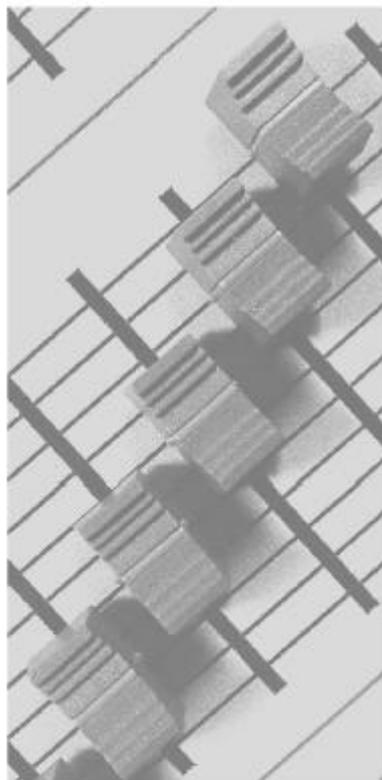

the

INFORMATION

pack

ALCORA 

USER MANUAL



zero 





USER MANUAL

WARNING

**If a portable or temporary three phase mains supply is used to power this desk:
We recommend that Power Supply is unplugged from the mains supply before connecting or disconnecting the mains supply.
SERIOUS DAMAGE will occur if the Power Supply is connected across two phases.**

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

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

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Introduction

PRESET A

PRESET B

CROSSFADE

10sec 20sec 30sec 1min 1sec

MANUAL CURSE
 FADING NEXT
 STEP

PRESET CONTROL

A FADING, B STORED
 B FADING, A STORED

MEMORY TYPE

SEQUENCE
 SCENE

MODE

SUPER USER
 PRESET
 PROGRAM
 RUN

MEMORY MASTER

COPY
 PASTE
 PAUSE
 GO NEXT

GRAND MASTER

D.B.O.
 FLASH ON/OFF
 LOAD PROGRAM
 SAVE
 MEMORY MASTER
 GRAND MASTER

FUNCTIONS

PREVIEW/EDIT
 ADD STEP
 STEP +
 STEP -
 WIDE
 RECOVERY CLEAR
 CLEAR ALL
 DIRECTION
 SOUND
 SPEED
 MAX MIN

MODE

O.K.
 D.B.O.

This Manual

This manual describes the operation and programming of the Alcora lighting desk. It begins with a general description of the desk, the master controls, turning on the desk and the default state. The main sections of the manual then cover the different operating modes of the desk, namely PRESET, PROGRAM and RUN. Each of these sections contains a basic description of the relevant front panel controls and displays, and a step by step guide to the various functions available. The manual concludes with sections on the SUPER USER functions and the technical specification of the desk.

Throughout this manual, references to controls, buttons and lights on the front panel appear in capital letters (eg GRAND MASTER, PRESET CONTROL, FADING light).

The Alcora Lighting Desk

Is a compact user-friendly memory desk which records channel levels. Memories can be recorded as scenes or sequences (chases). Crossfade times and chase speed/direction can be adjusted. The desk has 12 control channels (24 with WIDE active), and provides theatre style sequential memory access.

The standard output from the desk is DMX 512 only. The control channel data is output on DMX channels 1 - 24. (control channel 1 = DMX channel 1, control channel 2 = DMX channel 2 etc.)

Options available

Analogue output kit Stock No 00-118-00.

Memory Module Stock No 00-115-00

Master Controls and Displays

These controls set the general operating conditions for the desk.

- **MODE**

The MODE button is used to select the operational mode of the desk. The red lights above the button show the current operating mode (SUPER USER, PRESET, PROGRAM, RUN).

- **GRAND MASTER**

The GRAND MASTER fader is used for overall control of the maximum output levels from all channels of the desk.

- **DBO**

The DBO button makes all the desk outputs zero and operates in all modes except SUPER USER. Pressing the DBO button switches between DBO active (Dead Black Out - all channels at zero) and DBO not active (normal desk outputs). The red light in the DBO button indicates the current state (Flashing = DBO active, Off = DBO not active).

- **DMX OUT OK**

This light is illuminated when the desk is transmitting digital data.

