DMX512 XLR to RJ45 Cable

Subject: DMX Drop Cable For Cat.5 Connection		
Revised: 08 Dec 2008	**By:** S R Reader	
Category: Cables	**File Reference:** CA000007	
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Independent laboratory tests carried out for the ESTA Control Protocols Working Group found that Category 5 or higher UTP cable, or the slightly more expensive STP cable, was as suitable for the transmission of DMX-512 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. This datasheet details the wiring scheme used by Adena for cables linking 5-Pin XLR DMX connectors to standard RJ45 Ethernet connectors.

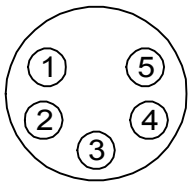
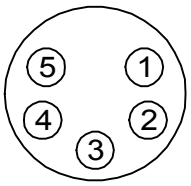
Connector Wiring

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 the ANSI E1.11 – 2004 standard "Entertainment Technology USITT DMX512-A Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories".
2. The EIA/TIA 568 standard defines two alternatives for the 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. Connect the cable shield only to pin 1 of each connector. 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 the control desk.
4. Always check for compatibility of all the equipment that 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. The Cat. 5 cables carrying DMX data from the console to the patch panel and from the patch panel to the dimmers must be patched directly together by a patch cable at the patch panel.

Connector Pins Layouts

Solder Side View of XLR Connectors	
	
Female	Male

WARNING

Accidental connection of DMX circuits to non DMX equipment, such as Ethernet hubs 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.