

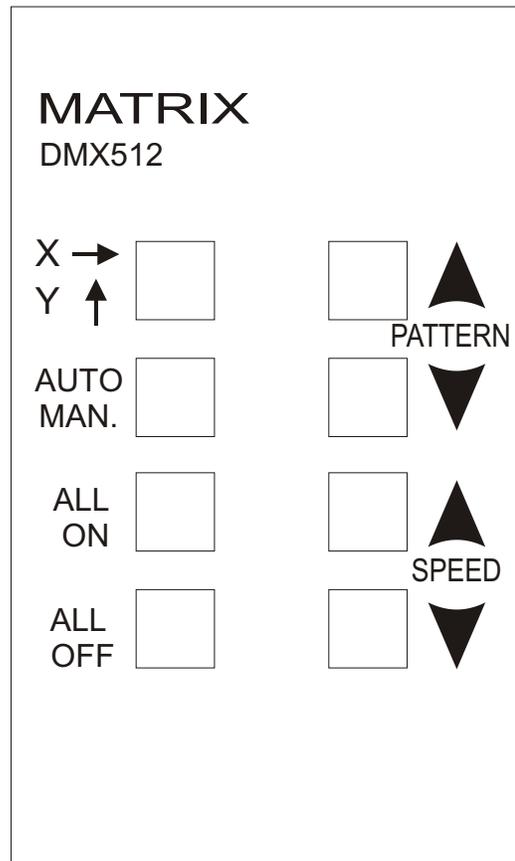


Digital Lighting Systems, Inc.

MATRIX

DMX512 Multi channel
logic controller

DMX & Animation



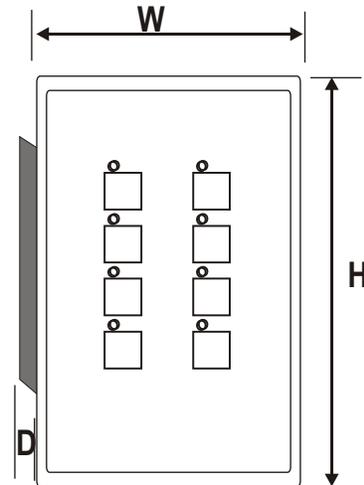
USER MANUAL

MATRIX

Maximum Outside Dimensions

MODEL	WIDTH	HEIGHT	DEPTH	GANG
MATRIX	2.40" 061 mm	4.600" 117 mm	1.650" 042 mm	Single

DEPTH (D) includes circuit board with components



INTRODUCTION

The **MATRIX** is a Multichannel channel lighting controller. Up to 256 channels could be factory programmed to create different patterns. This new design employs the latest electronic technology and presents a control panel with a sleek modern look and simple to use controls. The **MATRIX** generates a standard **DMX-512** output signal compatible with other DMX512 drivers. .

MATRIX FEATURES

- ◆ Economical.
- ◆ UP to 256 Channel Logic DMX512
- ◆ UP to 16 factory programmable patterns .
- ◆ Automatic Pattern Change Mode.
- ◆ Single Pattern Select Mode.
- ◆ Adjustable Chase Rate.
- ◆ Blackout Switch.
- ◆ Nonvolatile Memory.
- ◆ Simple Pushbutton Operation.
- ◆ LED Indicators.

APPLICATIONS

- Architectural & Decorative Lighting.
- Landscape Lighting.
- Structure Lighting.
- Pond and Fountain Lighting.
- Museums and Art Galleries.
- Movie Theaters.
- Theme Parks.
- Fair Rides.
- Point of Sale Displays.
- Christmas Trees and Displays.
- Electric Sign Animation.
- Entertainment and Club Lighting.

Physical and Electrical Specifications

Back Plate:	Metal Construction.
Dimensions:	See Table Above.
Power:	Max. 120 mA at 9 to 12 V 50/60Hz. or VDC 0HZ
Data Output:	RS485 Compliant.
Output Drive:	256 H. Impedance RS485
Data Format:	Standard DMX-512 Protocol.
Data Retention:	10 years, no batteries required.
ESD Protection:	15 KV on data input and output.
DS Port:	Standard RJ45 Connector - DATA on PIN 7 and + DATA on PIN 8

PD408-DMX DIMMER PACK

The **MATRIX** requires an external switch pack with a CAT5 cable(patch or cross). Any DMX-512 compatible switch pack may be used. Digital Lighting Systems, Inc. manufactures high quality low cost DMX-512 dimmer packs. The **PDseries** is excellent along with DC voltage packs designed to control LED lighting.