- **WIDE**

The WIDE button is used to select/deselect WIDE operation. When in WIDE, the desk is a single preset 24 channel desk, rather than a two preset 12 channel desk. With WIDE selected it is still possible to crossfade between two scenes (see section on Preset Mode for details). When WIDE is selected the red light in the button is illuminated.

- **FLASH ON/OFF**

The FLASH ON/OFF button is used to enable/disable the CHANNEL FLASH buttons. When the FLASH FUNCTION is

active, the red light in the button is illuminated and the CHANNEL FLASH buttons are enabled.

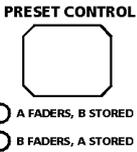
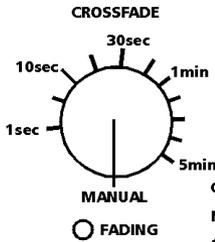
Turning on the Desk

1. Connect the DMX cable.
2. Connect the power supply to the desk and switch on at the mains.
3. Ensure that DBO is not active (the red light in the DBO button is off).
4. Set the GRAND MASTER fader to full.
5. Set the A MASTER and B MASTER faders to zero.
6. Set the CROSSFADE control to manual.

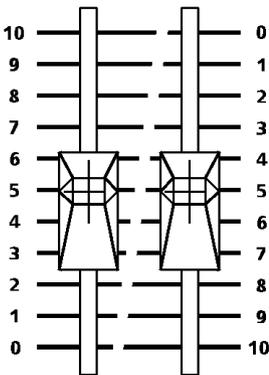
Default State

When the desk is first switched on, or is subsequently switched on and Recovery Mode is off, the following default state is entered:

MODE	PRESET
DBO	Not active
DISPLAY	Not active
LIGHTS	CURR Off
	NEXT Off
	STEP Off
WIDE	Not active
FLASH ON/OFF	Active
SOUND	Not active
All other lights	Off



A MASTER B MASTER



PREVIEW/EDIT



- CURR
- NEXT
- STEP

MEMORY +



MEMORY -



COPY



PASTE



PAUSE



GO NEXT



MEMORY TYPE

- SEQUENCE
- SCENE

ADD STEP



STEP +



STEP -



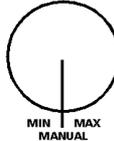
DIRECTION

- >
- <
- <>

SOUND



SPEED



MODE

- SUPER USER
- PRESET
- PROGRAM
- RUN

DMX OUT

- O.K.

D.B.O



WIDE



FLASH ON/OFF



RECOVERY



LOAD



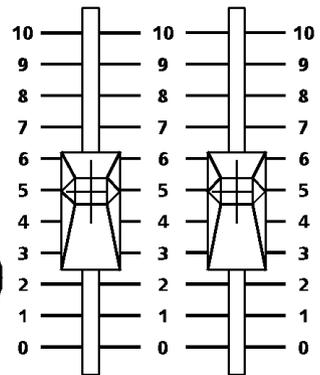
CLEAR ALL



SAVE

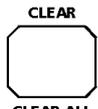
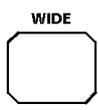
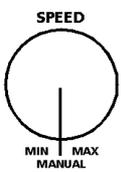
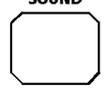
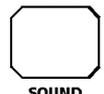
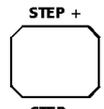
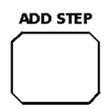
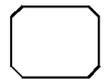
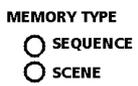
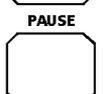
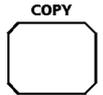
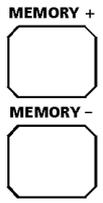
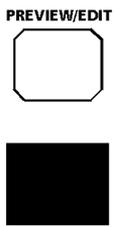
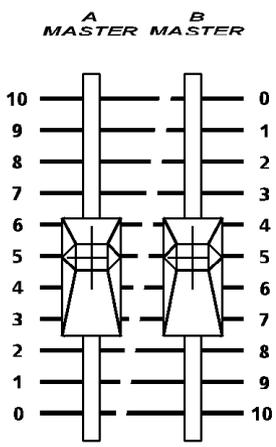
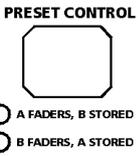
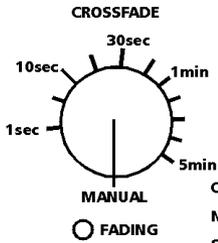


