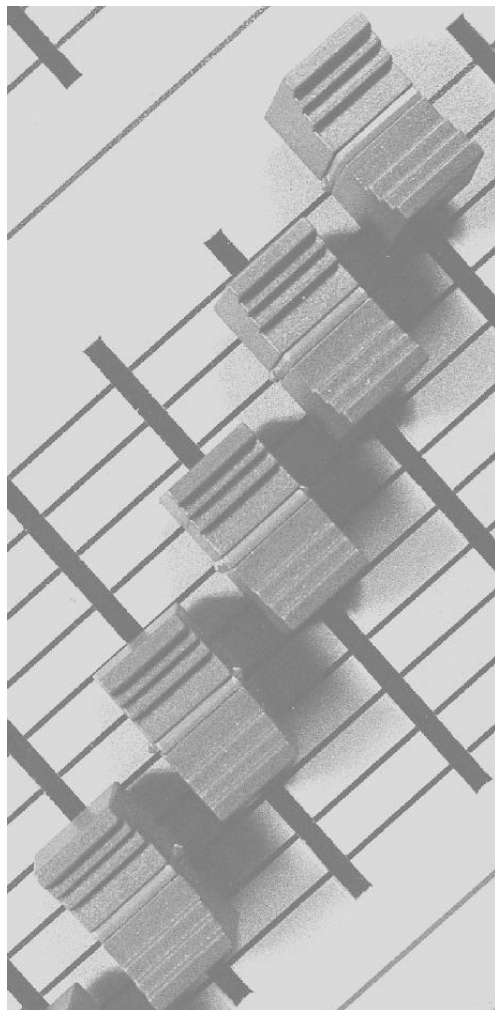

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Sirius 24 and 48 DMX Output Kit Installation and Operation Instructions

Issue 5 - March 2002

Zero 88 Lighting Ltd reserves the right to make changes to the equipment described in this manual without prior notice.

This equipment is designed for use with a Sirius 24 or Sirius 48 lighting control desk only and is unsuitable for any other purpose. It should be fitted and used by, or under the supervision of an appropriately qualified or trained person only

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E&OE

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Installation

Introduction

This kit will give a Sirius 24 or a Sirius 48 the ability to control up to 512 DMX channels, and enables the user to define his own output patch.

Each desk channel can be programmed to control any number of dimmer channels via DMX512, with analogue outputs functioning simultaneously.

Using the DMX512 protocol eliminates the need for bulky and expensive multicore cables by using only three wires to control all 512 channels. DMX512 is the most widely used digital communication system between lighting desks and DMX devices such as dimmers, colour scrollers and moving lights

Controlling the Dimmers

The DMX output from the Sirius will normally be connected directly to dimmers with DMX 512 inputs or to 0 to 10v input dimmers using one or more Zero 88 demultiplexers.
(eg Demux 48 - Stock No 00-276-00).

Cable Details

The maximum cable length between a Sirius and a Demultiplexer will depend on several factors including:

- Type of cable used
- Number of DMX devices connected in the line
- Electrical environment

Zero 88 recommend that shielded twisted pair cable approved for RS422/485 (eg. Belden 9841 or Proplex PC222P) is used.

Communication over a hundred metres should normally be possible without problem, for longer cable runs it may be necessary to fit a DMX Termination Plug (Stock No 00-269-00) to the last DMX device in order to ensure completely error

free data transmission. It is good practice to always use a Termination Plug

Substitution of microphone or other types of cable may be possible, but data transmission errors are more likely, particularly over long distances.

Installation

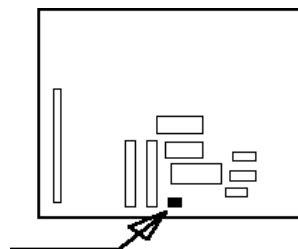
Some modifications may be needed to your desk to allow this DMX kit to be fitted. **All Sirius from serial number: 283950 have been modified.**

To find out if your Sirius has been modified, follow instructions below to remove the back of the desk.

Find the microprocessor PCB,
(two in the Sirius 48).

Compare it with this sketch

Is there
a 2 way
connector
present
in the position
shown ?



If there is, your desk HAS BEEN modified, so continue with these instructions..

If your Sirius is not modified, then go to the enclosed modification kit, follow instructions to modify the PCB's then refit the PCB's, and then continue with these instructions.

Fitting the Sirius DMX Kit

Remove the bottom covers:

- 1 Switch off the desk; **remove the mains lead** and the key.
- 2 Carefully turn the desk over with the outputs away from you.
- 3 Remove the ten screws in the large bottom panel that are nearest you.
- 4 Remove the four screws (two in each side plate) that secure the wide rear plate containing the rubber foot.
- 5 Remove the bottom panel assembly.