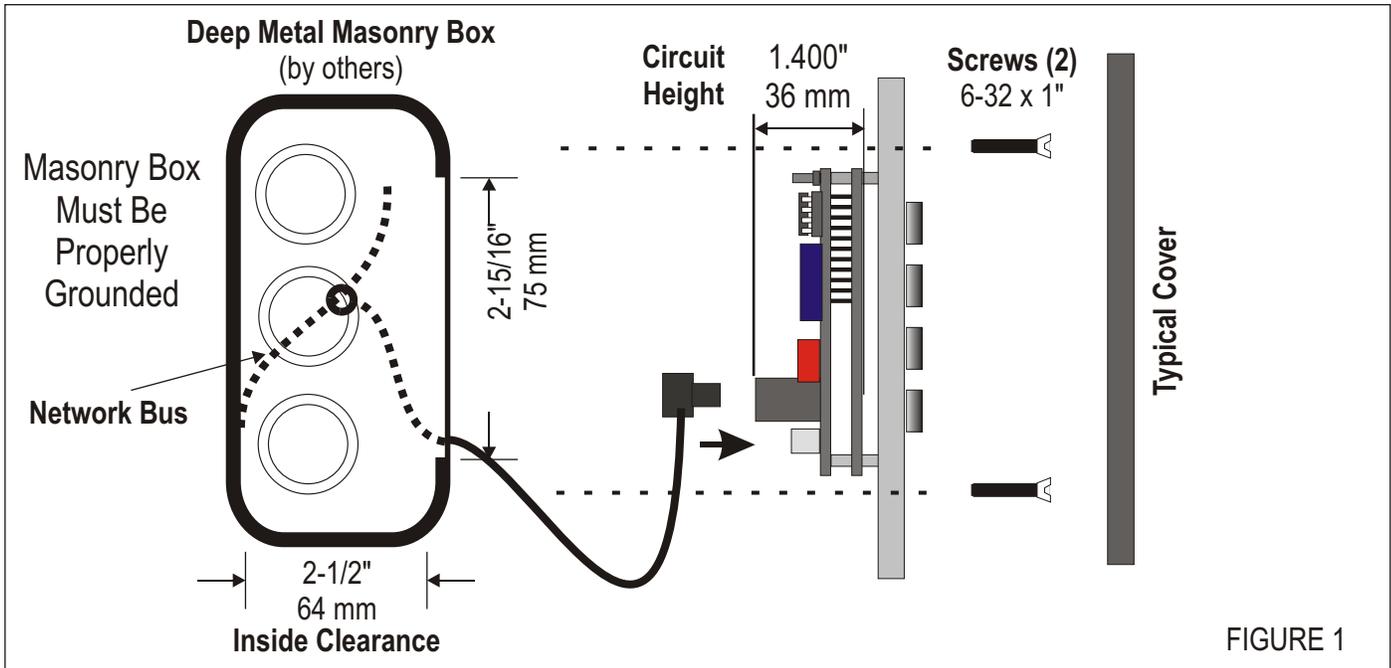
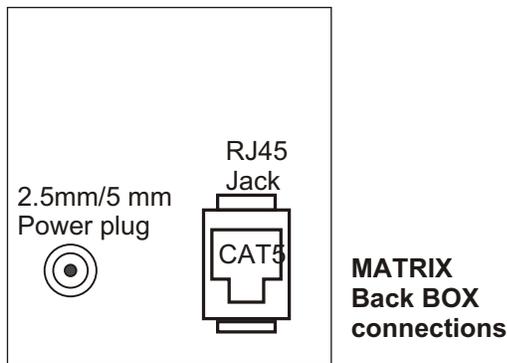


FIGURE 1

Mounting requirements

- The **MATRIX** mounts in Single-gang deep electric box or may be ordered in a table top aluminum enclosure. The Table Top aluminum box comes with an RJ45 connector and a Power jack for the 9-12 V AC or DC / 300 mA supply



Ordering Information

MATRIX: Multichannel DMX512 logic
MATRIX-AE: Alum.Enclosure for MATRIX.

Wiring Notes

- All wiring between the MATRIX and dimmer packs is low voltage (NEMA Class 2) and must be a twisted pair cable.
- Standard industry CAT5 cables may be used with the MATRIX.
- Do not run DMX cable in the same conduit with non-class 2 circuits.
- The MATRIX is supplied with an external low voltage wall adapter.
- Power for the adapter may be on a different power phase from power supplying the DMX-512 dimmer packs or fixtures.
- Installation must conform to local and/or NEC code requirements.

