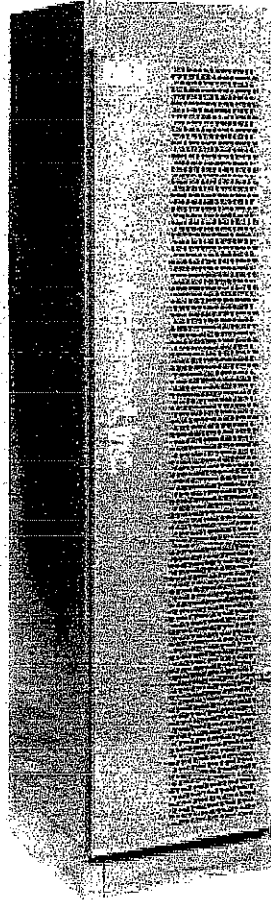


EDI

MX System Dimmer Bank



Users Manual

Introduction

This manual is to accompany the MX series dimmer rack by Electronics Diversified Inc. We believe you will find our equipment reliable and well suited to your purpose. In the next few pages we will be giving you further information about the operation and maintenance of the MX series dimmer rack. As always, our local representatives will be very pleased to help you. If you need further information or assistance, you may be directed to our factory technical and sales staff. Our Hillsboro factory number is noted below and at the back of this book.

The MX

This rack is designed to accommodate the MX series dimmer modules. There are several different modules. The difference lies primarily in the functional characteristics of the particular module. You may find it useful to inspect the rack to determine which type(s) of modules are being employed.

There are three sizes of two dimmers per module MX series dimmer rack, the quarter size, the half and the standard. Operationally they are identical.

At the top of each rack is a window giving some functional information about the rack. Part of this are two LEDs indicating the status, that is; one which indicates everything is okay, the other means there is some problem within that particular rack.

Just below this is the Multi Link Intelligent Control Module. Stacked down from this unit are the dimmer modules. Note there may be more than one type of module in your rack.

Behind and to either side of the modules are the electrical connections, the busses. These last are likely to be electrically charged at high voltage, please exercise caution.

You will find more detailed information about your rack in the specifications materials and also in the Installation Manual. For the purposes of normal operation and maintenance we provide the information contained in this Users Manual.

EDI 24 hour Service / Support Network.

For technical questions or operational assistance please call Customer Service at:

1-800-547-2690

This User's Manual is supplied with your MX Dimmer Bank. Copies of this manual may be obtained from Electronics Diversified, Inc. for a nominal charge.

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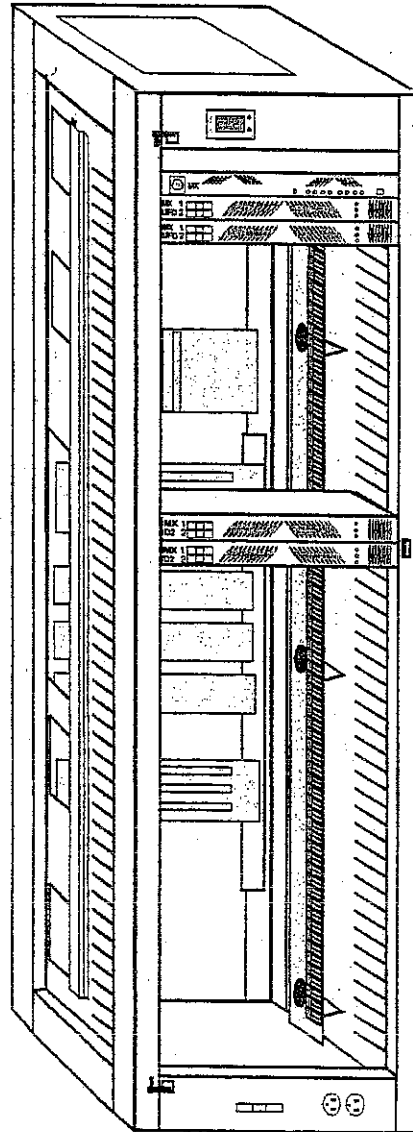


Table of Contents

Introduction	2
Illustration	3
Installation, Door Removal	
Operational Note, Programmer	4
Programmer	5
Control Module, Dimmer/Rack	
Maintenance, Dimmer Removal	6
Troubleshooting	7
Parts, Service	8
Registration	9

MX Dimmer Bank Isometric Diagram

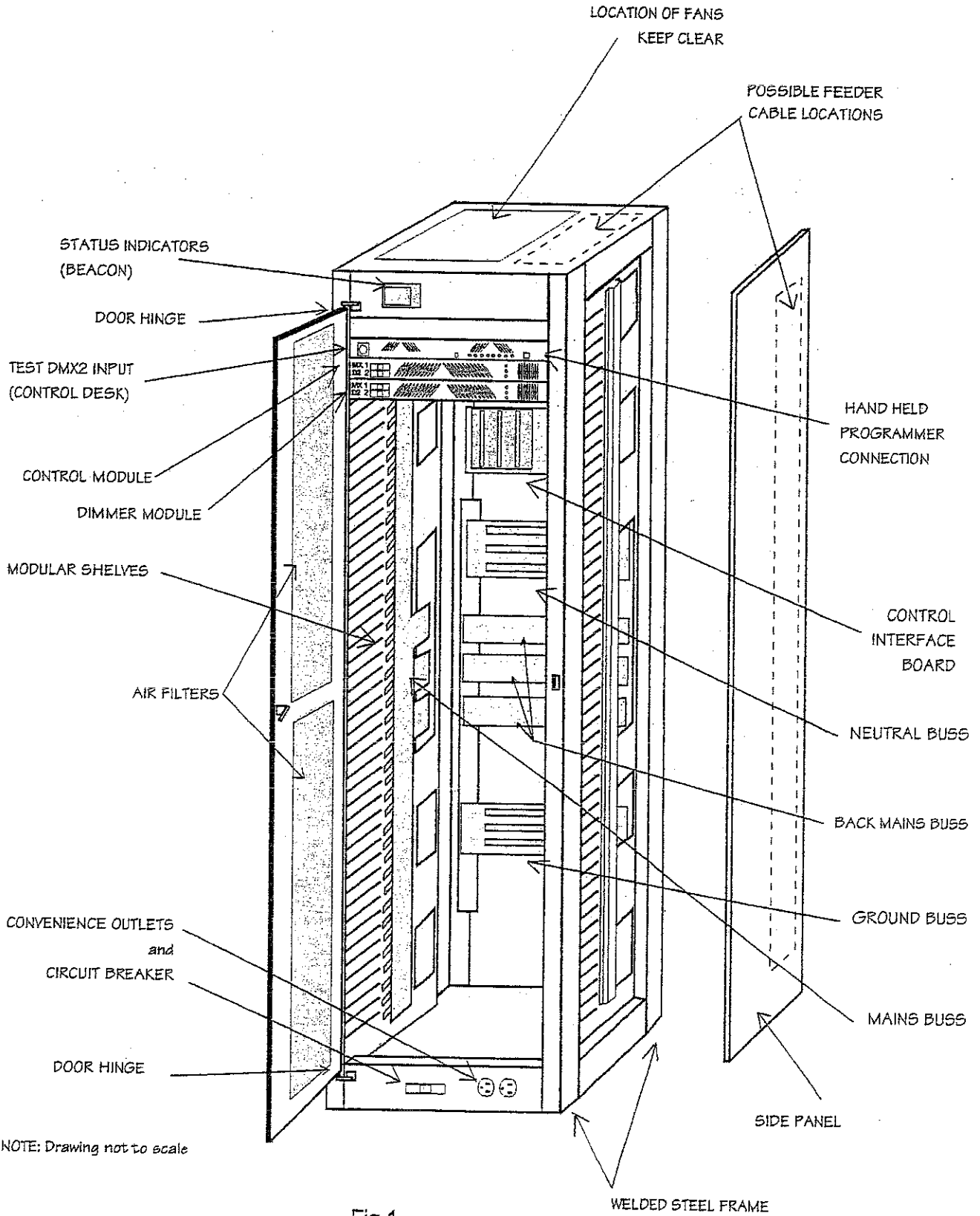


Fig.1



Installation

For proper operation, the racks must be level, plumb and square. If the rack is not level it will be difficult to install and remove the dimmer modules.

