



DMX512 Cable Specification

Subject: DMX Cable Types and Connector Wiring		
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Connector Wiring

Pin	Wire Purpose	Pin	Wire Purpose
1	Data Link Common / Cable Shield	Body	No Connection
2	Primary Data Link, Data 1 -	4	Secondary Data Link, Data 2 -
3	Primary Data Link, Data 1 +	5	Secondary Data Link, Data 2 +

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” and the **DRAFT** BSR E1.27-1 “Standard for Portable Control Cables for use with USITT DMX512–A Products”.
2. The above standards designate Pins 4 and 5 for an optional secondary data link.
3. With few exceptions, these standards require 5-Pin XLR connectors to be used with both data pairs wired through to maintain continuity of both data circuits at all times.
4. Use of 3-Pin XLR connectors and/or single pair cable is common but does not comply with these standards.
5. All pins are wired through the cable pin for pin (pin-1 to pin-1, pin-2 to pin-2, pin-3 to pin-3, etc. Ensure that the wires for each pair don’t get mixed up when terminating them into the connectors. The wire colour and pin combinations in the table below apply to all cables manufactured by Adena after 01/01/2004.
6. 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.
7. 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.

Connector Pins Layouts

Solder Side View of Male XLR Connectors		Solder Side View of Female XLR Connectors	

Cable Types

Cable Manufacturer - Cable Type	Pin 1	First Pair		Second Pair	
		Pin 2	Pin 3	Pin 4	Pin 5
Lapp Etherline FD-P Cat.5e Art-2170289	Shield	Orange	White/Orange	Green	White/Green
General Cable – Dataspeed B2002 ESCS	Shield	White	Blue	White	Orange
General Cable – Dataspeed B2001 ESCS	Shield	White	Blue	--	--
Belden Cables – 9842	Shield	White/Blue	Blue/White	White/Orange	Orange/White
Belden Cables – 9841	Shield	White/Blue	Blue/White	--	--