MEMORY MASTER

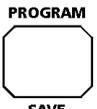
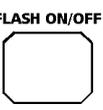
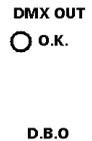


GRAND MASTER

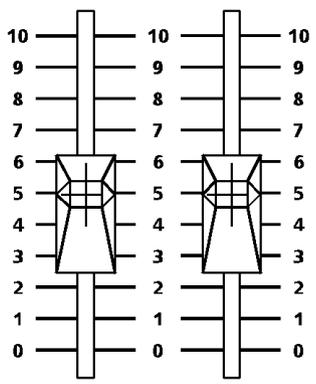
ALCORA



MEMORY MASTER



GRAND MASTER



When the desk is in PRESET Mode all the memory functions are disabled, offering the user a completely manual system.

The desk can be operated by either two 12 channel presets controlling 12 channels, or a single WIDE preset controlling 24 channels.

In Two Preset operation, separate scenes are set up on PRESET A and PRESET B using the individual channel faders. The A MASTER and B MASTER faders are used to crossfade between the two scenes.

With WIDE selected it is still possible to crossfade between two scenes. The first scene is set up on the PRESET A and PRESET B faders and is stored temporarily using the PRESET CONTROL button. Once stored, another scene can be set up on the PRESET A and PRESET B faders. The A MASTER and B MASTER faders are used to crossfade between the stored scene and the scene on the PRESET faders.

Crossfades can be manual or timed. Overall output is under the control of the GRAND MASTER.

Preset Controls and Displays

- PRESETS A AND B

There are 12 PRESET A faders which control individual channels 1 -12.

There are 12 PRESET B faders which control individual channels 1 -12 or channels 13 - 24 if WIDE is active.

- CHANNEL FLASH BUTTONS

There are 24 CHANNEL FLASH buttons corresponding to the 12 PRESET A and 12 PRESET B faders. These are used to flash individual channels. These buttons can be disabled using the FLASH ON/OFF button.

- A MASTER AND B MASTER

In two preset operation, the A MASTER is used to control the maximum output level from the PRESET A faders. The B MASTER is used to control the maximum output level from the PRESET B faders.

In WIDE operation, the A MASTER and B MASTER faders are used to control the maximum output level from both the PRESET A and PRESET B faders, and the stored scene.

The B MASTER fader is reversed (100% at the bottom of its travel) to facilitate manual crossfades when moving the A MASTER and B MASTER in tandem.

- CROSSFADE

The CROSSFADE control is used to determine the fade time when crossfading between scenes. The control can be set to Manual or to a time between 1 second and 5 minutes.

- FADING LIGHT

The red FADING light below the CROSSFADE control flashes when a timed crossfade is taking place.

- PRESET CONTROL

The PRESET CONTROL button is only applicable when WIDE is active. This button is used to control which master (A MASTER or B MASTER) has control of the PRESET faders, and which master has control of the stored scene. The accompanying lights on the front panel indicate the current state (A FADERS, B STORED or B FADERS, A STORED).



CROSSFADE

30sec
10sec
1min
1sec
5min

MANUAL
FADING

PRESET CONTROL

A FADERS, B STORED
B FADERS, A STORED

A MASTER B MASTER

PREVIEW/EDIT

CURR
NEXT
STEP

MEMORY +
MEMORY -
COPY
PASTE
PAUSE
GO NEXT

>
<
<>

MEMORY TYPE
SEQUENCE
SCENE

ADD STEP
STEP +
STEP -
DIRECTION
SOUND
SPEED

MODE
SUPER USER
PRESET
PROGRAM
RUN

WIDE
RECOVERY
CLEAR
CLEAR ALL

MEMORY MASTER

DMX OUT
O.K.

D.B.O
FLASH ON/OFF
LOAD PROGRAM
SAVE

GRAND MASTER

Two Preset Operation

The PRESET A and PRESET B faders, the A MASTER and B MASTER and the GRAND MASTER are used to control the output levels from the desk. The CROSSFADE control is used to determine the crossfade time between the preset masters.