Racks should be securely mounted to the floor and to the wall if necessary. Holes are provided in the floor of the rack for this purpose.

Removing / hanging the Door

The door is easily removed and re-hung. It may be useful to remove the door for maintenance or service.

A key is required to operate the cam-style locks.

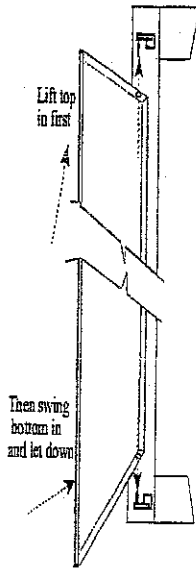
To remove the door, lift the entire door up so the lower hinge pin is disengaged.

Angle the door out at the bottom and allow it to drop down off the top hinge pin.

To replace the door, follow the reverse of the above procedure.

Notice the top hinge pin is longer than the bottom, the sequence noted above is the only easy way to hang or remove the door.

Note: The door latches operate only with a key supplied by EDI. If You need replacement keys, please contact our Customer Service Dept.



WARNING:

Maximum ambient operation and storage environment for this equipment is 104°F (40°C), with 90% humidity, non-condensing.

Extreme caution is advised when liquids, food and cigarettes are near any equipment.

During severe electrical storms, equipment should be disconnected.

Failure to adhere to these requirements may result in malfunction or serious damage.

Operational Notes:

The modules are easily installed and removed without tools. Since it is possible you have different types or rated modules, we suggest the rack be closed and locked at all times.

It is likely the modules are installed in a specific order to correspond to the wiring of the rack. Keeping the door closed and locked may prevent the modules being moved without reference to this order.

The cooling efficiency of the rack may be seriously compromised by the door being left open or removed, or by unfilled dimmer slots. If this results in a dimmer(s) overheating, the affected dimmer(s) will shut down and not operate until the temperature has dropped to the operational temperature range.

MX Multi-Link Hand-held Programmer

The hand-held, sometimes called "Remote" programmer ships with each MX system. This unit plugs into the control module and provides user access to the programmable features.

Using The Programmer

There are five Screens accessible through the Remote:

- Patch A
- Patch B
- Backup
- Profile
- Setup

1. Patch A

Patch A* Dim.01
IN1:001 IN2:001

The function of this screen is to assign the DMX address for each input. This can be done on a dimmer by dimmer basis.

IN1 refers to the DMX1 board output.

IN2 refers to the DMX2 board output.

Dim. is followed by the dimmer number in the rack.

The "*" indicates the patch is active.

To Patch:

To activate Patch A: press Patch A twice.

To change Dimmer: press Dimmer up/ down.

To change values:

Look for the ":", this is the Active Input.

Type in the value using the Number Keys.

To switch editing to IN2: press IN2.

Note the ":" has moved to IN2.

To Clear Patch: press Clear twice.

To Set a one to one Patch: press Unity twice.

To assign patch by one number steps:

For IN1, and the dimmer number: press S1.

For IN2, and the dimmer number: press S2.

Example:

To assign a one to one patch, using the S- keys:
 Clear patch by pressing Clear twice.
 Note that the "." is on IN1, and that the Dimmer is on 01.
 (See the illustration above)

If starting the rack at dimmer 97:
 type 097, press S1.

The screen should now show the dimmer as 02 and IN1 should show 98. The value of 97 @ 1 has been recorded. Continuing to press S1 will step through the rack in order, assigning the input on a one to one basis.

2. Patch B

Patch B* Dim.01
 IN1:001 IN2:001

This patch screen operates in the same way as Patch A.

3. Backup

Analog Inputs
 (0-10vdc)

BACKUP Analog 01
 Dim01:000

Digital Inputs
 Closed contact(s)

BACKUP Digital01
 Dim01:000

Constants

BACKUP Constant
 Dim01:000

This screen allows editing and recording the available 12 analog inputs, and the 4 digital inputs. Also accessible here are the constant values.

To switch from Analog, to Digital, to Constant:
 press S2.

To step from one dimmer to the next:
 press Dimmer up/down.

To change the level value:
 press Level up/down.

The changes are recorded automatically.

It is possible to copy the current dimmer levels present in the system. To copy these active incoming values:
 press S1 twice.

The word "save" will appear in the bottom left of the screen.

4. Profile

PROFILE 1
 Lev.000:000

This screen gives access to the output profiles of the dimmers. There are seven slots in this screen, three are open in the standard MX rack.

The four standard slots are assigned as follows:

- Linear
- Square Law
- Advance MX
- User defined

The bottom line of the screen indicates the:
 incoming value (left side) of 0-255
 and: dimmer level (right side) at 0-255.

To move from profile to profile: press S2.
 To change the incoming value: press Level up/down.
 To change the dimmer level out: press Dimmer up/down.

5. Setup

In this set of screens, the Preheat, Profile, Proportional Patch and Non-dim and Hold Time information may be accessed and modified.

With the exception of Hold Time, each of these items may be changed on a dimmer by dimmer basis.

Preheat sets the minimum level of the dimmer. The value range is from 0 to 255.

SETUP Dim.01
 Preheat: 000

Profile sets which profile the dimmer uses. The range is 1 to 7.

SETUP Dim.01
 Profile: 000

Proportion sets the output level of the dimmer as a value which is some proportion of the 0 to 100% value of the input level.

SETUP Dim.01
 Proportion: 000

Example: If the value is set to 204 (80%), the dimmer actual out put will be 80% of the possible total, the input value will show 100%.

Nondim will set the dimmer to turn on or off at the 50% input value.

SETUP Dim.01
 Nondim: 000

A value of 001 sets the dimmer to nondim.

To switch from each screen to the next:
 press S2.

To step through the dimmers:
 press Dimmer up / down.

To change the value:
 press Level up / down,
 or type in a number.

To copy a value to the next dimmer:
 press S1.

The Hold Time screen access the DMX signal processing. This screen sets the time the dimmer will hold a DMX value after the input stops. The time is expressed in multiples of 3 seconds.

SETUP * 3 sec
 Hold Time : 100

Example: An entered value of 100 equals 300 seconds, or 5 minutes.



The dimmer check screen makes it possible to step through the dimmers, bringing each to full output. The value of up full is 225.

SETUP Dim. 01
Dimmer Check

To step through the dimmers:
press Dimmer up / down.

