

Category: Cables	Subject: DMX Drop Cable For Cat.5 Connection
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Independent laboratory tests carried out for the ESTA Control Protocols Working Group found that Category 5 or higher UTP or STP cable, was as suitable for the transmission of DMX512 data as the recommended EIA-485 data cables. Incorporating cables for DMX data into the Ethernet cable plant of installations can provide for the use of existing DMX protocols while allowing for the future use of Ethernet protocols.

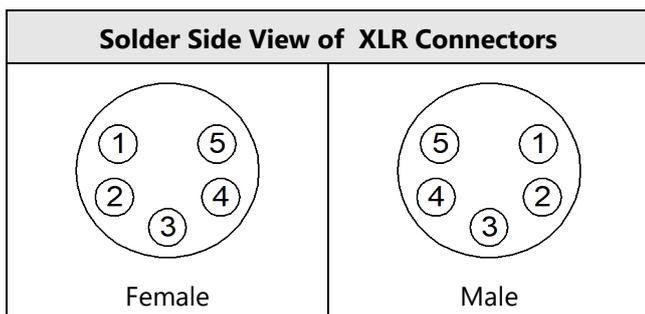
Connector Wiring

RJ45 Pin	Category-5 Cable Wire Colour		Pair #	Wire Purpose	XLR Pin
	T-568A	T-568B			
1	White / Green	White / Orange	2	DMX Data 1 + (Primary Data Link)	3
2	Green	Orange	2	DMX Data 1 - (Primary Data Link)	2
3	White / Orange	White / Green	3	DMX Data 2 + (Optional Data Link)	5
6	Orange	Green	3	DMX Data 2 - (Optional Data Link)	4
4	Blue	Blue	1	Not Assigned	n/c
5	White / Blue	White / Blue	1	Not Assigned	n/c
7	White / Brown	White / Brown	4	Signal Common for Data 1 0V	1
8	Brown	Brown	4	Signal Common for Data 2 0V	1
-	Shield	Shield	-	Shield (Only if STP cable is used)	1

Notes:

1. This specification conforms to ANSI standard E1.11 – 2004 “Entertainment Technology USITT DMX512-A Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment & Accessories”.
2. The EIA/TIA 568 standard defines two alternatives for RJ45 connector wire colours referred to as T-568A and T-568B. Use of T-568A (shaded green in the table above) is recommended for all new installations.
3. Do NOT connect the cable shield to the metal bodies of the XLR connectors because doing so can create an electric shock hazard if there’s a difference in earth potential between the dimmer packs and console.
4. Always check for compatibility of all equipment you intend connecting together with DMX cables because the non-standard use of pins 4 and 5 can cause malfunction and/or damage to incompatible equipment.
5. Cat. 5 cables carrying DMX512 data from the console to the dimmers via a patch panel must be patched directly together by a patch cable at the patch panel. Never connect them to an Ethernet switch.

Connector Pins Layouts



WARNING

Accidental connection of DMX circuits to non DMX equipment, such as Ethernet switches at patch panels, may result in damage to equipment.

Ensure patch panels and all connectors on DMX circuits are clearly labelled “DMX Only” and that access to the patch panels and connected DMX equipment is restricted to qualified and trained personnel only.