS-12 power supply, eliminating the need for external power supplies. The MMB-2 is a direct replacement of the MMB-1 therefore providing total backward compatibility.

The MMB-2 provides 2 ALD (Analog Loop Driver) circuits. Each ALD loop can be configured as Style 4 (Class B) or Style 6 (Class A) and can monitor and control up to 60 Cerberus Pyrotronics analog input devices and 60 programmable device relays. The MMB-2 is equipped with 2 programmable and codable Style Y (Class B) or Style Z (Class A) notification appliance circuits. Each circuit can activate up to 1.5 amps of Cerberus Pyrotronics audible and visual notification appliances.

The MMB-2 includes a built-in battery charger and transfer circuit. The charger is microprocessor controlled and incorporates a brownout circuit that switches the system to standby batteries during the loss and reduction of the primary source AC. Upon command, the system is capable of displaying the real time, battery voltage, AC voltage and the charge current and other power data on the MKB alphanumeric display. It also has a 1 amp, 24 VDC output that powers the CZM-1 modules. The MMB-2 is designed with a built-in mounting bracket.

The MMB-2 mounts directly to the MBR-MP mounting plate for mounting in either the MME-3 or MME-6 backbox enclosure. The MMB-2 can also be mounted in the MBR-2 or MBR-1 enclosures. MBR-1 requires additional mounting brackets.

The on-board 16 bit microprocessor along with nonvolatile EPROM and Flash memory allow the system to be custom configured to meet a wide range of customer requirements. The MMB-2 provides a port for connection to a laptop computer allowing for off-line field programming. Complete system configuration can be easily uploaded, downloaded, edited and changes verified using AccuLINK™ custom programming software with integrated Compare™ system software. Program options include but are not limited to EnviroLINK™, smoke detector environmental compensation with two maintenance alert levels, ChronoLINK™ history logging, output control by event, check and change time based control, detector sensitivity, alarm verification by device or zone, 32 character custom alphanumeric messages, system operation passwords and NAC coding.



**MMB-2**

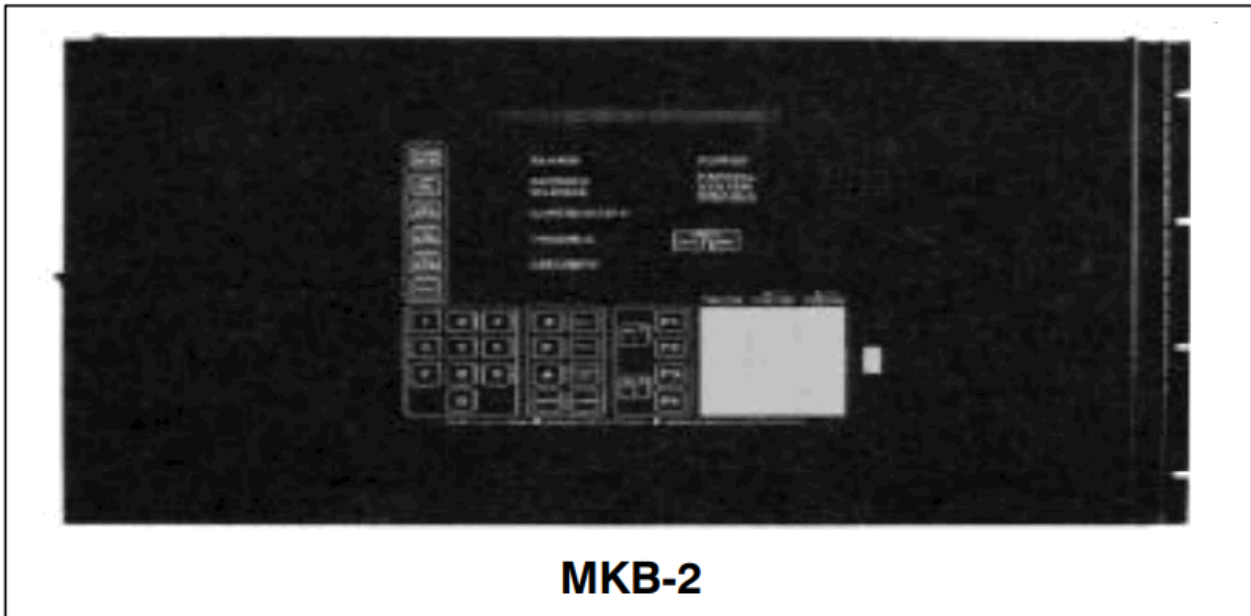
### **MKB-2 Annunciator/Keypad**

The MKB-2 mounts on a hinged frame in the MXL enclosure and provides an 80 character backlit LCD alphanumeric annunciator which continuously scrolls to display information concerning system status along with 32 character user defined device messages. When multiple events occur, the MKB-2 displays the last event of the highest priority. Additional data can be viewed by depressing the NEXT key. At any time, the display scroll can be stopped by depressing the HOLD button. Switches are provided for acknowledging fire alarms, supervisories, security conditions, and system troubles. An individual switch is also provided for silencing the system notification appliance circuits. A separate switch is used for resetting the control panel.

A 10 digit numeric keypad is supplied to allow entry of the user passwords, as well as perform specific menu driven operation, programming and maintenance functions. Another series of switches located on the MKB-2 allows user access to the TSP-40 Thermal Strip Printer, when used. A set of user assignable "Function" keys provide single button access to a variety of system commands. These switches may be used to perform system operation such as "Drill," manual relay control, zone disconnect, etc.

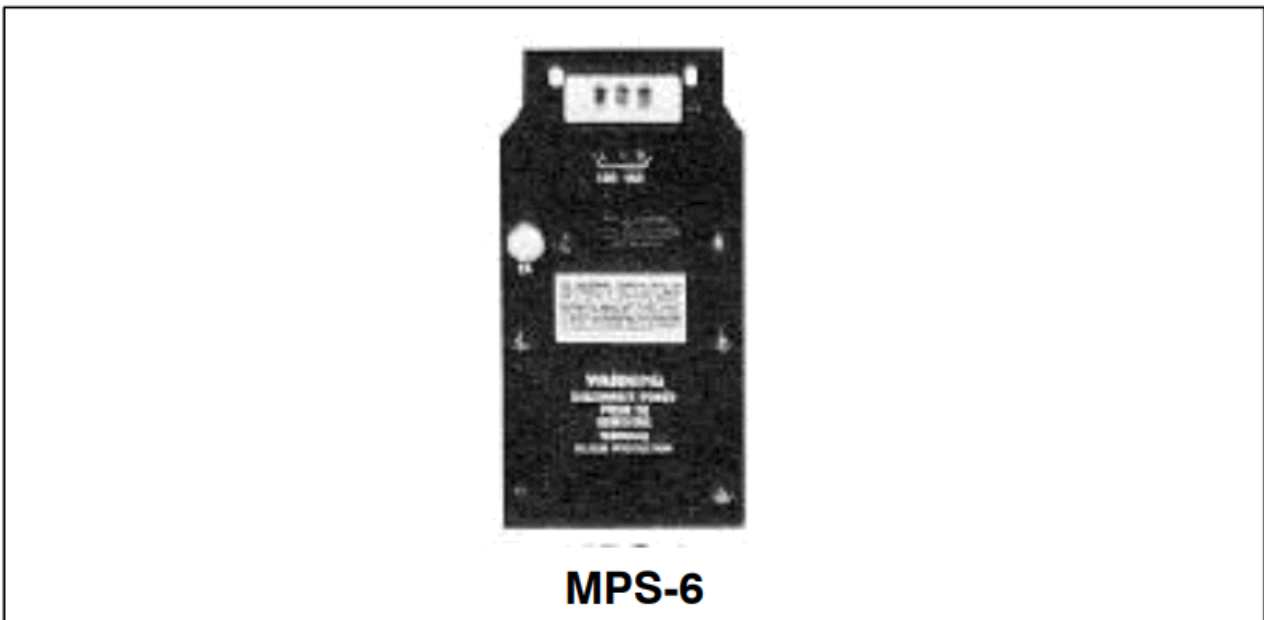
Contained on the MKB-2 annunciator are system status indicator LED's which can function even if the main system microprocessor fails. They provide indication of Main Power On, Fire Alarm, Security Condition, System Trouble, Supervisories, System Audibles Active/Silenced and Partial System Disable.