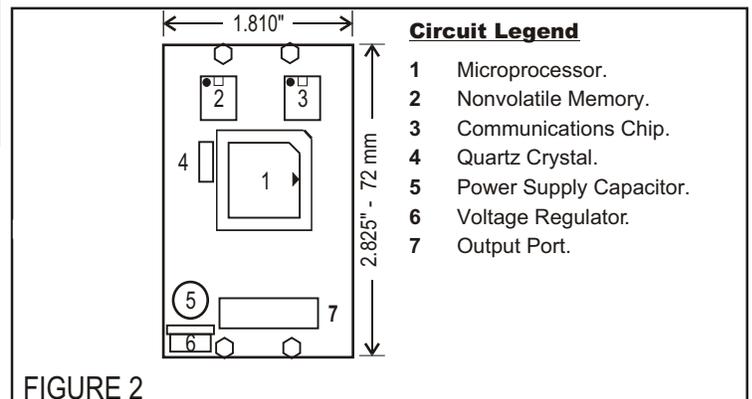


FIGURE 2

A - General Information

The MATRIX controllers use low-power electronic components and do not directly connect to high voltage supply or electric loads. They are powered by an external low-voltage transformer. The loads connect to a separate DMX-512 compatible dimmer pack(s). The MATRIX controls the outputs of the dimmer pack(s) by sending a series of digital dimming levels over a low voltage cable.

Several DMX dimmer packs may be connected to the same control cable in a daisy-chain configuration. The DMX information is received by all dimmers and each pack extracts and uses the portion of the information that is intended for it. This is accomplished by setting each dimmer pack to a different DMX address by way of address selectors.

It is possible to have several dimmer packs set to the same address when controlling loads that exceeds the dimmer's output capacity. Loads may be broken into smaller sections and still be controlled as a single load by any particular DMX channel.

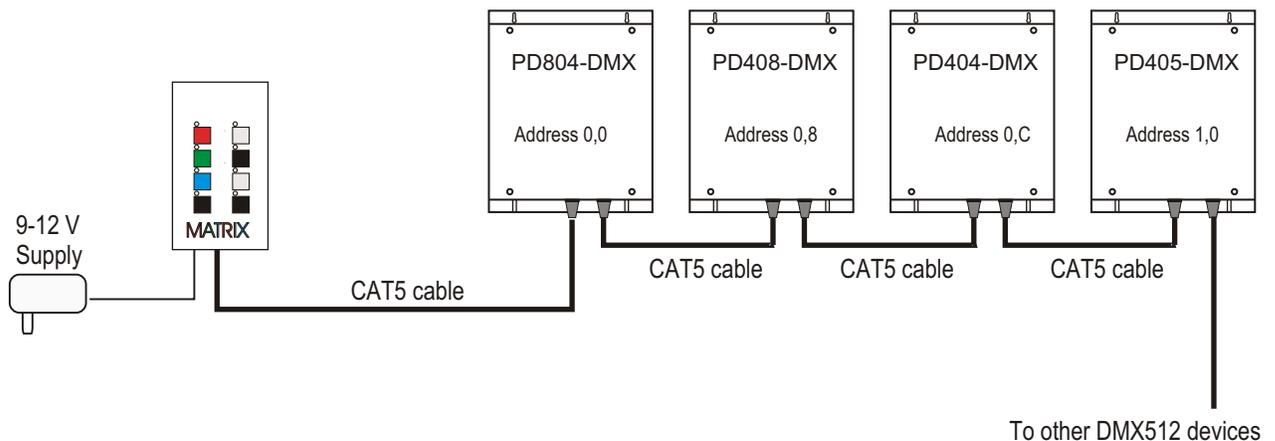
B - MATRIX DMX Output

The information sent by the MATRIX is in accordance with the DMX-512 standard control protocol. The MATRIX sends control information for all 512 DMX512 Addresses.

DEPENDING ON HOW IT IS PROGRAMMED IT WILL ACTIVATE THE CORRESPONDING NUMBER OF CHANNELS.

For example: MATRIX 4x8 will activate the first 32 Channels
 MATRIX 3x36 will activate 108 channels.

TYPICALL INSTALLATION



C - Installation Instructions (See Fig 4 below).

1. Install the MATRIX in a convenient location.

Fig. 4 shows a MATRIX with the supplied back box connected to the power supply via the chassis mounted 2.5mm/5mm jack and to the DATA via an RJ45 chassis Jack.

2. Provide a standard power outlet with a toggle switch for the wall transformer. Plug the supplied transformer to the MATRIX using the 2.5mm power jack connector . The MATRIX may remain energized at all times. The loads can be turned off by using the front panel 'Black-Out' button (button # 4).