REASSEMBLE IN THE REVERSE ORDER

To fit the DMX kit

- 1 Remove the hole plug from the spare hole in the rear (connector) panel (see diagrams).
- 2 Pass the three wires through the hole, and fix the XLR connector in place using the two small self tapping screws provided.
- 3 You may find it easiest to connect the 3 XLR wires to the screw terminals on the DMX board at this stage. The connections are:

XLR 5		DMX board
Pin 1	Yellow	0V (Signal Common)
Pin 2	Red	1- (Dimmer drive complement)
Pin 3	Black	1+ (Dimmer drive true)

- 4 Locate the three fixing holes for the DMX board (see diagrams), and fix the DMX pcb in place using the long screws and grey spacers provided.
- 5 Locate the 5 changeable links at the end of the DMX board, and set the end one to the '24' position if the board is to be installed into a Sirius 24, or to the '48' position for a Sirius

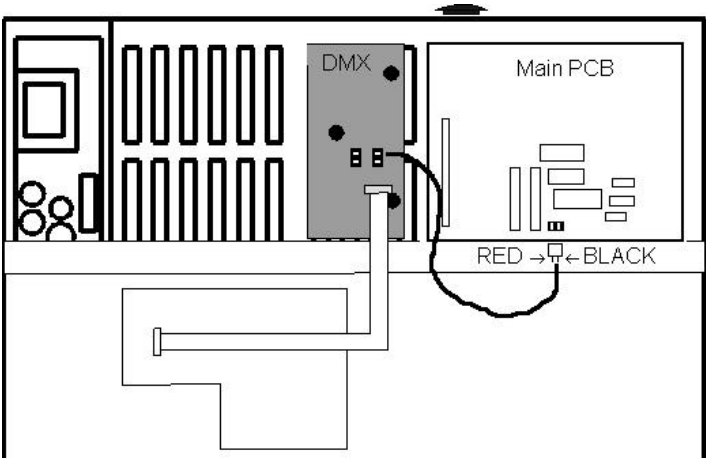


Figure 1: Sirius 24

FOR SIRIUS 24 ONLY:

See Figure 1
 Connect the 16-way ribbon cable from the DMX board to the connector on the Right Hand Button Board (EM5774; on the left as shown in Figure1). Take care to insert the connectors the correct way around.

There are now two screen cables left coming from under the DMX PCB.

Plug the connector of the longer cable into the 2 way connector now fitted to the main processor PCB as shown here. Ensure that the colours are fitted the correct way around as shown. The spare cable should be coiled up and secured out of the way.

FOR SIRIUS 48 ONLY:

See Figure 2
 Locate the 16-way ribbon cable connecting the Outer Right Hand Button Board (situated just above the Power Supply) to the Inner Right Hand Button Board (EM5774). Unplug this cable from the Inner Right Hand Button Board and plug it into the socket on the DMX board. Plug the flying cable from the DMX board into the socket on the Inner Right Hand Button Board. Take care to insert the connectors the correct way around.

There are two screened cables coming from the DMX PCB. Plug the longer cable into the 2 way connector now fitted to the main processor PCB. Plug the shorter cable into the similar 2 way connector on the slave processor PCB. Ensure that the colours are fitted the correct way around as shown in Figure 2.

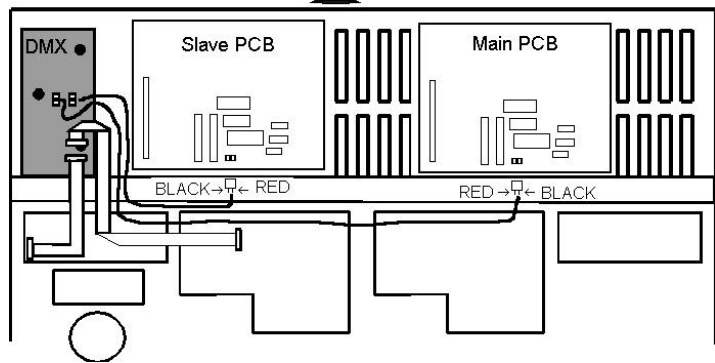


Figure 2: Sirius 48

48. Leave the other links in their factory set positions as shown on the cover.

- 6 Locate the four Main Board Power Supply wires and unplug them from the Power Supply. Plug this into the 4-way connector on the DMX board.
- 7 Plug the 4 wire flying lead from the DMX board into the Power Supply.

* Note

DMX Card

The screened cables are attached to the DMX PCB with Molex connectors the RED wire on these connectors need to be nearest the Ribbon cables.

