

OVERVIEW

The DMX512-A standard requires that DMX devices be installed in a daisy chain, with no tees, wyes or stars in the data wiring. However, site conditions may make star wiring desirable or even mandatory.

The Pathway DMX Repeater permits star-wiring layouts by making each output a separate electrical entity, thereby protecting connected equipment from harmful electrical faults and ground loops.



CONNECTIONS

DMX INPUT

Connect to the DMX output of the controller or console using an appropriate cable for the connector type on your model. (See below for pinout information).

DMX OUTPUTS

Connect to the remote output receptacles and/or DMX-controlled devices receiving the console signal.

DMX THRU

Passes the console signal to additional DMX Repeaters or similar devices when connected to the DMX input on the next unit in line. This connection is passive and unisolated and will work if the power to the DMX Repeater is lost.

CONNECTOR PIN OUT

5-PIN XLR (STANDARD)

XLR PIN #	PURPOSE
1	Shield
2	Data - (complement)
3	Data + (true)
4	Not Used
5	Not Used

3-PIN XLR (NON-STANDARD)

XLR PIN #	PURPOSE
1	Shield
2	Data - (complement)
3	Data + (true)

SCREW TERMINAL CONNECTIONS

Model 9015 uses pluggable screw terminal connectors on the rear panel. The pinout arrangement is the same as 5-pin XLR connectors above.

CONNECTOR PIN OUT (CONT'D)

RJ45 etherCON CONNECTORS

Model 9017 and 9018 use RJ45 etherCON® connectors. The following is the ANSI standard wiring pin out for DMX-over-Category wire.

XLR PIN #	CAT5/6 Pin # and Color	PURPOSE
3	1 - White/Orange	Data 1 + (true)
2	2 - Orange	Data 1 - (complement)
5	3 - White/Green	Not Used
4	6 - Green	Not Used
-	4 - Blue	Not Used - do not connect
-	5 - White/Blue	Not Used - do not connect
1	7 - White/Brown	Shield/COM
1	8 - Brown	Shield/COM

STATUS INDICATORS

POWER (MAIN) *Blue.* Located next to the DMX INPUT port. Steady glow indicates main power input is OK. Off indicates no power.

POWER (PORT) *Blue.* Located next to each port. Steady glow indicates port power is OK. Off indicates a problem with internal port power supply.

DMX IN *Amber.* Located above Main Power LED. Steady glow or glow with flicker indicates valid DMX input. Off indicates no DMX input.

DMX OUTPUT *Green.* Located next to each port. Steady glow or glow with flicker indicates DMX output by that port. Off indicates no DMX output at that port.

DMX TERMINATION

DMX rules require the last device on a DMX line to be terminated with a 120Ω resistor between pins 2 and 3 to prevent signal reflection. The Repeater has a termination switch to accomplish this.

If there is no connection to the DMX THRU terminals, the DMX Terminate switch should be ON (pressed in and latched).

If there are other devices connected to the DMX THRU terminal, the DMX Terminate switch should be OFF (in the out position). Ensure termination is applied to the final device in the daisy-chain.



DMX BASICS

- Star wiring is permitted only in conjunction with a repeater
- All cabling must be a continuous daisy-chain. No “tees” are permitted
- Cable shield is earth-grounded at one end only, preferably at the control console
- Maximum length of one cable segment is 1,800 ft. (550m)
- The last DMX device on the line must be terminated with a 100 or 120Ω resistor between pins 2 and 3
- Cable must be Belden 9842 (120Ω), 9829, 9729 (100Ω), ISO/IEC 11801 (Cat5) or equivalent
- Keep all DMX cabling away from high voltage or power cables to maintain data integrity

DMX512-A COMPLIANCE

When equipped with 5-pin XLR connectors, this product complies with the current ANSI E1.11 DMX512-A standard and all previous standards to DMX512 (1990).

Screw terminal connector and RJ45-equipped models are compliant with E1.11 DMX512-A under the non-compatible connector (NCC) provision. RJ45-equipped models are intended for installation in restricted-access equipment rooms and should not be used as portable gear. Accidental connection to data switching or other equipment may cause damage to equipment and/or personal injury.

All DMX ports are protected to 250V with self-healing circuitry.

INSTALLATION

DMX Repeaters are intended for desktop use, or may be mounted in a standard 19” equipment rack, using the rack ear kit included.

Truss-mount adaptors (#9003) and wall-mount adaptors (#9002) are also available.

The DMX Repeater is intended for installation in a dry, indoor location. Operating conditions: 14°F-104°F (-10°C to 40°C); 10-90% relative humidity, non-condensing.

Warning: The AC socket outlet shall be installed near the equipment and shall be easily accessible.

Warning: This equipment relies upon building installation primary overcurrent protection.

Warning: Except for the IEC chassis plug marked for AC input, all ports on the DMX Repeater are intended for low voltage data lines only. Attaching anything other than low voltage sources to the data ports may result in severe equipment damage, personal injury or death.

ELECTRICAL INFORMATION

- Power input: Universal input 100-240VAC, 50/60Hz, 0.08A maximum
- 250V Fault protection on DMX ports
- 1000V Opto-isolation between DMX ports (THRU port non-isolated)
- Connections: 5-pin XLR, 3-pin XLR, screw terminal, RJ45 (depending on model)
- Input Signal: ANSI E1.11 DMX512-A
- Outputs: ANSI E1.11 DMX512-A

PHYSICAL

- 5.2 lbs (2.4 kg)
- 17”W x 1.7”H x 7”D (432mm x 43mm x 178mm)
- Ambient operating conditions: 14°F-104°F (-10°C to 40°C); 10-90% relative humidity, non-condensing

COMPLIANCE

- USITT DMX512 - 1990 / ANSI E1.11 DMX512-A R2013
- RoHS 2011/65/EU
- CE
- ETL