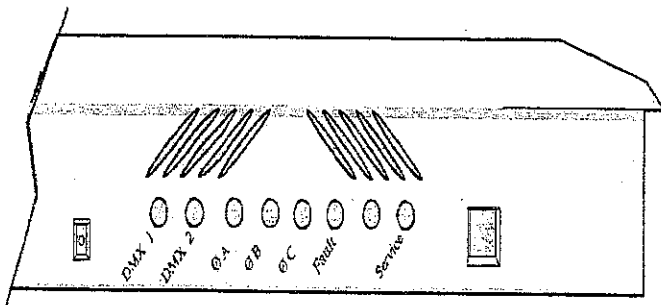
Control Module

The control module is the user interface with the electronic brain and monitoring features of the MX series dimmer rack. The illustration shows the location of the DMX input connection, (a control cable from a lighting control board may be plugged here). Also, to the right is the connection for the hand-held programmer. Between these are LED indicators of internal rack functions.

These function indicators are limited to displaying the most basic presence or absence of the electrical or electronic signal named on the face of the rack immediately below each LED.

The only LED that when lighted is an indication of a problem with the rack, or, more specifically with the dimmer(s) in the rack, is labeled **Fault**. All other LEDs are lighted when the function named is activated under normal operation.

Also in the area of the LEDs is a service switch. This switch is recessed and requires the aid of a small pointed tool to activate. This switch allows for all the dimmers to be turned to full-up. The switch essentially bypasses all other control signals to the control module.



Dimmer Module

The standard dimmer modules provide one LED indicator per dimmer circuit which gives a visual indication of the dimmer activity. Also provided is another LED indicator which warns of a fault in that module.

Dimmer and Rack Maintenance

The MX system, like all electrical / electronic equipment is affected by the presence of dirt and dust. We recommend the rack be opened, the modules removed and all items cleaned to remove this dust.

Please follow this procedure:

- Shutdown and Disconnect Power.
- Remove the door.
- Remove each dimmer module and individually clean either by vacuum or low pressure compressed air.
- Clean the other interior areas of the rack in the same manner as the individual modules.
- Inspect the internal connections of the main feeders and of the branches to the module plugs.
- Inspect the connector ends for discoloration indicating a poor connection.
- After cleaning and inspection, replace the modules and the door.

Note: Annual cleaning is recommended, more frequently if the environment is particularly dirty.

To help prevent the build up of dirt, the Electrostatic Air Filters may be cleaned or replaced frequently.

To clean the Air filters:

- Remove air filters from door.
- Wash with a light to medium pressure water spray. Use cold to luke-warm water.
- Allow to dry and replace.

Note: The filter(s) must be replaced with the correct side facing the interior of the cabinet.

Dimmer Removal / Installation

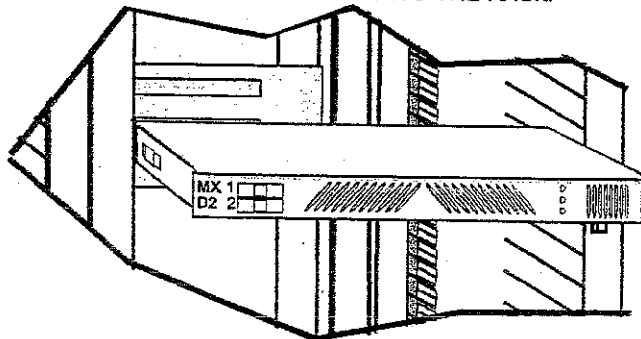
To remove a dimmer from an MX rack please follow this procedure:

- Be certain of the position of the Dimmer Module to be removed. Locate this Module by using the Circuit numbering label located to the left of the dimmers (Ck #_).
- Locate the Circuit Breakers - Switches to the left on the face of the Module to be removed.
- Move the switch toggles to the OFF position.
- Firmly grasp the top lip of the Module and pull the Module directly out of the module bay.

To replace a dimmer module:

- Locate the correct circuit numbers, note there may be a pair of circuits per each dimmer module.
- After carefully lining up the sides of the modules with the appropriate shelf slots, slide the module in very firmly to assure solid connections are made.

DO NOT SLAM MODULES INTO THE RACK!



Troubleshooting Guide

Symptom	Possible Cause	Remedy
Nothing works, green indicators 1, 2, and 3 are dark.	Blown fuse in rack Input power source is off.	Check input power source.
A dimmer circuit is always OFF.	The dimmer module is not plugged in. Defective solid-state relay. Circuit Breaker is off.	Make sure dimmer is firmly plugged in all the way. Check control wiring connector to solid state relays. Replace the solid-state relay. Turn on circuit breaker.
All of the lamps "ghost" (glow).	Dimmer preheat set too high. Control out of calibration.	Reduce preheat level. Contact the factory.
The dmx signal indicator flashes, lamps flicker, or dimmers refuse to respond to dmx signal.	Bad DMX source. Bad DMX cable.	Check source. Check the dimmer pack with a known good cable.
The dimmer pack overheats.	The cooling vents are blocked. The dimmer module is full of dust. The dimmer is in a very warm location.	Clear any obstructions to the cooling vents. Carefully remove dust and dirt with compressed air or a vacuum cleaner. Relocate the dimmer to a cooler location.

Please Note:

Maintenance of your Dimmer Rack and the Modules is very Important. Such maintenance will help to prevent failure and prolong component life.

It is very important all the slots in the rack be filled for proper cooling airflow. If a module must be removed, replace the module with a module blank.



WARNING:

Maximum ambient operation and storage environment for this equipment is 104°F (40°C), with 90% humidity, non-condensing.

Extreme caution is advised when liquids, food and cigarettes are near any equipment.

During severe electrical storms, equipment should be disconnected.

Failure to adhere to these requirements may result in malfunction or serious damage.



Replacement Parts

Replacement parts are available from Electronics Diversified, Inc.

To obtain replacement parts, call (800) 547-2690 and ask for Customer Service.

Since these systems are customized for individual applications, it is important that you have the following information available when you call.

- The equipment type or number
- Serial number
- Original EDI system drawing number
(As-Built Drawing Number)
- Please SPECIFY LINE VOLTAGE.

When calling, the customer service representative will help to determine the proper part you need, and any additional parts, if necessary, depending upon your requirement.

Service

EDI 24 hour Service / Support Network.

For technical questions about this product or operational assistance contact Customer Service at:1-800-547-2690 or 1-503-645-5533

You may communicate by FAX: 1-503-629-9877

Internet: www.EDIONline.com

Internet E-Mail: Support@EDIONline.com

If your Mark X Dimmer Bank needs repair, call 503-645-5533 for a Return Materials Authorization number. At that time you will be given a **shipping address**.

This is a product of:



1675 N.W. Cornelius Pass Road, Hillsboro, Oregon 97124 USA

Attention MX System Owners!

Please return this Registration Card As soon as possible!

Your prompt attention to this matter will ensure your receiving updated technical information for this product as it becomes available. Please complete all information.

Name: _____

Title: _____

Facility and/or Company: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____

Fax: _____

E-mail: _____

Web site: _____

CUT ALONG DOTTED LINE



Mail to:
EDI User Manual Registration
1675 NW Cornelius Pass Road
Hillsboro, Oregon 97124

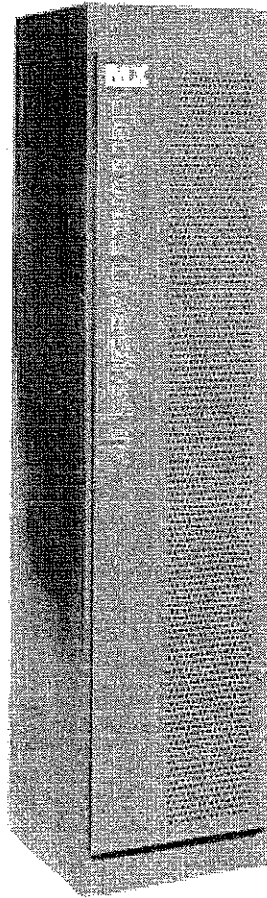
or FAX to: (503) 629-9877

Rev12/99z



EDI

MX System Dimmer Bank



Installation Manual

Introduction

This manual is to accompany the MX series dimmer rack by Electronics Diversified Inc. The Installation Manual is designed to give a complete summary of necessary and useful information. The manual is not a substitute for qualified personnel.