The MKB-2 Annunciator communicates with the MMB-2 Main Control Board through the system network link.



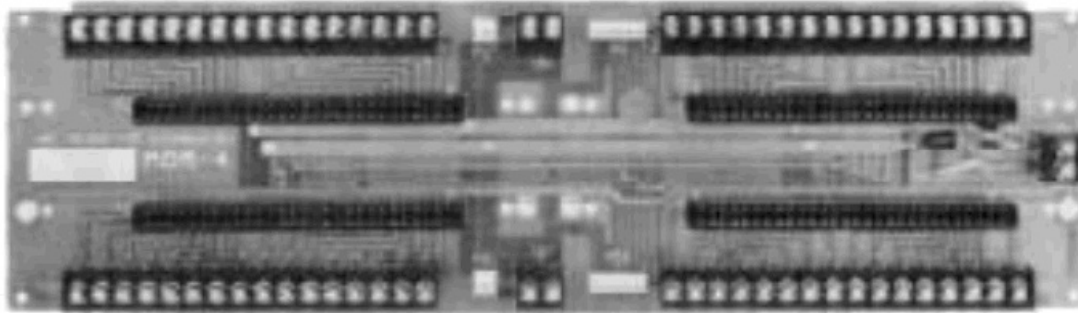
### **MPS-6 Power Supply**

The MPS-6 is a fully supervised power supply which provides the system with primary DC power. It is rated at 6.5 Amps and is unfiltered and unregulated. It supplies the MXL Control Unit and its expansion modules with power required for normal operation. The unit incorporates a resettable circuit breaker on the primary input and includes a built in AC line filter for surge and noise suppression. The MPS-6 mounts in the MXL enclosure backbox.



#### **MOM-4 Network Option Module Card Cage**

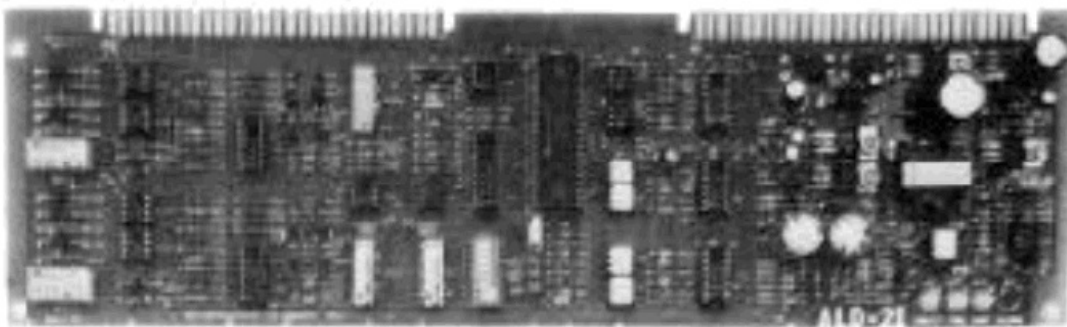
The MOM-4 Card Cage provides the MXL Main Unit or Remote Units with card slots for option modules. Each MOM-4 supplies connection space for either two full width option modules (ALD-2I, CZM-4, NIM-1R, XLD-1) or four half width option modules (CSM-4, CRM-4, CMI-300, NET7, REP-1) or a combination of one full and two half width modules.



**MOM-4**

#### **ALD-2I Analog Loop Driver**

The ALD-2I is an MXL Network option module which supplies two intelligent analog circuits utilizing Cerberus Pyrotronics "I" and "IL" type intelligent devices. It occupies two addresses on the Network and through the use of a unique communication protocol, devices connected to the ALD-2I circuits are dynamically supervised by the MXL control panel. Up to 60 programmable input and output devices may be connected to each of its two circuits. Each circuit may be wired as Style 4 or Style 6.



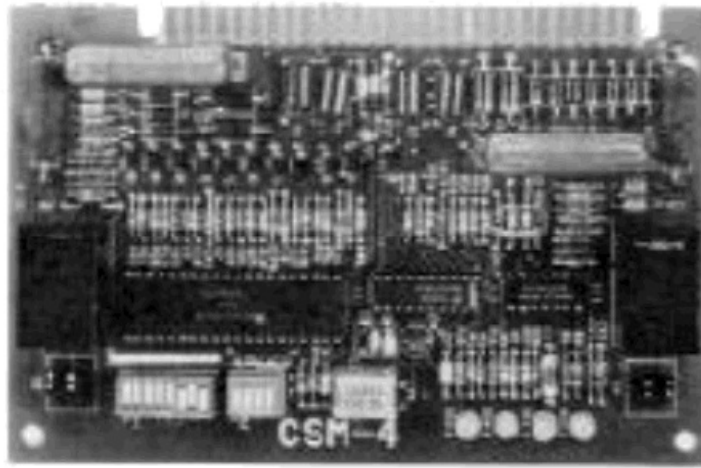
**ALD-2I**

#### **CSM-4 Controllable Signal Module**

The Controllable Signal Module CSM-4 provides two fully supervised, programmable notification appliance circuits.

The CSM-4 supplies two Class B (Style Y) or Class A (Style Z) type output circuits for the supervision and control of listed audible or visual notification appliances such as horns, bells, strobes, etc. Each circuit can provide up to 1.5 amps (24 VDC) of current to power notification appliances. The CSM-4 is also used for extinguishing agent releasing (FM-200, Halon, Pre-Action Sprinkler and Deluge systems). Leased line and municipal tie connections are also possible with the CSM-4.



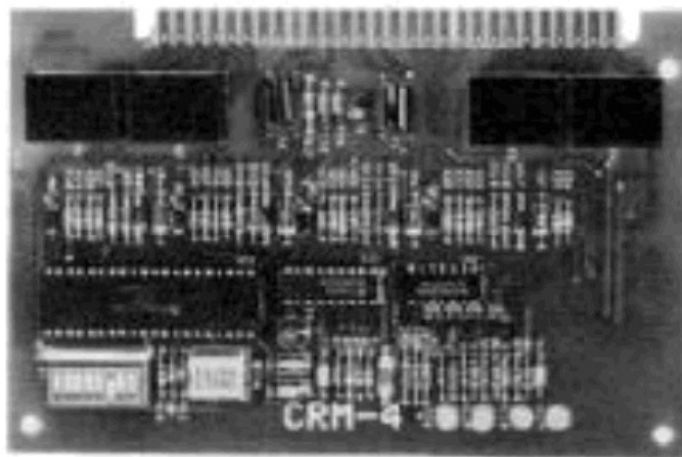


**CSM-4**

#### **CRM-4 Controllable Relay Module**

The Controllable Relay Module CRM-4 is designed to provide auxiliary control of building functions such as door holder release, elevator capture, smoke control, lock release, etc.

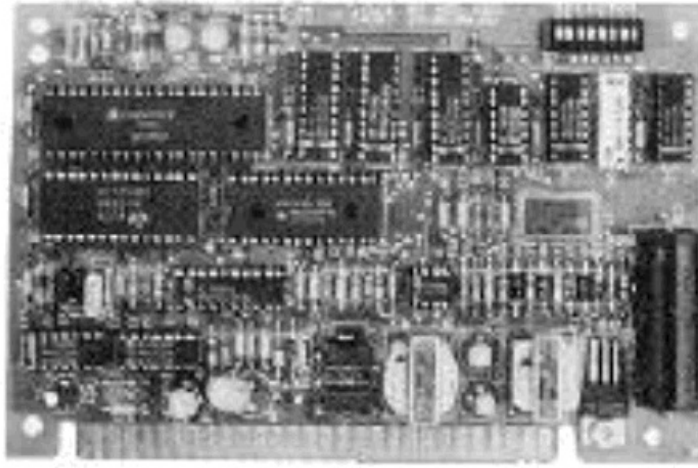
The CRM-4 plugs into one half slot in the MOM-2/4 expansion card cage. It provides four fully programmable relays. Each relay contains one set of SPDT contacts rated at 2 amps 30 VDC/120 VAC resistive.



