

---

# DMX 16 DEMULTIPLEXER

---

## INSTALLATION AND OPERATION GUIDE

---

### Version B

#### *Introduction*

NSI developed a microphone cord multiplex system called Microplex, which is utilized by most NSI control consoles to make set-up and connection easy and convenient. The purpose of the DMX 16 Demultiplexer is to provide a means of interfacing Micro-plex to most non-multiplexed dimmer systems and effects offered by other manufacturers. Instead of many separate wires, cables, and special connectors needed to connect lighting control consoles to dimmer packs, NSI Microplex uses a single, standard 3-pin microphone cord to carry up to 128 control channels and also provide power to the control console.

Sixteen of the possible 128 control channels are decoded and converted to DC voltage outputs by the DMX 16. These outputs are made available through the use of screw terminals on the back panel of the DMX 16. Since dimmer control connectors vary widely, the use of screw terminals allows connection to a wide variety of dimmer systems. The DMX 16 also provides the electrical power needed by the control console.

#### *Specifications*

Power Requirements	120 VAC 75 WATTS 60HZ (240 VAC 35 WATTS 50HZ)
Serial Control System	NSI "Micro-Plex"
DC Output ( ea channel )	0 - +10 Volts DC 20 MA (Adjustable +4 to +12 Volts)
Controller Power Supply Output	+15 VDC 500ma regulated
Mic. Cord Pinout:	Pin 1            Ground Pin 2            +15 VDC to Controller Pin 3            Multiplex Data

*Installation*

The DMX 16 should be located as close to the dimmer packs as possible. If the dimmer system is rack mounted, the DMX 16 may be mounted in the same rack for convenience.

Connection to a NSI Controller is accomplished with a standard 3-pin microphone cord or one balanced channel of an audio snake. Connect the cable to the controller as outlined in the controller owners manual. Either the male or female 3-pin connectors on the DMX 16 may be used for input signals. The remaining connector is used for connection to another DMX 16 or NSI "Micro-Plex" Dimmer Packs.

On the back panel of the DMX 16 is sixteen numbered screw terminals and four additional screw terminals marked "G". The number of the screw terminal corresponds to the relative channel number (see setting channels - front panel switches 1 and 2). Ground terminals are represented by the letter "G".

Consult the literature supplied by the manufacturer of your dimmer pack to determine the wires of the control cable that are used for DC control wiring of each dimmer channel. Also determine which wire is used for DC GROUND (or COMMON). **NOTE: Any other wires that are used for special power supplies and other purposes must not be connected to the DMX 16.**

Control wire for each dimmer channel should be connected to the corresponding screw terminals of the DMX 16. Connect the dimmer DC GROUND or COMMON wire to the most convenient "G" terminal of the DMX 16. Any or all of the Ground terminals may be used.

For example; connecting the control wire for channel #1 from a dimmer pack to DMX screw terminal #1 will cause that dimmer channel #1 to appear to the operator as channel #1. While connecting the same dimmer control wire to DMX terminal #5 instead will cause that dimmer channel to appear as channel #5.

Whenever possible a control cable connector should be obtained from the dimmer pack manufacturer and attached to the DMX 16 to prevent cutting and splicing the control cable.

*Front Panel Switches*

Switch number **one, two, and four** are used to set the control channels that the DMX 16 will respond too.

SWITCH ONE	SWITCH TWO	SWITCH FOUR	CHANNELS
OFF	OFF	OFF	1 - 16
ON	OFF	OFF	17 - 32
OFF	ON	OFF	33 - 48
ON	ON	OFF	49 - 64
OFF	OFF	ON	65 - 80
ON	OFF	ON	81 - 96
OFF	ON	ON	97 - 112
ON	ON	ON	113 - 128

Switch number **three** is used to set the dimmer condition when the DMX 16 is not receiving controller multiplex signals due to a disconnected or faulty controller cable

SWITCH THREE	NO MPX CONDITION
OFF	All lights fade to full.
ON	All lights fade to off.

### *Front Panel Leds*

The RED PWR LED indicates DMX 16 is receiving AC power and is operating normally. If the RED PWR LED does not light or lights dimly after you have ascertained that AC power is available to the unit, one of the microphone cords connected to the DMX is probably shorted. Remove connections from the front panel of the DMX and RED PWR LED should light. If RED PWR LED still does not light, check internal fuse.

The GREEN MPX LED indicates DMX 16 is receiving a proper multiplex signal from the controller. If this LED does not light, check all connections between controller and DMX.

The sixteen CHANNEL LEVEL LEDS indicate when a channel is active and the channel's relative intensity.

### *Wiring Examples*

It is best to obtain a mating connector for your existing dimmer control cable from the manufacturer or dealer. This cable connector may be wired to the DMX 16 with a short cable allowing you to easily disconnect the cable if you move your equipment. You may simply remove the connector from the dimmer control cable (remembering which wire went to which pin of the connector) and wire it directly to the NSI DMX 16, although this may be awkward if you move your equipment much.

Following are some examples of connecting various manufacturer's dimmer packs to the NSI DMX 16. Please note that actual connections to other manufacturer's equipment may vary:

#### LEPRECON LD 1200/2400 6 channel dimmer packs

DIMMER	DMX 16	DIMMER	DMX 16
PIN #1	CHANNEL 1	PIN #2	CHANNEL 2
PIN #3	CHANNEL 3	PIN #4	CHANNEL 4
PIN #5	CHANNEL 5	PIN #6	CHANNEL 6
PIN #8	ANY "G" TERMINAL		

#### ETA 1251 4 channel dimmer packs

DIMMER	DMX 16	DIMMER	DMX 16
PIN #1	CHANNEL 1	PIN #2	CHANNEL 2
PIN #3	CHANNEL 3	PIN #4	CHANNEL 4
PIN #5	ANY "G" TERMINAL		

#### ETA 1257 6 Channel dimmer packs

DIMMER	DMX 16	DIMMER	DMX 16
PIN #1	CHANNEL 1	PIN #2	CHANNEL 2
PIN #3	CHANNEL 3	PIN #4	CHANNEL 4
PIN #5	CHANNEL 5	PIN #6	CHANNEL 6
PIN #10	ANY "G" TERMINAL		

#### TEATRONICS 6 channel dimmer packs

DIMMER	DMX 16	DIMMER	DMX 16 W
PIN #1	CHANNEL 1	PIN #2	CHANNEL 2
PIN #3	CHANNEL 3	PIN #4	CHANNEL 4
PIN #5	CHANNEL 5	PIN #6	CHANNEL 6
PIN #15	ANY "G" TERMINAL		