If you need further information or assistance, please call our factory technical and sales staff. Our Hillsboro factory number is noted below and at the back of this book.

The MX

This rack is designed to accommodate the MX series dimmer modules. There are several different modules. The difference lies primarily in the functional attributes of the modules. Please consult the AS Built Drawings for further information.

There are three sizes of the MX series dimmer rack the quarter size, half and standard. These variations are evident in vertical dimension. Operationally these are identical.

At the top of each rack is a window giving some operational information about the rack. Part of this are two LEDs indicating the status, that is; one which indicates everything is okay, the other means there is some problem within that particular rack. Just below this is the Multi Link Intelligent Control Module.

Stacked below this unit are the dimmer modules. There are several different types of modules. Attention must be paid to this configuration as different modules will have different electrical requirements. Please consult the as built and specifications documents to determine the type and configuration of modules. Behind and to either side of the modules are the electrical connections, the buses.

These are the areas with which this manual is primarily concerned.

EDI 24 hour Service / Support Network.

For technical questions or operational assistance please call Customer Service at:

1-800-547-2690

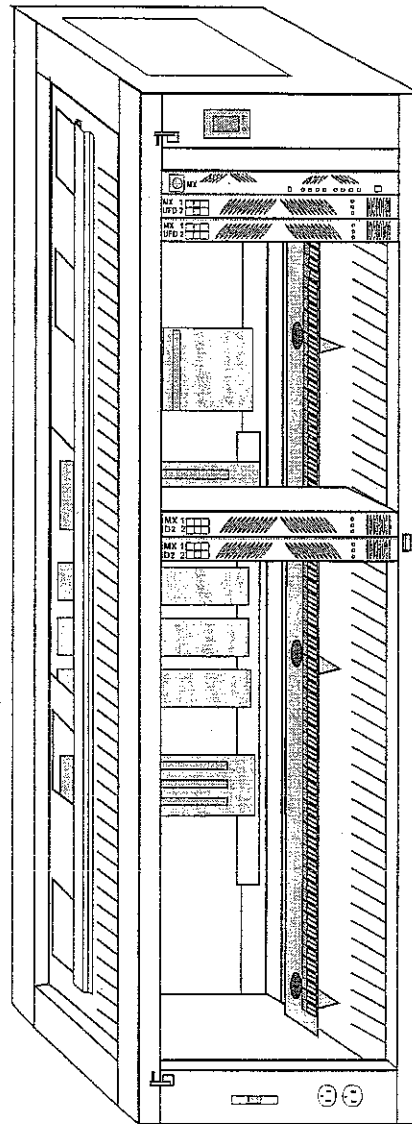


Table of Contents

Introduction	2
Illustration	3
Installation, Leveling / Securing	4
Multiple Rack Bussing, wiring Access	5
Feeder Wiring	6
Load, Neutral, Control Wiring	7
Control Module, Dimmer/Rack	8
Maintenance, Dimmer Removal	9
Troubleshooting	9
Parts, Service	10

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Revised 12/99

MX Dimmer Bank Isometric Diagram

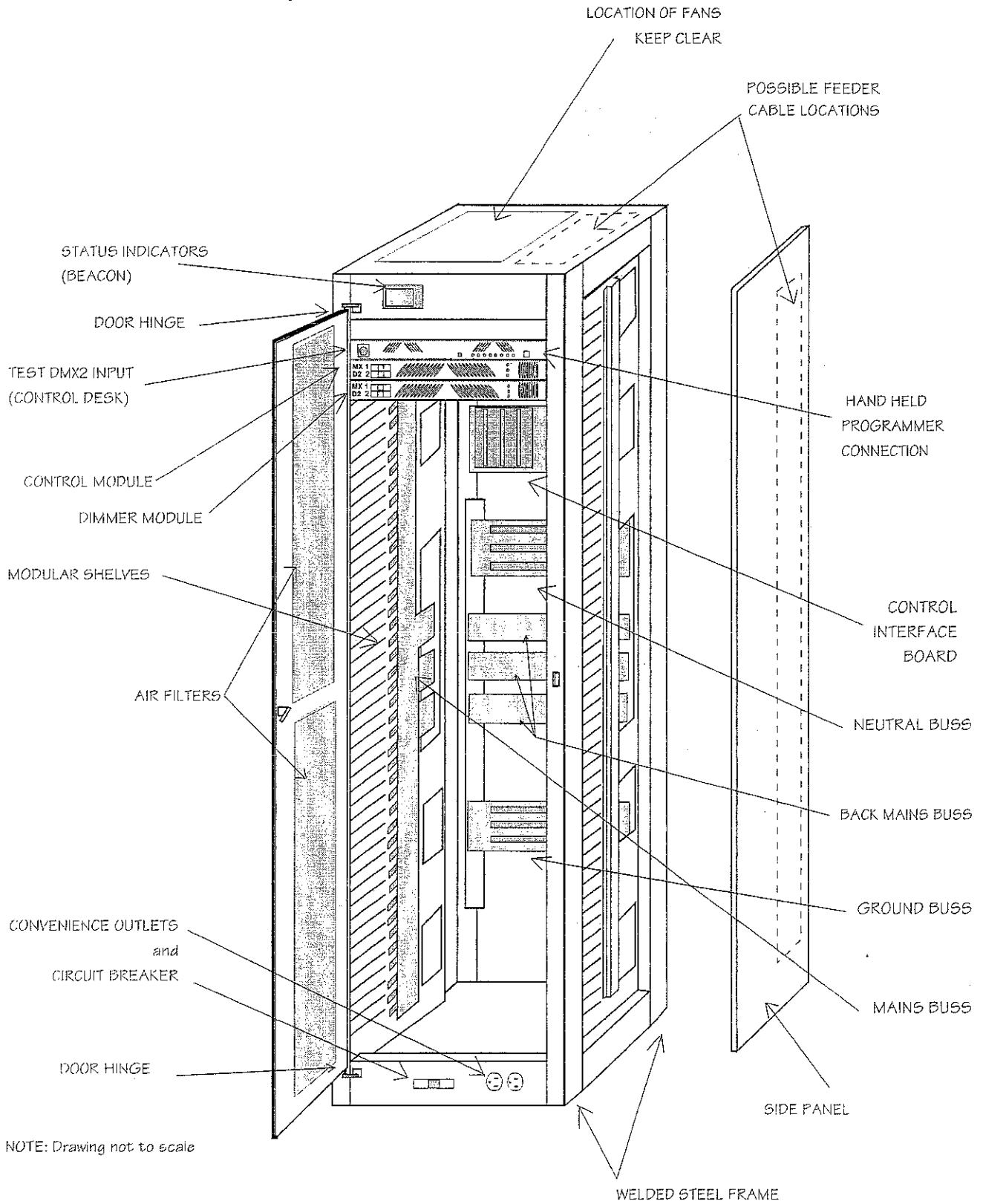


Fig.1





WARNING:

Before working in, on, or about the MX rack, TURN OFF, LOCK AND TAG all disconnect devices that are supplying, or will supply power to the dimming system.