**CRM-4**

#### **CMI-300 CXL/MXL Interface Module**

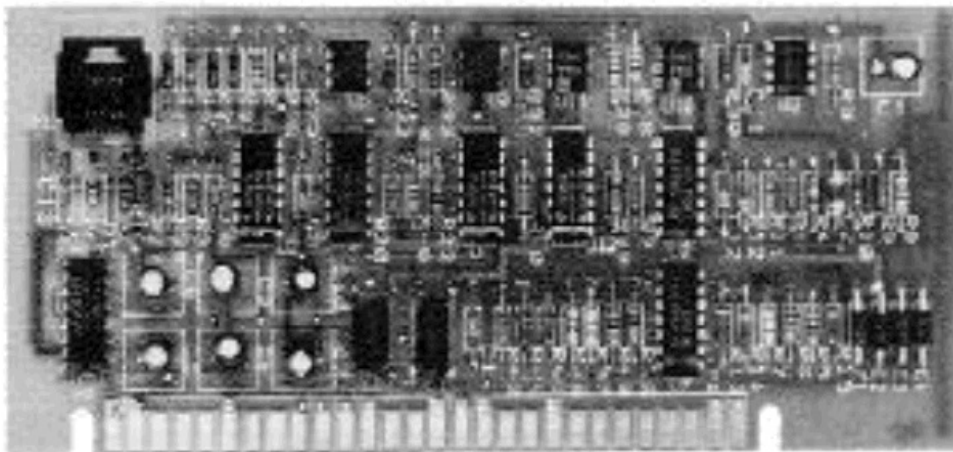
The CMI-300 is an MXL option module which provides modem communication between an MXL and an CXL system. The CMI-300 plugs into any available 1/2 slot on a MOM-2/4 card cage. This interface board translates signals between the MXL network and a CXL and fully supervises signals.



**CMI-300**

#### **NET-4 Communication Module**

The NET-4 is a plug-in type module used to provide communication between the Cerberus Pyrotronics MXL and various other MXL Remote Modules. It is designed to plug into an edge connector type slot on the PSR-1 Network Supply. The NET-4 provides NFPA Style 4 type communication. This communication is RS-485 operating at 19.2K Baud. The communication is fully digital.

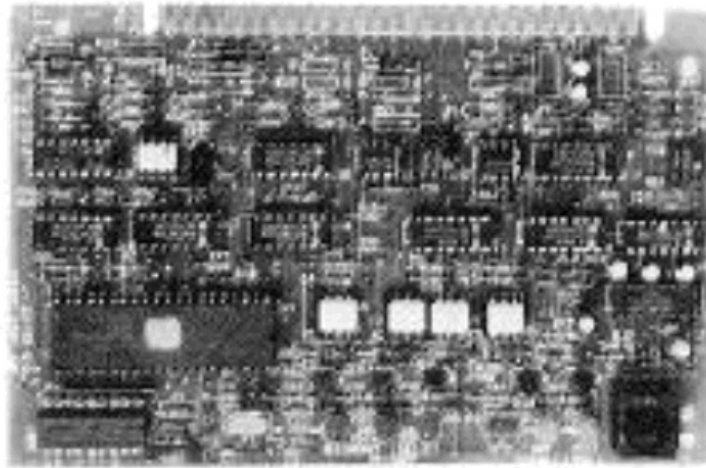


**NET-4**

#### **NET-7 Style 7 Network Interface Card**

The NET-7 is a microprocessor controlled MXL network interface module which allows the wiring of the MXL RS485 network in an NFPA Style 7 configuration. The NET-7 plugs into a half slot of the MOM-2/4 card cage at the MXL command center (MMB-1) and the PSR-1 or MOM-4 slot at the MXL remote units (MXLR, MXLRV). The NET-7 provides two independent and fully supervised communication paths allowing system operation through an open as well as short circuit. It also isolates the power supplies at each remote unit providing the ability to localize ground fault conditions. The communication operates at 19.2K Baud and is digital.

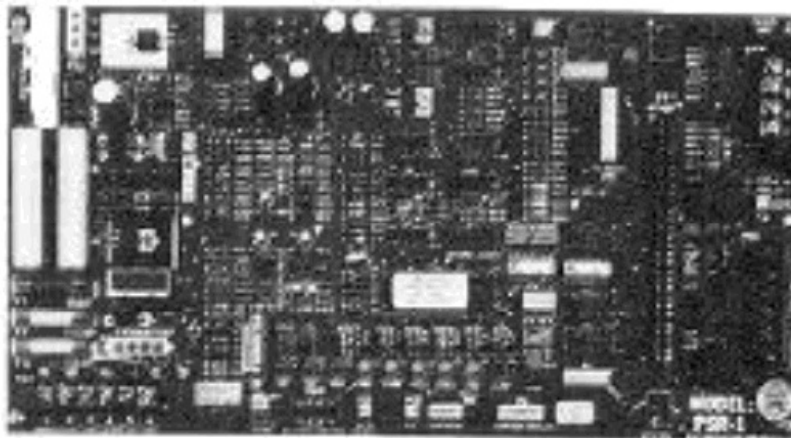




**NET-7**

#### **PSR-1 Remote Power Supply**

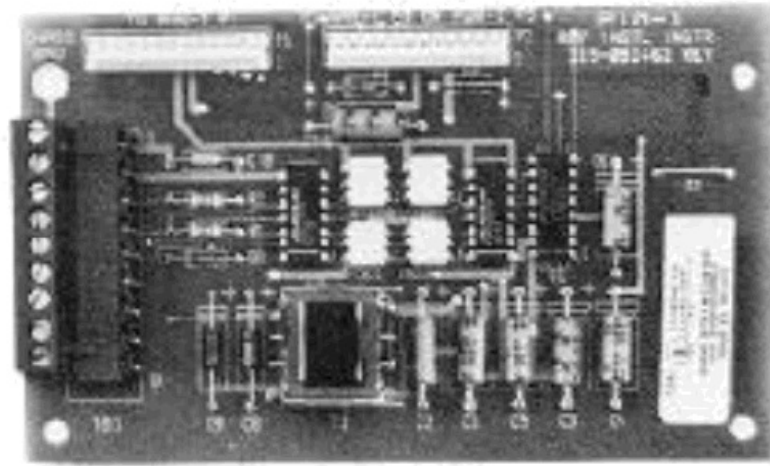
The PSR-1 is a microprocessor controlled remote power supply and battery charger for use with the Cerberus Pyrotronics MXL. It operates in conjunction with either an MPS-6 or MPS-12 to provide 6 or 12 Amps of power for use with various MXL modules. When used with a NET-4 or NET-7 plug-in communication module, the PSR-1 becomes a part of the MXL's RS-485 Network. It acts as an interface between remote option modules and the MXL.



**PSR-1**

#### **PIM-1 Interface Module**

The PIM-1 is an MXL option module which provides a bidirectional isolated RS-232 port for connection to peripheral devices such as printers, CRT's, VDT's and Color Graphics. The PIM-1 mounts in the MXL Enclosure. It connects to the MMB-2 and provides a screw terminal block for connection of RS-232. A number of supervised and non-supervised formats are available.



**PIM-1**

### **MOI-7 Output/Input Module**

The MOI-7 is an MXL RS-485 Network module which provides a fully programmable serial interface to the MOD16 output drivers, MID-16 input drivers. When used with the MOD-16's, it provides a serial annunciator or relay driver. When used with MID-16, it provides programmable inputs.

Each MOI-7 can operate up to eight MOD-16's and eight MID-16's simultaneously. Each MOD-16 output and MID16 input is independently programmable via the MXL custom software.



**MOI-7**

### **MOD-16 Output Driver**

The MOD-16 is an output driver module used in conjunction with the MOI-7 as a part of the Cerberus Pyrotronics MXL System. Up to eight (8) MOD-16s can be connected to an MOI-7 interface module. Each MOD-16 provides 16 open collector current sinking outputs rated at 24 VDC, 50mA. MOD-16 outputs are programmable through the MXL custom software.