Setting up for Two Preset Operation

1. If the desk is not already in PRESET Mode, press and hold the MODE button for 1 second. The PRESET light above the MODE button will come on.
2. Ensure WIDE is not active and the CROSSFADE control is set to Manual.

To Output a Scene from Preset A

1. Set the required levels for each channel on the PRESET A faders.
2. Set the A MASTER to full and the B MASTER to zero. The scene set up on PRESET A is output live.

To Output a Scene from Preset B

1. Set the required levels for each channel on the PRESET B faders.
2. Set the A MASTER to zero and the B MASTER to full. The scene set up on PRESET B is output live.

Manual Fading between Scenes

1. Ensure that the CROSSFADE control is set to Manual.
2. Set up a scene using the PRESET A faders.
3. Set up a different scene on the PRESET B faders.
4. Set the A MASTER to full, and the B MASTER to zero. The scene set on the PRESET A faders will be output.
5. To crossfade to the scene set up on PRESET B, simultaneously move the A MASTER to zero and the B MASTER to full. The operator has direct control over the speed of the scene change. As the master faders are moved in tandem the scene set up on PRESET B will fade in and the scene set on PRESET A will fade out. The crossfade is dipless.
6. A new scene can then be set up on PRESET A without affecting the outputs.
7. To crossfade to the new scene on PRESET A, simultaneously move the A MASTER to full and the B MASTER to zero.
8. As the master faders are moved in tandem the scene set up on PRESET B will fade out and the scene set on PRESET A will fade in. The crossfade is dipless.

Timed Crossfades between Scenes

1. Set the A MASTER and B MASTER to zero.
2. Set up a scene using the PRESET A faders.
3. Set up a different scene on the PRESET B faders.
4. Set the CROSSFADE control to the time required to fade scene A in.
5. Quickly move the A MASTER to full. The scene on the PRESET A faders will fade in and be output live. (The time taken for the fade to complete is determined by the value set on the CROSSFADE control). The red FADING light will flash while the dipless crossfade is taking place, and go out when the crossfade is complete.
6. To crossfade to the scene on PRESET B, quickly move the A MASTER to zero and the B MASTER to full. The scene on PRESET B will fade in and the scene on PRESET A will fade out in the selected time. The red FADING light will flash during the crossfade.
7. A new scene can then be set up on PRESET A without affecting the outputs.
8. To crossfade to the scene on PRESET A, quickly move the A MASTER to full and the B MASTER to zero. The scene on PRESET A will fade in and the scene on PRESET B will fade out in the selected time. The red FADING light will flash while the dipless crossfade is taking place, and go out when the crossfade is complete.

Flashing Channels

1. Ensure that the FLASH FUNCTION is active.
2. Press and hold an individual CHANNEL FLASH button. (Those below the PRESET A faders or PRESET B faders can be used). The channel is then added to the scene at the level set on the GRAND MASTER.
3. Release the CHANNEL FLASH button. The channel returns to its previous level.

Wide Operation

In WIDE the user is able to crossfade between, or combine two scenes which are 24 channels wide.

A scene is set up using the PRESET A and PRESET B faders (PRESET A faders control channels 1 -12, PRESET B faders control channels 13 - 24). This scene is then stored temporarily by pressing the PRESET CONTROL button. A second scene can then be set up on the PRESET A and PRESET B faders. The A MASTER and B MASTER faders can then be used to crossfade between the two scenes.

The PRESET CONTROL button is used to control which master has control of the PRESET channel faders, and the stored scene. The GRAND MASTER is used to control the final output levels from the desk. The CROSSFADE control is used to determine the crossfade time between the two scenes.

Setting up for Wide Operation

1. If the desk is not already in PRESET Mode, press and hold the MODE button for 1 second. The PRESET light above the MODE button will come on.
2. Ensure WIDE is active. On first invoking WIDE or re-entering WIDE, the PRESET faders will be assigned to the A MASTER, and the stored scene assigned to the B MASTER. The lights next to the PRESET CONTROL button will indicate this (A FADERS, B STORED). The temporarily stored scene will be cleared.