Prior to Installation

Please refer to the EDI equipment As Built drawings specific to your project.

Also refer to the Project drawings specific to your project.

Any question regarding the installation of this equipment may be referred to Electronics Diversified Inc. at:

1-800-547-2690

Note: The National Electrical Code requires 36" of clearance in front of the rack.

Installing racks on a pedestal may cause the circuit breakers to exceed the maximum allowable height.

This equipment must be installed in accordance with the National Electrical Code, State and Local codes.



WARNING:

Maximum ambient operation and storage environment for this equipment is 104°F (40°C), with 90% humidity, non-condensing.

Use Extreme Caution with liquids, food, fire or flame around any powered equipment.

During severe electrical storms, equipment should be disconnected.

Failure to adhere to these requirements may result in malfunction or serious damage.

Installation

The location for the rack must allow adequate clearance for proper ventilation.

The recommended clearance is 12" from the top of the rack to any overhead ceiling.

The suggested minimum overhead clearance is 8".

When energized, the equipment is rated to produce 100 BTU per kilowatt of connected load.

All openings, such as those for the input power cabling, must be sealed to assure proper air flow in through the electrostatic air filters.

Please see the maintenance section for information about cleaning and replacement of air filters.

Leveling The Rack

For proper operation the rack must be level, plumb and square.

Use of shims is recommended on uneven surfaces.

Note: If the rack is not square, it may prevent the installation of dimmer modules.

Securing the Rack(s)

Racks must be securely anchored to the floor. If necessary, secure also to the wall.

Anchor holes are provided in the base of the unit.

Multiple units must be bolted together. Four bolts are used to tie racks together.

When installing multiple rack systems, tight coupling and sealing are required to eliminate airleaks for proper ventilation.

Note: Local earthquake protection codes may require additional strapping. Please consult local requirements.

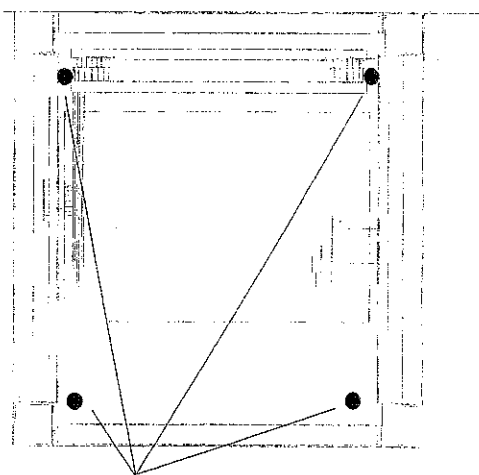


Fig.2

Anchor Holes

Note: While auxillary racks have a different sized footprint, anchor hole location is the same.

For half-size aux. racks, please consult your As Built Drawings.

Multiple Rack Bussing

If your rack system is comprised of more than one unit, the racks must be bolted together and bussed together.

Install the buss links as follows:

1. To connect Inter-Rack busses for Phases A, B, C, and the Neutral, the Rack Chassis must be bolted together.
2. Before the busses may be installed, the four bolts per leg must be removed.
Retain the washers, lock washers and nuts for later use. The RED spacer washers are for shipping only and may be discarded.
3. Install the buss links using the longer bolts provided and the previously removed hardware.

Note:

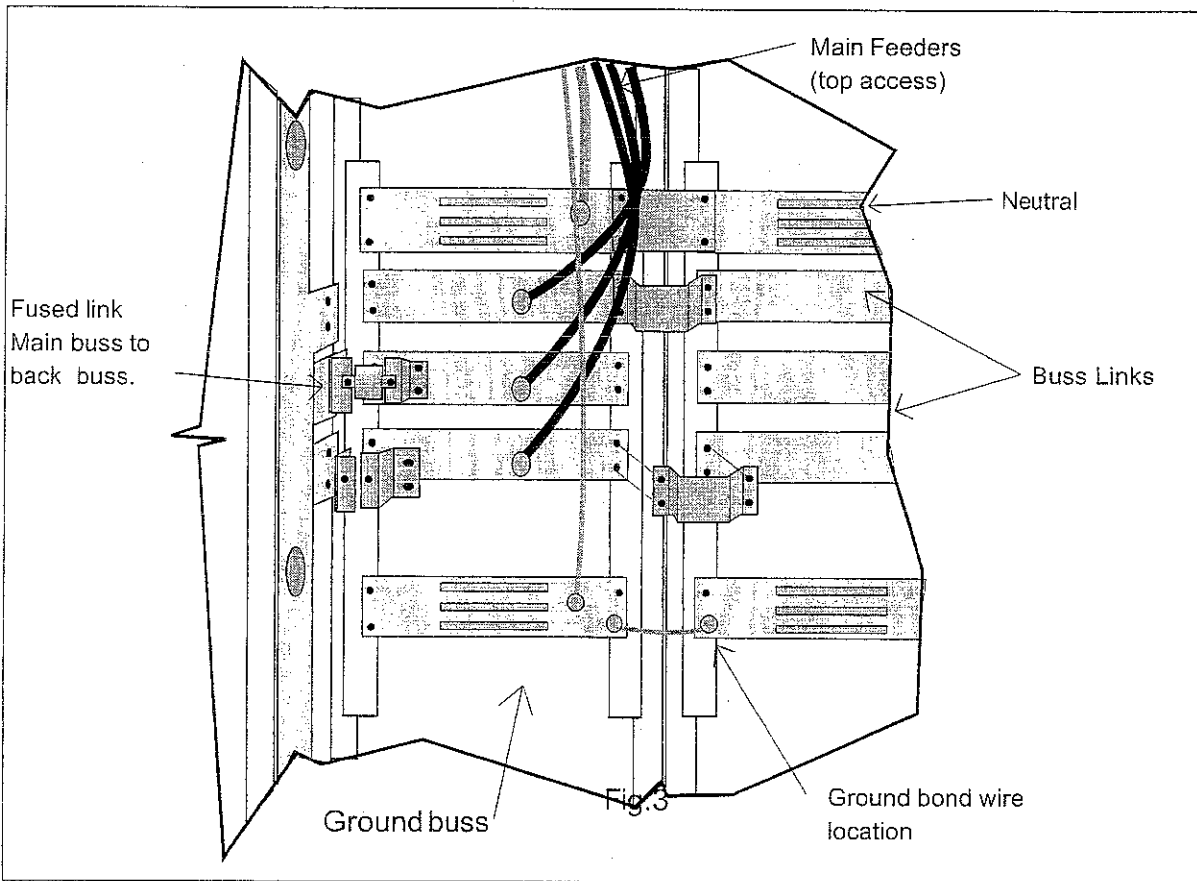
Do Not Tighten bolts until all sections are in place.

Bonding Multiple Racks

Between the ground busses of multiple racks, attach the supplied Green-marked ground wire.

Side Panels

Multiple racks may not ship with side panels. If present (in the case of a system expansion) the side panels may be removed as needed.



Wiring Access

Access is available through top, bottom, back and both sides of the rack as indicated in Fig. 1.

Recommended access is through either top or bottom.

Access through the sides may be accomplished by removing the panels and cutting through the areas as outlined in FIG. 1, page 3 of this manual.