**MOD-16**

#### **MID-16 Programmable Input Driver**

The MID-16 is an input module used in conjunction with the MOI-7 as a part of the Cerberus Pyrotronics MXL System. Up to eight MID-16s can be connected to a single MOI-7 along with eight MOD-16 output driver modules. Each MID-16 provides a non-supervised input which can monitor contact devices. Each individual MID-16 input can be separately used as a part of the MXL custom programming logic. These inputs can be individually set for either Alarm, Supervisory, Trouble, Security or Status usage. They can also be configured to provide supervision for lamps driven by MOD-16 outputs. Screw terminals and connectors are provided on the MID-16 modules for interface to monitored devices.

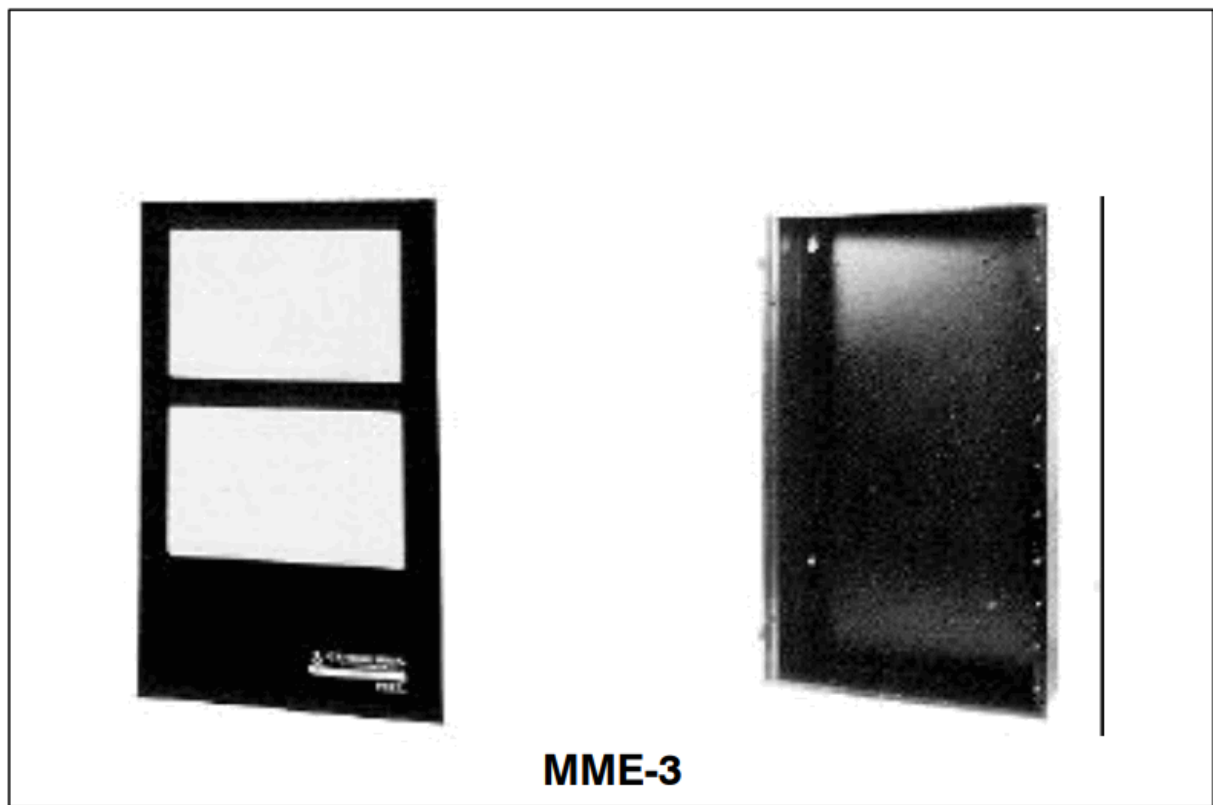


**MID-16**

#### **MME-3 MXL/V Standard Size Enclosure**

The MME-3 enclosure set consists of a sheetmetal backbox and door with keylock. The MME-3 can be used for either the MXL System, MXLV Voice Command Console, MXLR Transponder, MXLRV Voice Transponder or Amplifier Equipment (using the MSR-1 Rail Kit). To mount MXL/MXLV modules in the MME-3, the MBR-MP removeable module mounting plate is required. Using the MBR-MP mounting plate (1) MMB or (1) PSR-1 and up to 3 expansion cardcages (MOM or OMM) can be mounted in the MME-3 enclosure. When used to mount MXL amplifiers (EL-410), the MBR-MP is not required, instead up to (3) EL-410 amplifiers may be installed in the MME-3 by using (3) MSR1 rail kits. When amplifiers are mounted in any enclosure always install MDG-1 grills in the door for proper ventilation.

MME-3 is designed for surface or semi-flush mounting and includes various knockouts for wire and conduit entry. The door in the MME-3 set has two cutouts for either clear lenses, blank plates or grills depending on the application, and contains a key lock.



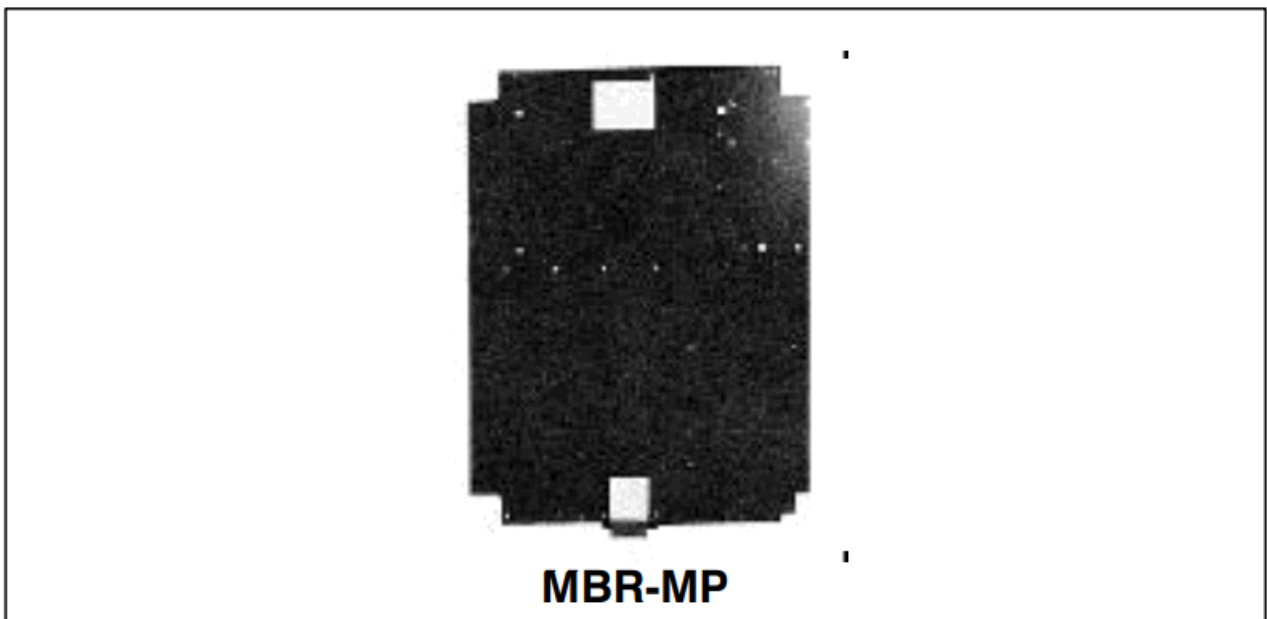
#### **MBR-MP MME-3 and MLE-6 MXL Module Mounting Plate**

The MBR-MP MXL/V Module Mounting Plate is required for use in both MME-3 and MLE-6 enclosures to mount all MXL and MXLV equipment. MBR-MP is not necessary if the MME-3 and MLE-6 enclosures are to be used only for mounting of amplifiers (EL-410).

The MBR-MP is a removeable MXL/V module mounting plate that allows the enclosure MME-3 or MLE-6 to be shipped to the job site for installation of wiring and conduit, while the system hardware (electronics) is mounted to the studs on the MBR-MP, pre-wired, programmed and tested prior to delivery and installation at the job site. This allows for quicker, more efficient system start ups with less chance of the sensitive electronics being damaged while field wiring and conduit are connected to the system enclosure.