Removing DMX Card

Should the DMX card be removed, the Sirius 48 will only function as 24 channel desk unless the two way connectors are linked with a screened cable. Take the cable with two way connectors at each end and fit as shown in Figure 3.

Note that the screen at one end of the cable is soldered to the 0V point show in Figure 3.

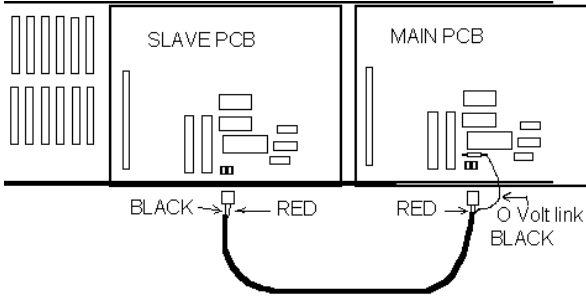


Figure 3: Sirius 48 with No DMX

Slaved desks

Where two Sirius desks (24 and/or 48) are being used in a Master and Slave configuration, one DMX Kit is needed for each desk, Each desk then gives its own DMX output. The two DMX supplies then need to be connected independently to its own Demultiplex unit.

Programming the Output Patch

Output Patch

With the DMX board installed, the Sirius is ready to operate with DMX outputs. The default configuration is for desk channels 1 to 48 drive DMX channels 1 to 48 respectively, ie. desk channel 1 drives DMX channel 1, desk channel 2 drives DMX channel 2, etc up to 48 (or 24 for a Sirius 24).

It is possible for the user to program desk channel 1 to drive DMX channel 6, and desk channel 2 to drive DMX channels 7, 36, and 89 and so on.

The Output Patch can only be programmed when in Super User mode.

To Access Super User:

- 1 Turn the Keyswitch to Presets Only
- 2 Press and hold down the Effects + and - buttons, then turn the keyswitch to Program; release both buttons. The Memory No display shows SUPER USER; the Autofade display shows the software version number. Note DMX will only work with software versions 4319 and above.

To Program the Patch:

- 1 Select the Output Patch:
Use the Memory + and/or - buttons to find 'OUTPUT PATCH' (see over page for Super User operation) Note: This option can only be selected when the DMX board is installed. Press the Memory Program button to select this option; the display shows 'Out 001 ch 01' This means that DMX output channel 001 is being driven by desk channel 1
- 2 To select the desk channel which drives a DMX output channel, press the Channel Flash button for the channel you wish to choose.

For example, pressing Channel 9 flash button sets 'Out 001 ch 09' This means that DMX output channel 001 is now being driven by desk channel 9.

Pressing the memory + (and/or -) buttons will cycle through DMX channels 001 to 512. Each of these outputs can be patched to any desk channel simply by pressing the appropriate Channel Flash button.

Whenever a change is made to the output patch the outputs are re-routed instantaneously.

- 3 To turn a DMX output channel off:
Press the channel Flash button again. For example, pressing Channel 9 flash button again sets 'Out 001 ch — ' This means that DMX output channel 001 is now turned off.
- 4 When Output Patching is complete:
Press the Memory Program button to return you to the 'Output Patch' option in the Super User menu.

Clearing the Output Patch

Selecting the Super User 'Clear All' option will clear all memories and reset DMX output. DMX channels 1-48 to desk channels 1-48 respectively (or 24 for a Sirius 24), with all other channels turned off.





High Speed Data Transmission

Sirius only transmits those DMX output channels which have been programmed. By keeping programmed channels within a small number range, and unused channels turned off, the fastest possible refresh rate will be achieved.

Memory Card Storage

When storing Sirius data onto a Memory Card (as described in the Sirius 24 & 48 Manual) all Output Patch information will be recorded. When the data from the card is reloaded, any resident Patch will be overwritten.

DMX Output Kit Links

Sirius 48	48		24	Sirius 24
1990 DMX	8		4µS	Old DMX
Send 512 Ch	1		A	Send Prog Ch
Factory Test	2		B	Normal Open
Unused	3		C	Unused

Link 1:
Selects Sirius 48 / Sirius 24

Link 2:
Selects the pre 1990 DMX standard or the later 1990 Standard (The 4/8 µS refers to the timing between the Break and the first transmitted character and is actually 4 or 8 microseconds)

Link 3:
Selects whether all 512 channels of DMX data is sent or whether programmed channels only are sent.

Link 4:
Selects Factory Test if required.

Link 5:
Currently unused.

Super User Operation - Main Options

Press memory + for ↓ or - for ↑; **Memory Program** for →; Press **Memory Program** again for ←