Access through the back is acquired in the same way, by cutting through the panel. We recommend you make a template outlining the open areas through the back before cutting the panel.





WARNING:

This equipment is designed for copper wire only. Do not use aluminum or copper-clad aluminum feeders.

Feeder Wiring

Access is designed to be from either top or bottom. The main feeder lugs are located on the left side, or in the case of multiple units, at the back of the unit. Feeds to multiple racks should be installed to the buss bars at the back of the rack. See Fig. 3.

Note: Additional bars are provided to link the main bars at the side to these back busses.

These links may include fuse mountings.

Connecting Feeders

Each buss bar has two sets of holes for mounting feeders.

These holes are designed for either clamp or wire pressure terminal lugs of up to 700 (2X350) MCM. The Neutral buss is sized for up to 2X500MCM lugs.

An optional 700 MCM (2 X 350) lug kit is available. Contact EDI for more information.

Double check feeders for:

- Proper torque
- Correct phasing
- Short circuits

Use torque supplied by the lug manufacturer for the correct pressure.



WARNING:

Installing feeders with an improper torque or the wrong lugs may cause severe damage to the equipment.

Double check feeders for proper torque, correct phasing, and shorts.

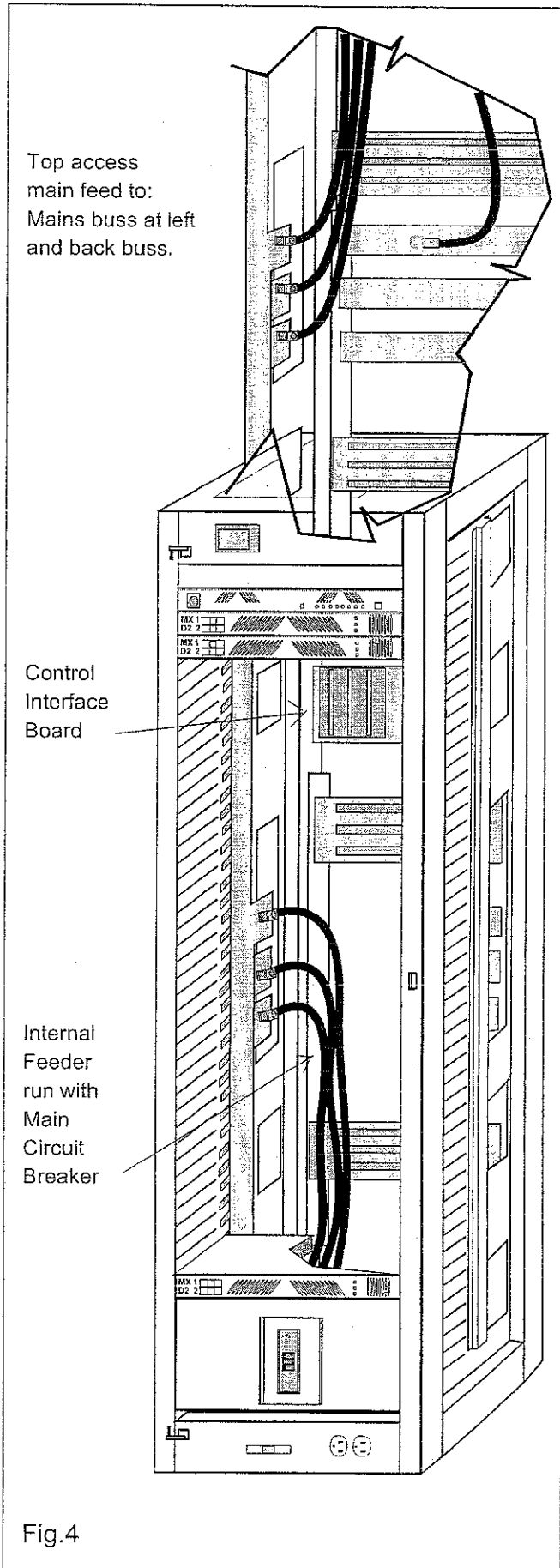


Fig.4



WARNING:

Feeders must clear the Dimmer Modules as far as is possible within the confines of the rack. Failure to provide sufficient clearance may result in equipment malfunction and failure.

Load Wiring

The load connectors are all located on the right side of the rack.

The load terminals are supplied with pressure wiring connectors.

The lugs are designed for wire sizes of :

#6 to #14 AWG.

Note: The numbering within the rack on the output terminal block corresponds to the respective dimmer, the controlled load and to the control address.

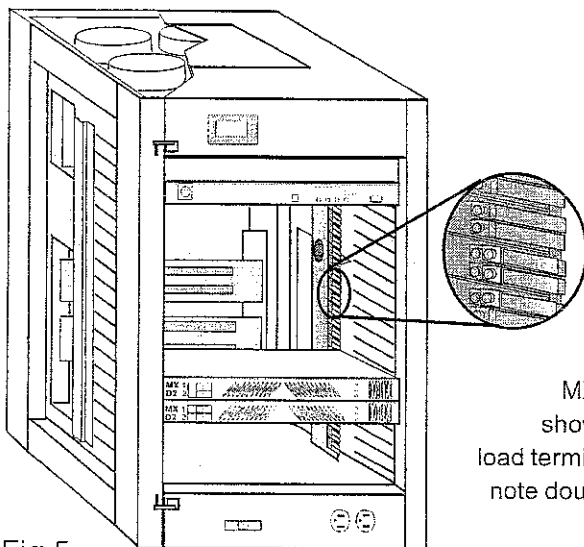


Fig.5

Neutral Wiring

Each of the load circuits should have it's own Neutral. If your installation has common neutrals pay close attention to individual phasing per dimmer module.

The terminals are designed for wire sizes of:

#6 to #14 AWG.

Ground Wiring

Proper bonding of each load circuit is required.

The lugs are designed for wire sizes:

#6 to #14 AWG.

Control Wiring

Control connections are made to the Control Interface Board. (see Fig.1, pg.3).

All control Connections are Class II.

Please refer to the As Built Drawings specific to your installation.



WARNING:

Failure to provide proper Neutral circuiting may result in Equipment Malfunction and Failure.

Clearances and Airflow

One of the most common sources of equipment malfunction is overheating. The most common cause of this is the improper installation of the load wiring. It is critical that the load wiring be dressed away from the cooling vents and fans. Each Dimmer Module is designed to cool by means of airflow through the unit from front to back. If the airflow is impeded, the equipment will overheat. If the equipment overheats it will fail.

Note: Air flow is affected by the absence of dimmer modules. For proper cooling it is important every slot be filled.

Note: Supplied with your rack are module blanks to be inserted if you must remove a module, or if the rack carries less than a full complement of modules.

Standard Electrical Characteristics

Input Power: 120/208 VAC, 3 phase, 4 wire plus ground, 50/60Hz.

Over current: Up to 10,000 AIC standard

Interaction: None between dimmers.

Control Response: 25 milliseconds or better.

U.L. and c-U.L. listed.

Standard Mechanical Characteristics

Enclosure: Tubular steel frame, code-gauge panels finished in scuff / impact resistant paint.

Circuit Cards: U.L. recognized.

FR-4 mil-grade material



WARNING:

This equipment is designed for copper wire only. Do not use aluminum or copper-clad aluminum feeders.



Removing / hanging the Door

The door is easily removed and re-hung. It may be useful to remove the door for maintenance or service.

A key is required to operate the cam-style locks.