MBR-MP mounting plate bolts to either the MME-3 or MLE6 enclosures for easy installation on the job site. The MBRMP also has handles to allow easy transport and mounting. The MBR-MP contains mounting studs for (1) MMB or PSR1, (1) PIM-1, (1) TBM-1, and up to (3) MOM or OMM cardcages or 2 cardcages and (1) TSP-40 Printer (same mounting studs as the MBR-2 enclosures).

The MBR-MP is ordered and shipped separately from the MME-3 and MLE-6 enclosures.

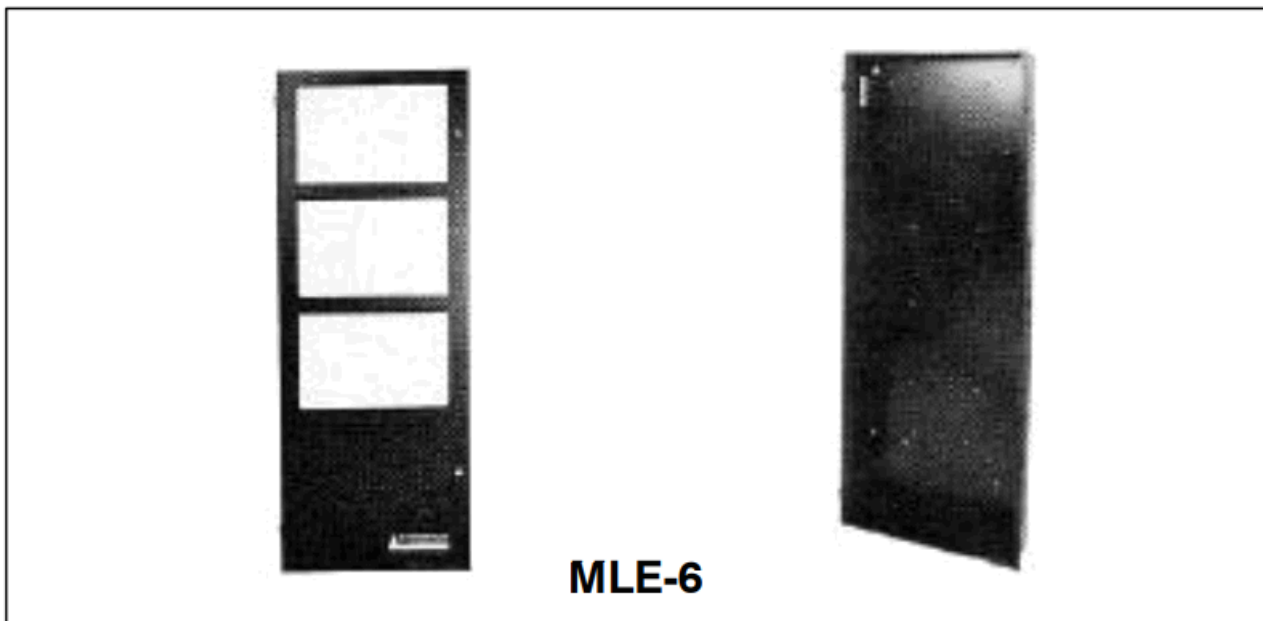


#### **MLE-6 MXL/V Large Size Enclosure**

The MLE-6 enclosure set consists of a sheetmetal backbox and door with two key locks. The MLE-6 can be used for either the MXL system, MXLV Voice Command Console, MXLR Transponder, MXLRV Voice Transponder or Amplifier Equipment (using the MSR-1 rail kit). To mount MXL/V modules in the MLE-6, the MBR-MP removeable module mounting plate is required with the MBR-3MP optionally available for use. Using the MBR-MP mounting plate (1) MMB or PSR-1 and up to (3) expansion cardcages (MOM or OMM) can be mounted in the MLE-6. If additional cardcages are required, the MBR-3MP optional cardcage mounting plate can also be installed in the MLE-6 below the MBR-MP. The MBR-3MP allows mounting of an additional (3) MOM or OMM module expansion cardcages.

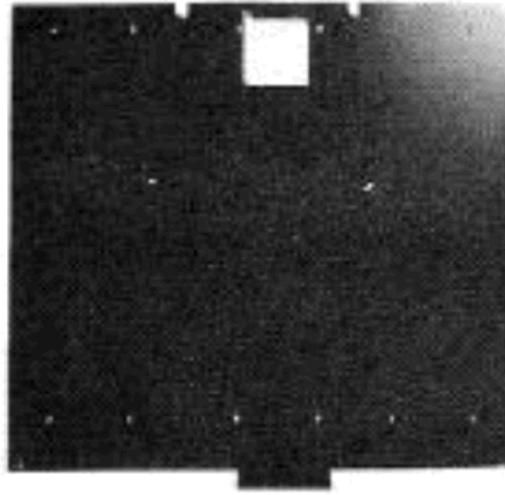
Various combinations of hardware can be installed in the MLE-6. If only amplifiers are to be installed in the MLE-6, no MBR-MP or MBR-3MP plates are required. Instead up to (5) EL-410 amplifiers can be installed by using (5) MSR-1 rail kits. The MLE-6 can also be used to mount up to (3) MXL cardcages and (2) amplifiers. This configuration would be typical of a remote voice transponder cabinet. In this configuration (1) MBR-MP would be used in the upper half of the MLE-6 to mount the MXL modules, while the lower half would use (2) MSR-1 rail kits to mount up to (2) EL-410 amplifiers.

The MLE-6 is designed for surface or semi-flush mounting and includes various knockouts for wire and conduit entry. The door supplied with the MLE-6 set has (3) cutouts for either clear lenses, blank plates or grills, depending on the application. The door also contains (2) key locks — keyed the same. Various combinations of dead front mounting plates are possible with the MLE-6 enclosure. A typical MXLV installation would have (1) MKB-2 at the top, and (2) MHD-3 dead front plates in the middle (for (14) VSM/VLM/ VFM modules per plate) and (1) or (2) MHD-2 lower dead front plates.



#### **MBR-3MP MLE-6 Optional Cardcage Mounting Plate**

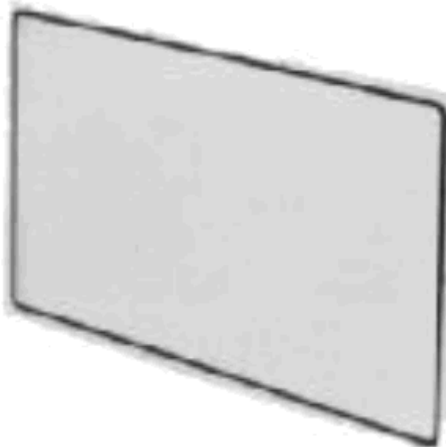
The MBR-3MP is an optional MXL/MXLV cardcage mounting plate for use exclusively in the MLE-6 enclosure. When installed in the MLE-6 backbox, the MBR-3MP adds the option of mounting up to an additional (3) MOM or OMM expansion cardcages.



**MBR-3MP**

**MDL-1 Clear Lens**

The MDL-1 is a clear Plexiglas® lens which fits in either one of the two openings in the MME-3 enclosure door or in one of the three openings in the MLE-6 enclosure door. One lens is included in the MDL-1 package.



**MDL-1**

**MDB-1 Sheet Metal Blank Plate**

The MDB-1 is a sheet metal blank plate which fits in either one of the two openings in the MME-3 enclosure door or in one of the three openings in the MLE-6 enclosure door. One blank plate is in the MDB-1 package.