3. Install the DMX dimmer pack and follow the wiring instructions in its user manual.

4. Connect the MATRIX to the first Dimmer Pack using standard CAT5 cable (patch or cross).

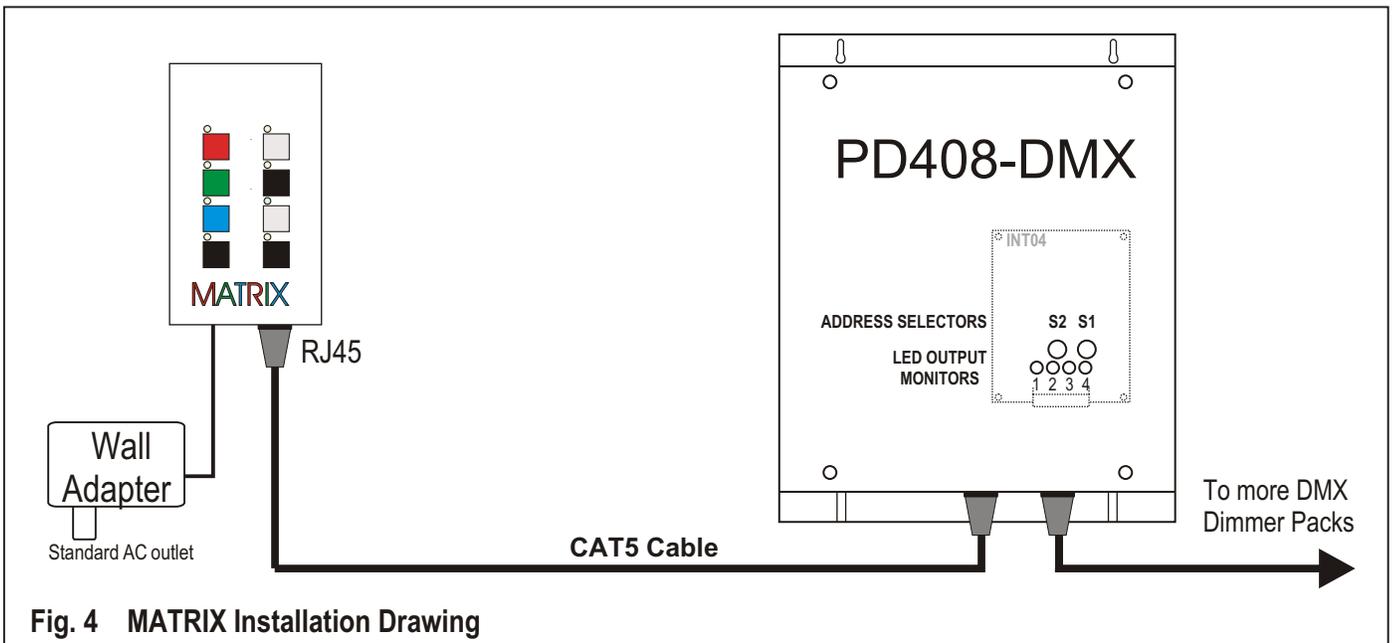


Fig. 4 MATRIX Installation Drawing

E - MATRIX DMX and Power Connections

The **MATRIX** panels use a standard RJ45 connector to connect to DMX equipment as seen in Figs. 4 . They are also available on request with an unterminated pigtail that plugs into the back of the unit so that customers may make their own DMX connections or with a pre-terminated cable with XLR connector to the customer's desired length (J8FXLR5-L). and an external transformer connector Jack 2.5 mm/5mm ..

Power and DMX pin assignments are shown in Fig. 5.