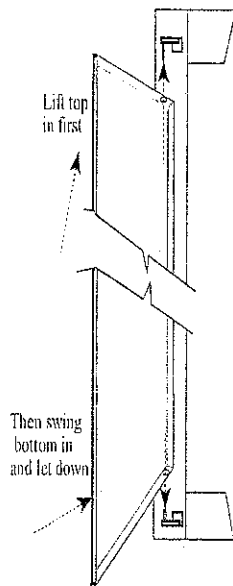
To remove the door, lift the entire door up so the lower hinge pin is disengaged.

Angle the door out at the bottom and allow it to drop down out of the top hinge pin bracket.

To replace the door, follow the reverse of the above procedure.

Notice the top hinge pin is longer than the bottom, the sequence noted above is the only easy way to hang or remove the door.

Note: The door latches operate only with a key supplied by EDI. If You need replacement keys, please contact our Customer Service Dept.



Operational Notes:

The modules are easily installed and removed without tools. Since it is possible you have different types or rated modules, we suggest the rack be closed and locked at all times.

It is likely the modules are installed in a specific order to correspond to the wiring of the rack. Keeping the door closed and locked may prevent the modules being moved without reference to this order.

The cooling efficiency of the rack is seriously compromised by the door being left open, or by unfilled slots. If this results in the dimmer(s) overheating, the affected dimmer(s) will shut down and not operate until the temperature has dropped to the operational temperature range.

The following sections note the procedures for manipulating the digital dimmer parameters of the MX dimmer rack.

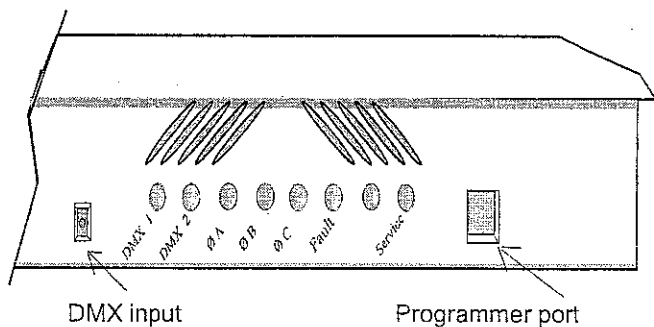
Control Module

The control module is the user interface with the electronic brain and monitoring features of the MX series dimmer rack. The illustration shows the location of the DMX input connection, (a control cable from a lighting control board may be plugged here). Also, to the right is the connection for the hand-held programmer. Between these are LED indicators of internal rack functions.

These function indicators are limited to displaying the most basic presence or absence of the electrical or electronic signal named on the face of the rack immediately below each LED.

The only LED which when lighted is an indication of a problem with the rack, or, more specifically with the dimmer(s) in the rack, is labeled **Fault**. All other LEDs are lighted when the function named is activated under normal operation.

Also in the area of the LEDs is a service switch. This switch is recessed and requires the aid of a small pointed tool to activate. This switch allows for all the dimmers to be turned to full-up. The switch essentially bypasses all other control signals to the control module.



Dimmer Module

The standard dimmer modules provide one LED indicator per dimmer circuit which gives a visual indication of the dimmer activity. Also provided is another LED indicator which warns of a fault in that module.



WARNING:

Maximum ambient operation and storage environment for this equipment is 104°F (40°C), with 90% humidity, non-condensing.

Extreme caution is advised when liquids, food and cigarettes are near any equipment.

During severe electrical storms, equipment should be disconnected.

Failure to adhere to these requirements may result in malfunction or serious damage.

Dimmer and Rack Maintenance

The MX system, like all electrical / electronic equipment is affected by the presence of dirt and dust. We recommend the rack be opened, the modules removed and all items cleaned to remove this dust.

Please follow this procedure:

- Shutdown and Disconnect Power.
- Remove the door.
- Remove each dimmer module and individually clean either by vacuum or low pressure compressed air.
- Clean the other interior areas of the rack in the same manner as the individual modules.
- Inspect the internal connections of the main feeders and of the branches to the module plugs.
- Inspect the connectors.
- After cleaning and inspection, replace the modules and the door.

Note: Annual cleaning is recommended, more frequently if the environment is particularly dirty.

To help prevent the build up of dirt, the Electrostatic Air Filters may be cleaned or replaced frequently.

To clean the Air filters:

- Remove air filters from door.
- Wash with a light to medium pressure water spray. Use cold to lukewarm water.
- Allow to dry and replace.

Note: The filter(s) must be replaced with the correct side facing the interior of the cabinet.

Dimmer Removal / Installation

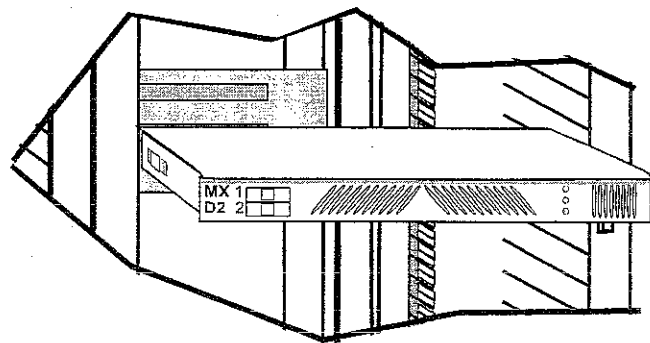
To remove a dimmer from an MX rack please follow this procedure:

- Be certain of the position of the Dimmer Module to be removed. Locate this Module by using the Circuit numbering label located to the left of the dimmers (Ck #_).
- Locate the Circuit Breakers - one (1) or two(2) Switches to the left on the face of the Module to be removed.
- Move the switch toggles to the OFF position.
- Firmly grasp the top lip of the Module and pull the Module directly out of the module bay.

To replace a dimmer module:

- Locate the correct circuit numbers, note there are a pair of circuits per each dimmer module.
- After carefully lining up the sides of the modules with the appropriate shelf slots, slide the module in very firmly to assure solid connections are made.

DO NOT SLAM THE MODULES INTO THE RACK



Troubleshooting Guide

Symptom	Possible Cause	Remedy
Nothing works, green indicators 1, 2, and 3 are dark.	Blown fuse in rack Input power source is off.	Check input power source.
A dimmer circuit is always OFF.	The dimmer module is not plugged in. Defective solid-state relay. Circuit Breaker is off.	Make sure dimmer is firmly plugged in all the way. Check control wiring connector to solid state relays. Replace the solid-state relay. Turn on circuit breaker.
All of the lamps "ghost" (glow).	Dimmer preheat set too high. Control out of calibration.	Reduce preheat level. Contact the factory.
The dmx signal indicator flashes, lamps flicker, or dimmers refuse to respond to dmx signal.	Bad DMX source. Bad DMX cable.	Check source. Check the dimmer pack with a known good cable.
The dimmer pack overheats.	The cooling vents are blocked. The dimmer module is full of dust. air or a vacuum cleaner. The dimmer is in a very warm location.	Clear any obstructions to the cooling vents. Carefully remove dust and dirt with compressed air. Relocate the dimmer to a cooler location.



Replacement Parts

Replacement parts are available from Electronics Diversified, Inc.

To obtain replacement parts, call (800) 547-2690 and ask for Customer Service.

Since these systems are customized for individual applications, it is important that you have the following information available when you call.

- The equipment type or number
- Serial number
- Original EDI system drawing number (As-Built Drawing Number)
- Please SPECIFY LINE VOLTAGE.