**MDB-1**

**MHD-1 Upper or Middle Dead Front Panel**

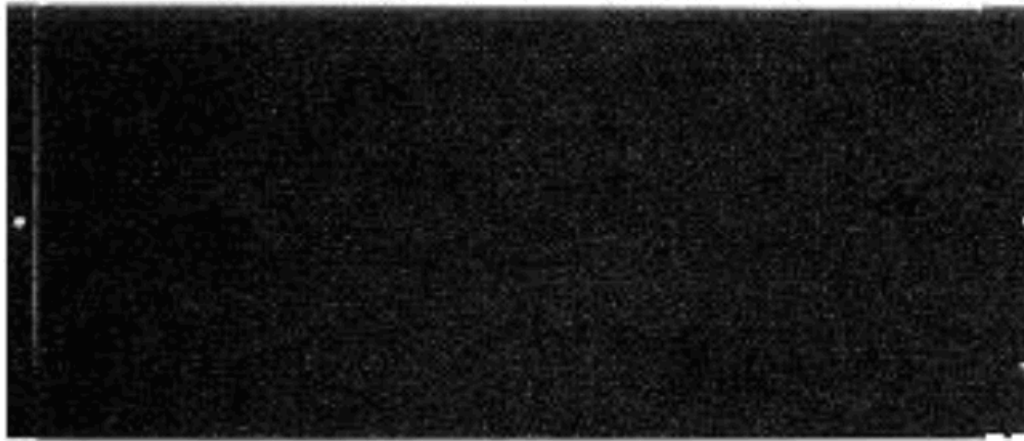
The MHD-1 is a hinged sheet metal panel which attaches to either the MME-3 or the MLE-6 enclosure backbox. It fits in either the upper or the middle section of the MME-3 backbox or the upper or either of the two middle sections of the MLE-6 backbox. It has an opening with a cover plate for the TSP-40 printer when used and attaches to the backboxes with screw fasteners. When in place it covers and protects modules and wiring, providing dead front construction in that area.



**MHD-1**

**MHD-2 Lower Dead Front Panel**

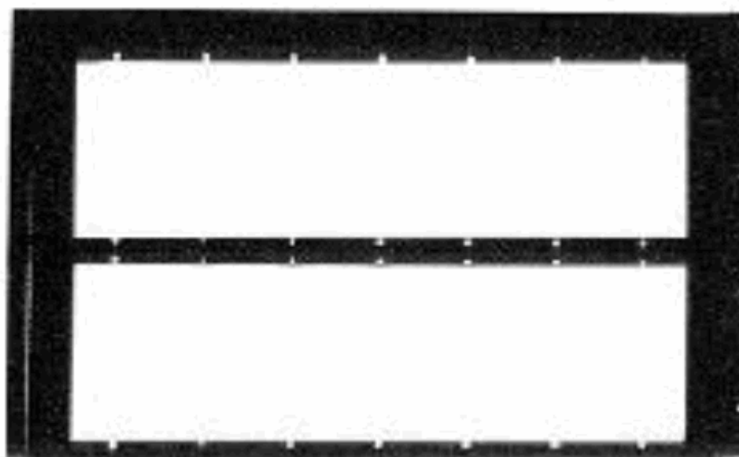
The MHD-2 is a hinged sheet metal panel which attaches to either the MME-3 or the MLE-6 backboxes. It mounts in the lower section on the MME-3 and on the lower two sections of the MLE-6 backbox. It has no openings and attaches to the enclosures with screw fasteners. When in place, it covers and protects modules and wiring, providing dead front construction in that area.



**MHD-2**

**MHD-3 Middle Dead Front Plate for Mounting Switch/LED/Fan Control Modules**

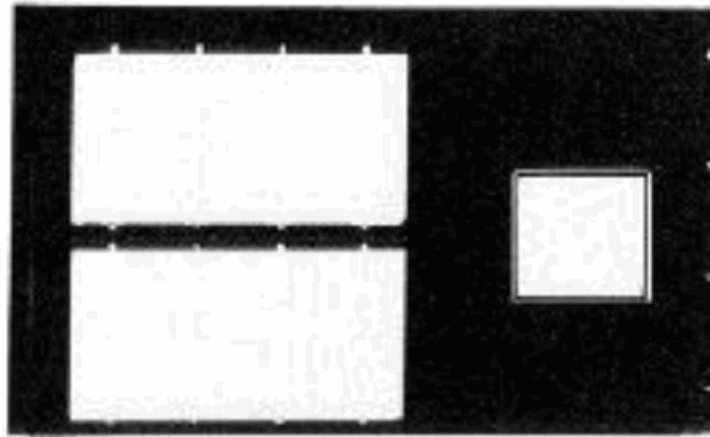
The MHD-3 is a hinged sheet metal panel that attaches to the MME-3 or MLE-6 backboxes. It fits in either the middle or the upper sections of these enclosures. It has openings for two rows of VSM-1 Switch Modules, VLM-1 LED Annunciator Modules, VFM-1 Fan Control Modules or VSB-1 Blank PLates. Each row can mount up to (7) modules for a total of (14) modules per MHD-3. The MHD-3 attaches to the backboxes with screw fasteners. It is hinged for easy access to the rear of the modules and inside of the enclosure.



**MHD-3**

**MHD-4 Middle Dead Front Plate for the Switch/LED/ Fan control Modules with Printer Cutout**

The MHD-4 is a hinged sheet metal panel that attaches to the MME-3 or the MLE-6 backboxes. It fits in the middle section of both enclosures. It has two rows for mounting of VSM-1 Switch Modules, VLM-1 LED Annunciator Modules, VFM-1 Fan Control Modules or VSB-1 Blank Modules. Each row has space to mount (4) modules, for a total of (8) modules per MHD-4. The MHD-4 also has a cutout to display the TSP-40 Internal Thermal Strip Printer. The MHD4 mounts to the backboxes with screw fasteners. It is hinged for easy access to the rear of the modules and inside of the enclosure. When in place, it covers and protects modules and wiring, providing dead front construction in that area.

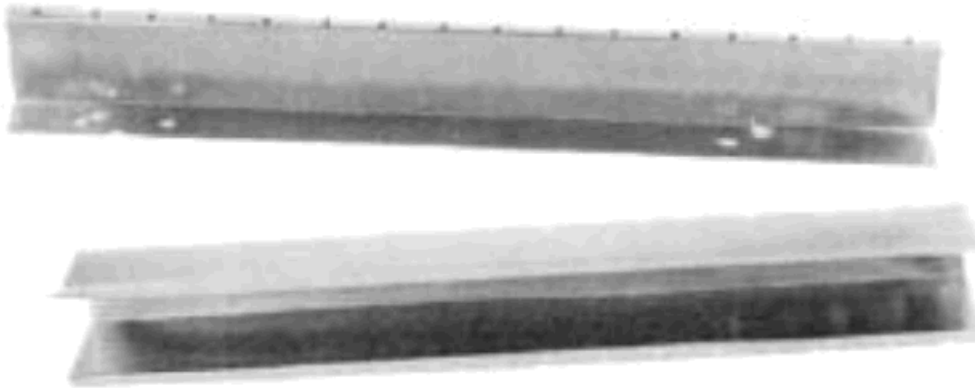


**MHD-4**

### **MSR-1 Rail Kit**

The MSR-1 is a System 3 type rail kit which fits into either the MME-3 or the MLE-6 enclosures. The MSR-1 comes with a U-bracket and a Z-bracket. It allows modules such as the EL-410 amplifier, PS-35 Power Supply, BC-35 Battery Charger, MOI-7 I/O Interface, MID-16, MOD-16, PS-5A, SYS3-MPFO for mounting the D2300CP fiber optic interface modules or the CCU interface, or any other System 3 type module required to be mounted in the MME-3 or the MLE-6 enclosures.

When used in the MME-3 enclosure (3) MSR-1 Rail Kits can be installed to mount up to three rows for up to (3) EL-410 amplifiers. When used in the MLE-6, up to (5) MSR-1 Rail Kit rows can be installed to allow mounting up to (5) EL-410 amplifiers. When the MLE-6 enclosure is used with the MBR-MP mounting plate to install MXL or MXLV equipment, up to (2) MSR-1 Rail Kit rows can also be installed in the MLE-6 for mounting of either (2) EL-410 amplifiers or some complement of System 3 type mount modules.



**MSR-1**

### **MXL-VDT Interactive Video Display Terminal**

The MXL-VDT is a 14" amber monitor with detachable keyboard. It provides an interactive terminal for secondary display of MXL information, and operation of MXL functions such as Acknowledge, Silence and Reset, as well as arming and disarming devices. It also provides a means for generating system reports such as listing smoke detector sensitivity settings and voltages, battery and power supply voltages and current, and displaying the ChronoLINK event log. A printer may be connected to the MXL-VDT.