Storing and Cross Fading Scenes in WIDE

1. Set the A MASTER and GRAND MASTER to full and the B MASTER to zero. Set the CROSSFADE control to manual.
2. Ensure that the lights next to the PRESET CONTROL button indicate A FADERS, B STORED
3. Set up a scene using the PRESET A and PRESET B faders. This scene will be output.
4. To store the scene press the PRESET CONTROL button. The output levels are temporarily stored and the lights next to the PRESET CONTROL button change to indicate B FADERS, A STORED. The A MASTER is now assigned to the stored scene and the B MASTER assigned to the PRESET faders, so the outputs remain the same.
5. Set up the next scene using the PRESET A and PRESET B faders. (The outputs are not affected since the B MASTER is currently at zero).
6. To crossfade between the stored scene and the scene on the PRESET faders, simultaneously move the A MASTER to zero and the B MASTER to full. A dipless crossfade will occur.
7. If the PRESET CONTROL button is pressed again, the output levels are saved into the temporary store (overwriting the previous values) and the lights next to the PRESET CONTROL button change to indicate A FADERS, B STORED. The B MASTER is now assigned to the stored scene and the A MASTER assigned to the PRESET faders, so the outputs remain the same.
8. The operations described in steps 5 - 8 can then be repeated to set up a new scene on the faders, crossfade to the new scene, and save it to a temporary store etc..

Manual and Timed Crossfades

Crossfading between the scene set up on the PRESETS and the stored scene is achieved by moving the A MASTER and B MASTER faders in tandem.

If the CROSSFADE control is set to Manual, the crossfade time is determined by the speed at which the A MASTER and B MASTER faders are moved. The operator has direct control over the speed of the scene change.

If the CROSSFADE control is not set to manual, the crossfade time will be the time indicated on the CROSSFADE dial (between 1 second and 5 minutes).

Flashing Channels in WIDE

1. Ensure that the FLASH FUNCTION is active.
2. Press and hold an individual CHANNEL FLASH button. (Those below the PRESET A faders control channels 1 - 12, those below the PRESET B faders control channels 13 - 24). The corresponding channel is then added to the scene at the level set on the GRAND MASTER.
3. Release the CHANNEL FLASH button. The channel returns to its previous level.

NOTES

Stored Scene

Any stored scene being output in PRESET Mode will be removed from the outputs if the desk is changed to PROGRAM or SUPER USER Modes. If the desk is changed to RUN Mode the stored scene remains on the outputs.

Program Mode is used to select and create new memories, select what type of memory (Scene or Sequence) it is and enter lighting data.

Once the Memory has been created it can be modified by using the EDIT function within Program Mode.

Program Mode

PRESET A

PRESET B

CROSSFADE
 10sec
 30sec
 1min
 5min

MANUAL
 FADING
 CURR
 NEXT
 STEP

PRESET CONTROL
 A: FADER, B: STORED
 A: FADER, B: STORED

A MASTER B MASTER

MEMORY +
 MEMORY
 COPY
 PASTE
 PAUSE
 GO NEXT

PREVIEW/EDIT
 PREVIEW/EDIT

MEMORY TYPE
 SEQUENCE
 SCENE

ADD STEP
 ADD STEP

STEP -
 STEP -

MEMORY -
 MEMORY -

DIRECTION
 > O
 < O
 <-> O

SOUND
 SOUND

SPEED
 SPEED

MODE
 MODE
 SUPER USER
 PRESET
 PROGRAM
 RUN

D.B.O.
 D.B.O.

FLASH ON/OFF
 FLASH ON/OFF

LOAD PROGRAM
 LOAD PROGRAM

SAVE
 SAVE

MEMORY MASTER GRAND MASTER
 MEMORY MASTER
 GRAND MASTER

OK
 O.K.

Memory Types

There are two memory types which can be programmed on this desk. They are a SCENE memory and a SEQUENCE memory .

A SCENE memory consists of a single static state, recording the output level of each channel.

A SEQUENCE memory consists of a number of steps (maximum of 99 steps). Each step consists of a single static state, recording the output level of each channel.