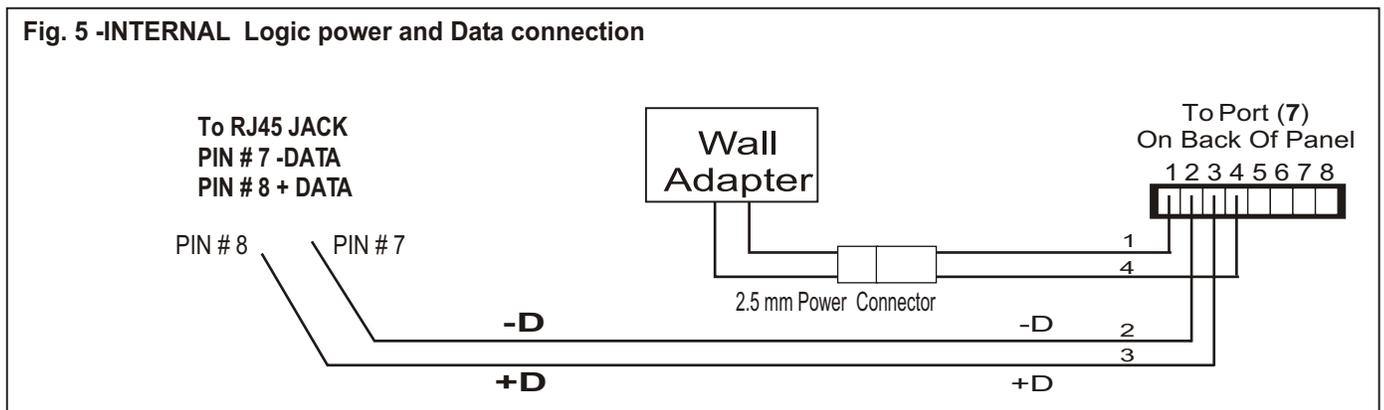


Fig. 5 -INTERNAL Logic power and Data connection

MATRIX Operating Instructions

I. Introduction

The **MATRIX** DMX-512 is a Multi channel logic controller with preprogrammed patterns to animate displays in two directions X, Y and to create multipattern animation for large displays.

The MATRIX has simple to use push-button controls with LED indicators. Following is a description of the buttons and the various functions they perform.

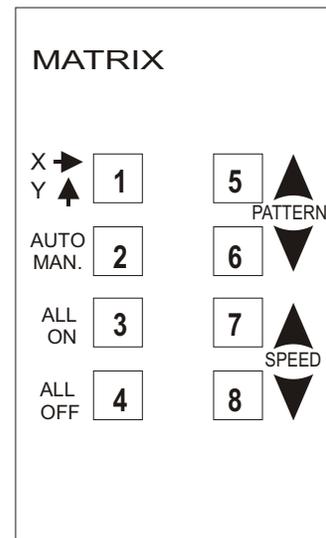


Fig. 6 The MATRIX Front Panel

II. The Control Panel

Button # 1 Pattern direction control

If the MATRIX is ordered with a program meant to animate a display in two directions for example Horizontal and Vertical (X and Y) , pushing button 1 will alternate between the two directions and will lock the patterns to one direction.

Button # 2 Automatic pattern sequencing or one selected pattern

Pushing Button # 2 will alternate between locking the unit on one selected pattern or automatically changing patterns and directions (X,Y)

Buttons # 3 Turn all outputs ON

Pushing Button # 3 will turn all the outputs ON . Pushing it again will resume the animation as previously preset.

Button # 4 Turn all outputs OFF

Pushing Button # 4 will turn all the outputs OFF. Pushing it again will resume the animation as previously preset

Buttons # 5 & 6

Pushing and releasing #5 or 6 will change the pattern when the AUTO/MANUAL (Button # 2) is set on MANUAL.

Buttons # 7 & 8

Pushing and Holding Button #7 will change the rate of chasing to make it faster. Pushing and Holding Button # 8 will change the rate of chasing to make it slower

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LIMITED WARRANTY

Digital Lighting Systems, warrants to the purchaser that its products have been carefully manufactured and inspected and are warranted to be free from defects of workmanship and materials when used as intended. Any abuse or misuse contrary to normal operation shall void this warranty.

Digital Lighting Systems' obligation under this warranty shall be limited to replacement or repair of any units as shall within one year of date of invoice from **Digital Lighting Systems**, prove defective; and **Digital Lighting Systems** shall not be liable for any other damages, whether direct or consequential. **The implied warranties of merchantability and fitness for a particular purpose are limited to the duration of the expressed warranty.** Some states do not allow the exclusion of the limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, you may also have other legal rights which vary from state to state.

Defective merchandise may be returned to **Digital Lighting Systems**, prepaid, after prior notification has been given and approval obtained for the return. To obtain prior approval for the return of the defective items, contact your local Digital Lighting Systems distributor, representative, or:

Digital Lighting Systems, Inc.

Attn: Customer Service Department
12302 SW 128 Ct. Bay # 105
Miami, FL 33186
(305) 969-8442



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Tel 305-969-8442
Fax 305-969-8675
e-m info@digitallighting.com

Upon request, replacement unit(s) will be shipped as soon as available. Unless immediate shipment of replacement merchandise is requested, **Digital Lighting Systems** will not ship replacement merchandise until defective merchandise is received, inspected, and determined to be defective.

No labor charges in connection with warranty problems will be reimbursed by Digital Lighting Systems without prior written approval from the factory.

Digital Lighting Systems distributors and representatives have no authority to change this warranty without written permission.

Digital Lighting Systems reserves the right to determine the best method of correcting warranty problems.

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