**MXL-VDT**

### **MXL-G Color Graphics**

MXL-G is a PC based color graphics display package designed for use with the Cerberus Pyrotronics MXL system. It is used to monitor alarms, supervisories, troubles and security violations as detected by the MXL. Up to 10 levels of zoom screens can be associated with each device. It also acts as a fully interactive operator terminal with disk based event logging. PC ordered separately.



**MXL-G**

### **MXL-GT Color Interactive Terminal with History Reporting**

MXL-GT is a PC based color terminal for use with the Cerberus Pyrotronics MXL system. It consists of a serial interface module and software which allow a standard PC to act as a fully interactive secondary operator terminal as well as providing a comprehensive disk based event logging. PC ordered separately.



**MXL-GT**

#### **TSP-40 Thermal Strip Printer**

The TSP-40 is a thermal strip printer designed for use with the Cerberus Pyrotronics MXL system. It mounts in the MXL enclosure and its printout is visible through a window in the locked enclosure door. Printouts are automatically spooled on a take-up reel for easy record storage.



**TSP-40**

#### **RCC-1 Remote Command Console**

The RCC-1 is a remotely located MXL annunciator display module. The RCC-1 contains an 80 character LCD display and control keypad (MKB) and a PS-5N7 network interface. RCC-1s can be located anywhere that control or annunciation is required. RCC-1 can be programmed for display only or can provide display and system control. If a PIM-1 is added to the RCC-1, remote printers, VDT, or graphics computers can be located throughout a facility.



**RCC-1**

### **MPS-12 Power Supply**

The MPS-12 is a fully supervised power supply which provides the system with preliminary DC power. It is rated at 12 amp. and is unfiltered and unregulated. It supplies the PSR-1 and its expansion modules with power required for normal operation. The unit incorporates a resettable circuit breaker on the primary input and includes a built-in AC line filter for surge and noise suppression. The MPS-12 mounts in the MXL enclosure backbox.



**MPS-12**

### **PIM-2 Parallel Printer Interface**

The PIM-2 is an MXL or CXL parallel printer interface module. PIM-2 connects to PIM-1 to allow MXL connection and supervision of any EDP UL listed printer.





**PIM-2**

#### **PAL-1 UL Listed Parallel Printer**

The PAL-1 is a UL listed supervised parallel system printer for MXL or CXL. The PAL-1 connects to the PIM-2 and PIM1 to provide MXL with a UL listed parallel printer that is supervised.



**PAL-1**

#### **MSE-2 MXL Small Enclosure**

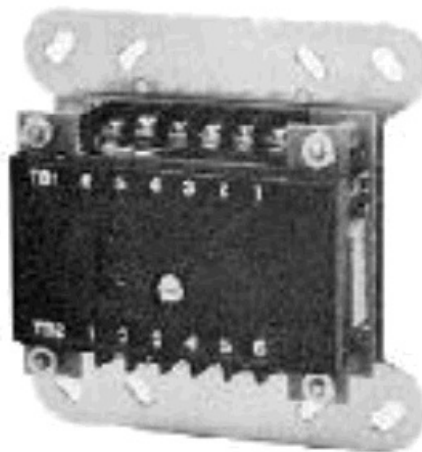
The MSE-2 is a small MXL enclosure capable of housing an MMB-1 or PSR-1 and MPS-6 or MPS-12. When expansion is required the MSE-2 provides for mounting of either one (1) MOM-2 or OMM-2. MSE-2 is part of the MXL-SS and MXLV-SS packages.



**MSE-2**

### **ICP Intelligent Control Point**

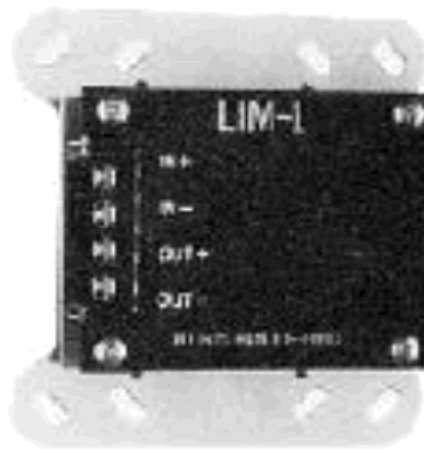
The ICP is a field mounted output module capable of being programmed to be either a remote bell or horn, speaker or telephone zone. The ICP communicates with the MXL via the ALD loop.



**ICP**

### **LIM-1 Line Isolator Module**

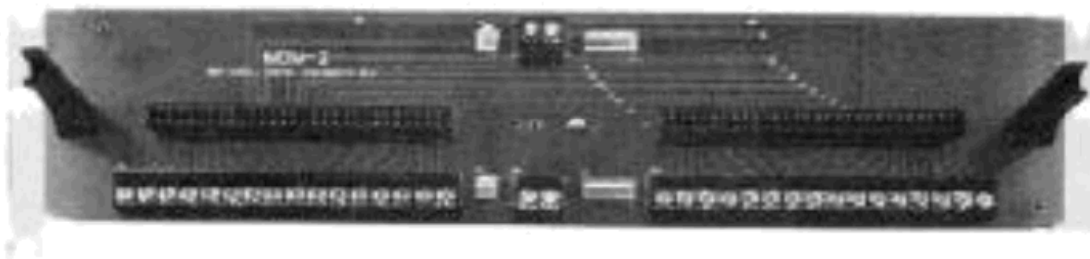
The LIM-1 is a short circuit isolator module for use on the MXL's analog loops. The LIM-1 is capable of providing Style 4 or Style 6 wiring of ALD loops. Multiple short circuit isolators can be used on a single ALD loop to prevent loss of protection in the event of a short circuit.



**LIM-1**

#### **MOM-2 Network Option Module Card Cage**

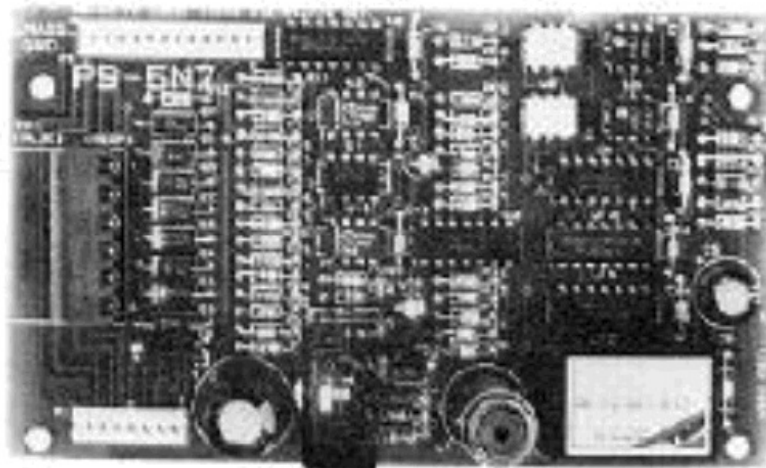
The MOM-2 provides the MXL main unit, remote units or MXL small enclosures (MSE-2) with card slots for optional modules. Each MOM-2 provides space for one full-width (ALD-2I, CZM-4, NIM-1R) or two half-width optional modules (CSM-4, CRM-4, CMI-300, NET-7, REP-1).



**MOM-2**

#### **PS-5N7 5 Volt Power Supply/Network Interface**

The PS-5N7 is a 5V power supply and MXL local network interface module. The PS-5N7 is an integral part of the RCC-1. The PS-5N7 can be used to provide a Style 4 or Style 7 network interface for either a remote transponder for MXLV with either TBM-2, ACM-1 and VSM-1/VLM-1/ VFM-1 or to drive OMM-1 and associated MXLV cards.



