THE
DMX 12

DMX Analogue Converter

The **DMX 12** decodes consecutive DMX-512 channels to analogue control voltages. Two versions are available: 0 to 10 volt and 0 to –15 volt.

The **DMX 12** can be supplied as a printed circuit board assembly for fitting into older wire-per-channel analogue type dimmer packs up to 12 channels or as a stand-alone 1U rack mount in standard 19-inch chassis. The use of digital multiplexing allows up to 512 control channels to be transmitted through a single shielded pair cable. This protocol is called DMX-512 and is specified by the USITT.

The **DMX 12** can decode a bank of 12 DMX control channels with the first channel being selected by front panel switches.

The **DMX 12** will, "Last Hold" if DMX control signal is lost. Should the DMX cable become disconnected or the control console stop transmitting, the DMX 12 will continue to output the last received information until switched off. When reconnected to a working DMX source, the outputs will be updated. If mains power to the DMX 12 is interrupted, all outputs will be off when turned on again.

Always all outputs off if front panel switches set to "000".

Test mode, in this mode the internal controller is used to drive the dimmer channels. Setting the start address switches to banks between 610 to 729 and 800 to 839 accesses it. No DMX control is necessary, but a control signal may be left connected.
This test mode is split into two sections with individual channel testing from banks 610 to 729 and group channel testing from banks 800 to 839.
The right hand selector switch sets the test level. Note that the maximum level that can be set in the test mode is 90%.
Individual channel testing can be selected by setting the start address switches as follows;
First 2 digits channel number plus 60, third digit output level X 10%.
Therefore selecting 665 would output channel 6 to 50%
Group channel testing, refer table;

SELECTOR SWITCHES LEFT	RIGHT	CHANNEL GROUPING	CHANNEL LEVEL
80	0-9	Channels 1-4 (Phase 1)	0-9
81	0-9	Channels 5-8 (Phase 2)	0-9
82	0-9	Channels 9-12 (Phase 3)	0-9
83	0-9	Channels 1-12	0-9

SETUP AND CONNECTIONS

The **DMX 12** is generally placed at the dimmer end of the control cable. The control cable should be designed for data communication. Cables designed for this purpose may be called “RS-422” or “RS-485” cables or “Shielded Twisted Pair” or “Low Capacitance Data Cable”. Microphone cable is not designed for this purpose and should not be used for control runs of over 50 meters. A Male 5 pin “XLR” type connector specified in the DMX-512 standard is used for the control input. A Female feed-through connector is fitted to loop the incoming DMX-512 signal on to other devices. There is no isolation between the input and output DMX-512 connectors. The control input is isolated from all internal circuitry and mains earth. This eliminates the possibility of ground loops and provides added protection for the console against dimmer failure.

TERMINATION

The single most common cause of DMX-512 problems is failure to terminate the end of the control run with a termination resistor. If the **DMX 12** is the final device on the control run, its feed through connector should be terminated with a 120 ohm resistor between pins 2 and 3.

CONTROLS & CONNECTIONS

DMX Input & Output

XLR 5 pin plug and socket. Accepts industry standard USITT DMX-512/1990 protocol. Incoming DMX-512 data frames are checked for framing errors, invalid Start Codes and noise. All specifications meet or exceedDMX-512 requirements.

DMX IN Led (Yellow)

LED will be lit when receiving valid DMX-512 data frames.

Run Led (Green)

LED will flash when the **DMX 12** is powered up and running correctly.

Offset Code Switches

Used to select a bank of 12 control channels with the start channel being selected with these switches. Valid settings 001 to 512. Selecting 000 will set all outputs to off. Selecting 600 to 839 to test outputs, all other settings will set all outputs to off.

The **DMX 12** is manufactured In Napier, New Zealand by Lockyer Electronics.
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