The MEMORY + and MEMORY - buttons are used to select the required memory. The DISPLAY shows the current memory number. If the memory being programmed is a SEQUENCE, the DISPLAY shows the current step number. The PRESET faders are used to set the output levels and the PROGRAM button used to save the levels to memory.

Low Memory Warning

The desk has a maximum capacity of 99 memories. Each memory may be a SCENE or a SEQUENCE. The number of steps within a SEQUENCE may cause the total number of memories held to be less than 99.

The desk software monitors the amount of memory used (ie programmed) and will give a warning when the memory available is getting low, and also when there is no more available. In PROGRAM Mode, when the DISPLAY is showing an unprogrammed memory or sequence step, the DISPLAY will flash slowly when the memory available is getting low, and flash quickly when there is no memory available.

NOTES

Recording Output Values

It is recommended that the A MASTER, B MASTER and GRAND MASTER are set to full (100%) when programming memories. Otherwise the output values may not be as expected when the memories are replayed in RUN Mode. The current output values are recorded (not channel fader positions).

DMX Channels

*24 Channels of DMX are always recorded, even if NOT in WIDE.
Channels 13 - 24 are zero if not in WIDE .*

Preset Faders

In two preset operation, either PRESET A or PRESET B faders can be used to set the levels for channels 1 - 12. Channels 13 - 24 will be recorded at zero. In WIDE operation, PRESET A faders are used to set channels 1 - 12 and PRESET B faders to set channels 13 - 24.

Programming Controls and Displays

The following controls and displays are used in PROGRAM Mode.

- PRESET A AND PRESET B

There are 12 PRESET A faders which control individual channels 1 -12.

There are 12 PRESET B faders which control individual channels 1 -12, or channels 13 - 24 in WIDE.

- CHANNEL FLASH BUTTONS

Each of the PRESET faders has a corresponding CHANNEL FLASH button. They are used to select that channel for editing.

- A MASTER

The A MASTER fader is used to control the maximum output level from the PRESET A faders. If WIDE is active, the A MASTER is used to control the maximum output level from both the PRESET A and PRESET B faders.

- B MASTER

The B MASTER fader is used to control the maximum output level from the PRESET B faders. If WIDE is active, the B MASTER has no effect.

- PREVIEW/EDIT

When EDIT is active the user can edit individual channels of a previously programmed SCENE or SEQUENCE memory. The light in the button is illuminated when EDIT is active.

- MEMORY TYPE

The MEMORY TYPE button allows the current memory to be defined as a scene or sequence memory. The red lights above the button indicate the memory type selected (SEQUENCE or SCENE).

This button must be pressed and held down for 1 second to change the memory type. This is to prevent the user accidentally changing the type of programmed memories

- DISPLAY

The DISPLAY indicates either the current memory number or the current step number.

When the red CURR light is lit, the display is showing the current memory number. A decimal point after the number indicates that the memory is unprogrammed.

When the red STEP light is lit, the display is showing the current step number (of a sequence memory). A decimal point after the number indicates that the step is unprogrammed.

The DISPLAY will flash slowly when the available memory is getting low, and flash quickly when there is no memory available.

- ADD STEP

This button is used to add a step into a SEQUENCE memory.

- CLEAR

This button is used to clear a memory or to clear a step from a SEQUENCE memory.

- MEMORY + and MEMORY -

These buttons are used to select the current memory number to be programmed.

- STEP + and STEP -

These buttons are used to select the current step in a SEQUENCE memory.

- PROGRAM

This button is used to save the output levels into the current memory. If the memory is a SEQUENCE, the output levels are saved into the current step.

- COPY

This button is used to copy the memory data of the current scene or sequence step, so that it can later be pasted into a different scene memory or sequence step.

- PASTE

This button is used to re-place the selected scene memory or sequence step data with previously copied memory data.

The red light in the PASTE button is illuminated when there is data available. If the light is not illuminated, pressing the PASTE button will have no effect.

Setting up the Desk for Programming

1. If the desk is in RUN Mode, press the MODE button to switch to PROGRAM Mode. If the desk is in any other mode, press and hold the MODE button for 1 second to enter PROGRAM Mode. The red lights above the MODE button indicate the current mode.
2. Ensure that DBO is not active (the light in the DBO button is off)
3. Select WIDE, if required.
4. Set all the PRESET faders to zero.
5. Set the A MASTER, B MASTER and GRAND MASTER to full.

