

Operational Philosophy

To ensure trouble free operation, DMX512 standards require that DMX devices be installed in a daisy chain, with no tees, wyes or stars in the DMX wiring. However, site conditions may make star wiring desirable or even mandatory. A Gray Interfaces DMX Isolator permits star wiring by making each branch of the star appear electrically as its own entity, unaffected by the other branches of the star. Additionally, opto-isolation circuitry isolates each branch to prevent ground loops or accidental damage from fault voltages on DMX lines.

Connections

Typically, Gray Interfaces DMX Isolators are used in the following configuration:

- **DMX Output** is connected to dimmers or other DMX devices
- **DMX Inputs** (A,B,C,D,E, & F) are connected to the remote DMX consoles or other sources. *Only one input may be active a any one time.*

Indicators

LED indicators are provided on the face of the DMX Isolators for diagnostic purposes. Each group of three Input LEDs corresponds to one of the DMX inputs from A to F. The single group on the far right corresponds to the DMX Output from the DMX Isolator.

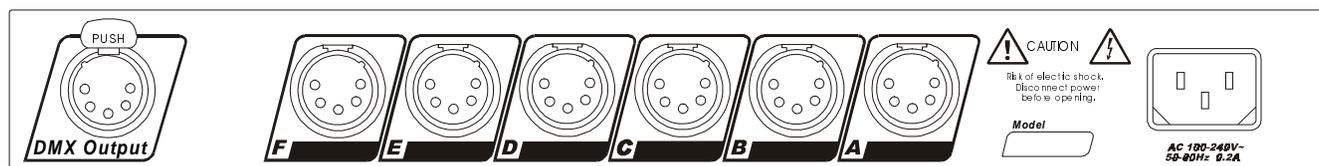
Red LEDs are provided for the main (Input) +5 volt power supply and the six isolated supplies (**ISO +5V**), green LEDs are provided for *Received* data and amber LEDs are provided for *Transmit* or *Talkback* data, if used.

In conventional operation, the following should be observed:

- All red LEDs should be illuminated whenever the unit is powered.
- The amber **Receive** LED at the input section (A to F) with the functioning source device connected and the green Output **Transmit** LED will illuminate

In addition, the following will be observed if devices using DMX Talkback are used:

- The amber Output **Talkback** LED and six green Input **Talkback** LEDs should illuminate once a functioning talkback device is connected to DMX Output.



DMX Basics

- All wiring must be in a continuous run, daisy-chained, no “Tees” are permitted
- “Stars” are permitted only in conjunction with a repeater
- Cable shield may be grounded at one end only, preferably at the control console
- Maximum cable length is 2,000 ft.
- Receiving devices have male connectors, transmitters have female
- 5 pin XLR type DMX connectors are standard:
 - Pin 1: *Common*
 - Pin 2: *Data (-)*
 - Pin 3: *Data (+)*
 - Pin 4: *Talkback Data (-) (Optional)*
 - Pin 5: *Talkback Data (+) (Optional)*
- 3 pin XLR type connectors are a non-standard alternative:
 - Pin 1: *Common*
 - Pin 2: *Data (-)*
 - Pin 3: *Data (+)*
- Wire must be Belden 9842 (120Ω), 9829, (100Ω) or equivalent
- A maximum of 32 DMX receiving devices can be present on a single DMX line
- The last DMX device on the line must be terminated with a termination switch or resistor with a value of 100 to 120 ohms between pins 2 and 3.

Rack Mounting

DMX Isolators can be rack mounted by using an optional 8801 19" Rack Mount bracket kit. The kit consists of two rack mount ears that are attached to the DMX Isolator using the 6-32 screws included in the kit.

Power

DMX Isolators are designed to work on voltages from 100-240 volts AC. It will automatically sense the incoming voltage and adjust accordingly. Be sure to use the correct power cord if your location requires something other than the 120V U-ground cord included with the unit.

DMX Termination

All inputs on the Gray Interfaces DMX Isolator are terminated.

DMX receiving devices such as dimmers or scrollers are generally provided with a termination switch, termination jumper or other means of connecting the required termination resistance across the DMX line. Always make sure that the last receiving device connected to any output line is properly terminated.

Model Description

8861	6 in 1 out bidirectional DMX Isolator , 5 pin XLR
8801	Rack mount kit

Specifications

Power Supply:	Universal input (100-240V, 50/60Hz)
Connections:	5 pin XLR
Isolation	2500V Opto-isolation on DMX lines 4000V Mains isolation
Size:	13.2 x 7.8 x 1.75" (335 x 198 x 44mm)
Protocols:	DMX512 or any RS422 or RS485 based protocol