When calling, the customer service representative will help to determine the proper part you need, and any additional parts, if necessary, depending upon your requirement.

Service

EDI 24 hour Service / Support Network.

For technical questions about this product or operational assistance contact Customer Service at:1-800-547-2690 or 1-503-645-5533

You may communicate by FAX: 1-503-629-9877

Internet: www.EDIonline.com

Internet E-Mail: Support@EDIonline.com

If your Mark X Dimmer Bank needs repair, call 503-645-5533 for a Return Materials Authorization Number. At that time you will be given a *shipping address*.

This is a product of:



1675 N.W. Cornelius Pass Road, Hillsboro, Oregon 97124 USA

D P Sullivan, Inc

22 Deer Run Rochester, NY 14623-5120 716 334 9573 voice/fax

Fri, Oct 25, 2002

Mx Rack /Handheld programmer

DMX 1= In 1, DMX2 = IN 2 Normally #1, " * " = Program patch active, For input the : is active, . or . period is not active. 4 patches possible.

Assign DMX #'s to dimmers : Patch A Sequential (example Second rack)

- #1 Press Patch A Button twice (Patch A active)
- #2 Press In1 or In2
- #3 Type in ### for start
- #4 Press S1 for In1 and S2 for In2 . The dimmer # such as 097 (always 3 digit) will show 098
- #5 Keep Pressing S1 till top number is reached.

Assign DMX #'s to dimmers : Patch A

- #1 Press Patch A Button twice (Patch A active)
- #2 Use Dimmer UP Button to get dimmer # higher, Dimmer Down Button to get dimmer # lower
- #3 Press numbers to assign values (256 steps) or
- #4 Press clear twice to clear patch
- #5 Press Unity twice to get 1 to 1 patch

Assign DMX #'s to dimmers : Patch A individual

- #1 Press Patch A Button twice (Patch A active)
- #2 Use Dimmer UP Button to get dimmer # higher, Dimmer Down Button to get dimmer # lower
- #3 Press numbers to assign values (256 steps) or
- #4 Press clear twice to clear patch
- #5 Press S1 and the dimmer # such as 097 (always 3 digit)(In1) S2=In2

Program Backup

- #1 Press Backup
- #2 Press S2 to access channels
12 analog channels : Analog 1 thru 12
4 digital channels Digital 1 thru 4
Constant or always on. Rack never shuts down.
Used Dimmer up/down to # needed
Used Level Up/Down to get level needed

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To copy incoming DMX signal

- #1 Press Backup
- #2 Press S2 to access channels
 - 12 analog channels : Analog 1 thru 12
 - 4 digital channels Digital 1 thru 4
 - Constant or always on. Rack never shuts down.
- #3 Press S1 twice
- #4 Word "Save" shows up on screen

Profile Can used to create a custom non dim turn on , fluorescent curves or match dimmer types.

Profile : 4 in use, <Display : left is Control input value right is dimmer value / level

Profile 1 = Linear (default)

Profile 2 = Square Law.

Profile 3 = Advance MX (Fluorescent curve)

Profile 4 = User defined Profile 5 to 7 also available

#1 Press S2 to step thru profiles

#2 Press Dimmer Up/Down for Dimmer level out

3. Press Level Up/ Down for incoming Console level

Program Setup

Preheat, Profile, Proportion, Nondim, Hold time,

Preheat : amount of turn on for extra fast response, Dimmer never off.

Proportion sets the max level an output can reach: Level at 80% = 80% at Full

Non Dim Turn on value is 50%

Hold time 0 to 255, Each step is 3 seconds,

1 = 3 seconds

2 = 6 seconds

10 = 30 seconds

50 = 150 or 2.5 min

100 = 300 or 5 min

255 = 765 or 12.75 min

Dimmer Check

#1 Press Dimmer up/Down to step thru Level is full

DMX is 8 bit, 256 steps

Step 0 = 0%

Step 64 = 25%

Step 123 = 50%

Step 192 = 75%

Step 255 = 100%

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EDI Bijou Submaster

page 1	cue/sub #	page 2	cue/sub #	page 3	cue/sub #	page 4	cue/sub #	page 5	cue/sub #	page 6	cue/sub #
1	1	1	25	1	49	1	73	1	97	1	121
2	2	2	26	2	50	2	74	2	98	2	122
3	3	3	27	3	51	3	75	3	99	3	123
4	4	4	28	4	52	4	76	4	100	4	124
5	5	5	29	5	53	5	77	5	101	5	125
6	6	6	30	6	54	6	78	6	102	6	126
7	7	7	31	7	55	7	79	7	103	7	127
8	8	8	32	8	56	8	80	8	104	8	128
9	9	9	33	9	57	9	81	9	105	9	129
10	10	10	34	10	58	10	82	10	106	10	130
11	11	11	35	11	59	11	83	11	107	11	131
12	12	12	36	12	60	12	84	12	108	12	132
13	13	13	37	13	61	13	85	13	109	13	133
14	14	14	38	14	62	14	86	14	110	14	134
15	15	15	39	15	63	15	87	15	111	15	135
16	16	16	40	16	64	16	88	16	112	16	136
17	17	17	41	17	65	17	89	17	113	17	137
18	18	18	42	18	66	18	90	18	114	18	138
19	19	19	43	19	67	19	91	19	115	19	139
20	20	20	44	20	68	20	92	20	116	20	140
21	21	21	45	21	69	21	93	21	117	21	141
22	22	22	46	22	70	22	94	22	118	22	142
23	23	23	47	23	71	23	95	23	119	23	143
24	24	24	48	24	72	24	96	24	120	24	144

page 7	cue/sub #	page 8	cue/sub #	page 9	cue/sub #	page 10	cue/sub #	page 11	cue/sub #	page 12	cue/sub #
1	145	1	169	1	193	1	217	1	241	1	265
2	146	2	170	2	194	2	218	2	242	2	266
3	147	3	171	3	195	3	219	3	243	3	267
4	148	4	172	4	196	4	220	4	244	4	268
5	149	5	173	5	197	5	221	5	245	5	269
6	150	6	174	6	198	6	222	6	246	6	270
7	151	7	175	7	199	7	223	7	247	7	271
8	152	8	176	8	200	8	224	8	248	8	272
9	153	9	177	9	201	9	225	9	249	9	273
10	154	10	178	10	202	10	226	10	250	10	274
11	155	11	179	11	203	11	227	11	251	11	275
12	156	12	180	12	204	12	228	12	252	12	276
13	157	13	181	13	205	13	229	13	253	13	277
14	158	14	182	14	206	14	230	14	254	14	278
15	159	15	183	15	207	15	231	15	255	15	279
16	160	16	184	16	208	16	232	16	256	16	280
17	161	17	185	17	209	17	233	17	257	17	281
18	162	18	186	18	210	18	234	18	258	18	282
19	163	19	187	19	211	19	235	19	259	19	283
20	164	20	188	20	212	20	236	20	260	20	284
21	165	21	189	21	213	21	237	21	261	21	285
22	166	22	190	22	214	22	238	22	262	22	286
23	167	23	191	23	215	23	239	23	263	23	287
24	168	24	192	24	216	24	240	24	264	24	288

Remember that Dimmers are patched to Channels once and Channels patched/loaded to different Submasters as many times as needed. The same Channel can have different levels on different subs The same dimmers patched to channels are used by the Cue to Cue Memory section Channels and 2 Scene manual section channels of console