**PS-5N7**

### **FireFinder NCC-G — Network Color Graphics**

FireFinder is a PC based color graphics display and control package designed for use with the LifeLINK network and provides full control and annunciation for a LifeLINK network of up to 63 MXL-IQ or MXL systems. The NCC-G is used to monitor and control alarms, troubles, security, supervisory and all system events from one of many MXL series systems. The NCC-G maintains an extensive history log of all system events and has extensive report generation capabilities. User programmable function buttons are programmable to allow site specific control function configuration. Multiple NCC-Gs may be connected to a LifeLINK network. PC ordered separately.

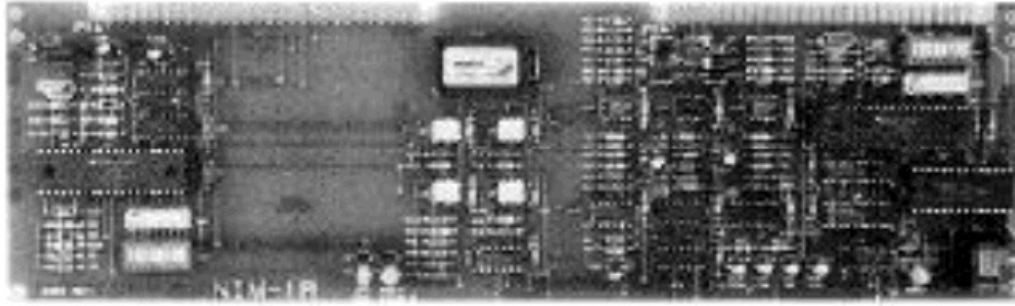


**FireFinder NCC-G**

### **NIM-1R Network Interface Module**

The NIM-1R is a full sized slot MXL module that allows the interconnection or networking of up to 63 MXL systems.

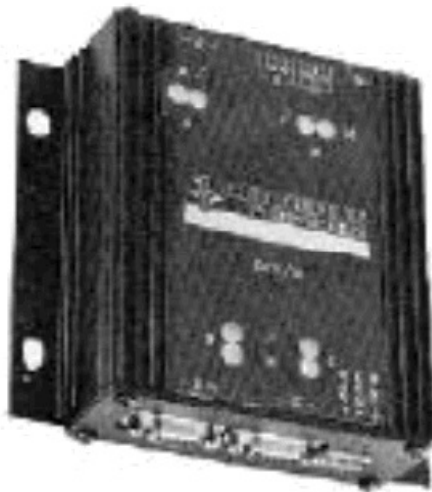
The NIM-1R provides an RS-485 communication path in either Style 4 or Style 7 wiring configurations. The NIM-1R allows MXLs to have interpanel logic and communicate in a peer to peer fashion. The NIM-1R can be programmed via CSGM logic as an FSI (Foreign System Interface) to communicate with external building control and annunciation systems.



**NIM-1R**

#### **CCU/M Alphanumeric Pager Interface**

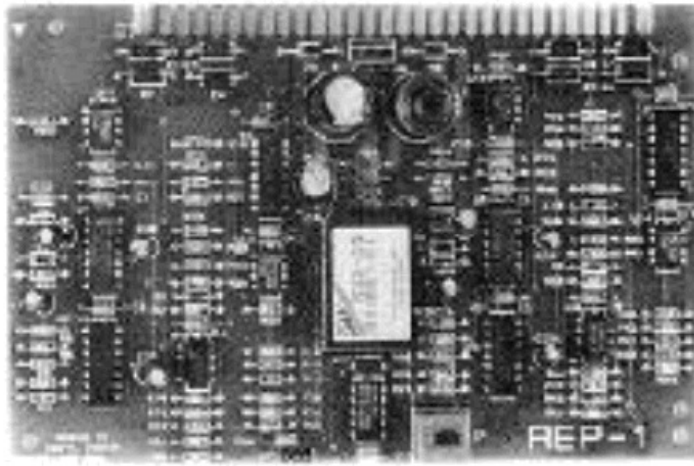
The CCU/M is an ancillary module that connects to the PIM1 to transmit MXL status information in text message format to an alphanumeric pocket pager. The CCU/M can be connected to an existing phone line and can dial out to a pager using its onboard modem to transmit information via a paging service. The CCU/M can also connect directly to an existing on-site paging system. Through programming the CCU/M can send different types of events to different pagers. Up to 8 different messages can be sent to pagers directly from the CCU/M. Alarms, Troubles, Supervisory, Security, Arm/Disarm, Status Points, Audible Status, and Reset can be directed to all or only certain alphanumeric pocket pagers.



**CCU/M**

#### **REP-1 Network Repeater Module**

The REP-1 is a 1/2 slot MXL network module that provides the ability to configure the MXL's local or global networks in a star or daisy chain configuration. The REP-1 provides two Style 4 or one Style 7 RS-485 network circuits. Through the use of the REP-1, the MXL's local network (MXL-MXLR) can be expanded up to 64 nodes.



**REP-1**

## **MMB-2**

### Electrical Specifications for Analog Loop Devices

#### 1. Electrical Ratings:

Supervisory: 24VDC peak, 30mA max.

Alarm: 24 VDC peak, 30mA max. (60 devices in alarm)

#### 2. All wiring must be in accordance with Article 760 of NEC or local building codes.

#### 3. Only Cerberus Pyrotronics devices may be used. (See

Table 1) A maximum of 60 devices in any combination may be connected to a single analog loop.

#### 4. No end of line device required.

#### 5. Both circuits are power limited to NFPA 70/NEC. Each detector or group of detectors, requires a two wire circuit of minimum 18 AWG thermoplastic fixture wire enclosed in a conduit or minimum 18 AWG limited energy shielded cable without conduit, if permitted by local codes.

#### 6. Total circuit resistance must not exceed 100 ohms.

Maximum capacitance:

0.4 $\mu$ F between + loop and – loop

0.8 $\mu$ F between + loop and chassis

0.8 $\mu$ F between – loop and chassis

#### 7. T-tapping is not allowed on Class A loops

## **MMB-2 AUX Power**

#### 1. AUX power is available on TB5 terminals 9-12

#### 2. All wiring must be in accordance with Article 760 of NEC or local building codes.

#### 3. AUX power is power limited to NFPA 70/NEC 760.

#### 4. Electrical Ratings: 18-31 VDC, 1A max.

## **MMB-2 Notification Appliance Circuits (TB5, 1-4 and TB5, 5-8)**

#### 1. These notification appliance circuits are for alarm notification appliances only (NFPA 72 Local). For Municipal



- tie (NFPA 72, Chapter 4 ) or Leased Line (NFPA 72 Chapter 4), use model CSM-4.
2. All wiring must be in accordance with Article 760 of NEC or local building codes.
  3. Both notification appliance circuits are power limited to NFPA 70/NEC 760.
  4. Electrical Ratings: Supervisory 18-31 VDC, 12mA max Alarm 18-31 VDC, 1.5A max.
  5. End of Line Device: EOL 2.2K, 1/2W (P/N 140-820380)
  6. Line Resistance: Not to exceed 3 ohms max

#### **MXL Compatible Analog/Intelligent Devices**

<b>Model</b>	<b>Description</b>	<b>Installation Instructions</b>
CZM-1	Conventional Zone Module	315-090725
ILI-1/1H/1A/1AH	Intelligent Ion Detectors	315-092724
ILP-1/IPLT-1	Intelligent Photo Detectors	315-092594
ILT-1	Intelligent Heat Detectors	315-093336
ILI-1B/1BH	Intelligent Ion High Vel.	315-093234
ILP-2	Intelligent Photo Detector	315-095028
MS1-10B/2013	Intelligent Manual Station	315-093329
MS-MI	Intelligent Metal Manual	315-092169
TRI-B6/B6D/B6R	Intelligent Monitor Module (single/dual and with relay)	315-093315
TRI-B6M	Intelligent Mini-Monitoring Module	315-094547
ICP	Intelligent Control Point	315-092471
LIM-1	Line Isolator Module	315-092135



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 April 1997  
**Supersedes sheet dated 1/95**

## Documents / Resources



[CERBERUS PYROTRONICS MXL Advanced Protection System](#) [pdf] Owner's Manual  
MXL Advanced Protection System, MXL, Advanced Protection System, Protection System

## References

- [Fire Alarm Resources | Download fire alarm documents](#)
- [cerbpyro.com](http://cerbpyro.com)