Selecting a Memory Number

The DISPLAY shows the current memory number (the CURR light is illuminated). The memory type is indicated by the lights above the MEMORY TYPE button. An unprogrammed memory has a decimal point after the memory number. *An unprogrammed memory is always a scene memory.*

The MEMORY + and MEMORY - buttons are used to select the required memory number to program or edit.

Scene Memories

Programming a New Scene Memory

1. Set up the desk for programming as described above.
2. Use the MEMORY + and MEMORY - buttons to select an unprogrammed memory.
3. Use the PRESET A and/or PRESET B faders to set the required output levels.
4. Press the PROGRAM button. The output levels are now stored in the selected memory. The decimal point disappears from the DISPLAY to show that the memory is now programmed. The outputs remain unaltered.

Overwriting a Programmed Scene Memory

1. Set up the desk for programming as described above.
2. Use the MEMORY + and MEMORY - buttons to select a programmed memory.
3. Use the PRESET A and/or PRESET B faders set the required output levels.
4. Press the PROGRAM button. The output levels are now stored in the selected memory. The original contents of the memory are overwritten. The decimal point in the DISPLAY flashes once. The outputs remain unaltered.

Editing Channel Levels in a Scene Memory

Individual channels of a SCENE memory can be edited without affecting the other programmed channel levels in the memory.

1. Use the MEMORY + and MEMORY - buttons to select the required memory to edit.
2. Ensure that EDIT is active. The contents of the selected memory only is output at full (the PRESET faders are not mixed into the outputs).
3. Hold down a CHANNEL FLASH button. The value of the channel in the memory is shown in the DISPLAY.
4. Pick up the existing level by bringing the corresponding PRESET fader through the level shown on the DISPLAY. Once the level has been picked up, set the required level using the fader. The current level is shown in the DISPLAY. Release the CHANNEL FLASH button. The level is saved in the memory and the DISPLAY returns to showing the memory number.
5. Repeat steps 3 and 4 for other channels as required.
6. When editing is complete, press the PREVIEW/EDIT button to exit from EDIT. The memory will no longer be output, and the output will revert to the levels set on the PRESET faders.

Clearing/Deleting a Scene Memory

1. Use the MEMORY + and MEMORY - buttons to select the programmed memory to clear.
2. Press and hold the CLEAR button for 1 second. All the channel values in the memory will be reset to zero, and the decimal point will appear next to the memory number in the DISPLAY to indicate that the memory is now unprogrammed.

NOTES

Previewing Memories

It is possible to scroll through the memories while in EDIT mode, using the MEMORY + and MEMORY - buttons, outputting each one in turn.

Sequence Memories

Programming a New Sequence Memory

1. Set up the desk for programming as described on previous page.
2. Use the MEMORY + and MEMORY - buttons to select an unprogrammed memory.
3. Press and hold the MEMORY TYPE button for 1 second to change the memory type to Sequence.
4. Press the STEP + or STEP - button. The DISPLAY will show the first step number (1), and the STEP light will be illuminated. A decimal point will be displayed after the step number to indicate it is not programmed.
5. Use the PRESET A and/or PRESET B faders to set the required output levels for the step. The output will appear live.
6. Press the PROGRAM button. All the output levels are stored in the current step of the sequence. The decimal point disappears from the DISPLAY to show that the step is now programmed. The outputs remain unaltered.
7. To add the next step into the sequence, press the ADD STEP button. The DISPLAY will show the next step number, with a decimal point to indicate that it is unprogrammed.
8. Use the PRESET A and/or PRESET B faders to set the required output levels for the step. The output will appear live.

9. Press the PROGRAM button to save the current output levels into the step. The decimal point disappears from the DISPLAY. The outputs remain unaltered.
10. Repeat steps 7 -9 until all steps in the sequence have been programmed.

Inserting a Step

1. Use the MEMORY + and MEMORY - buttons to select the required sequence memory.
2. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
3. Use the STEP+ and STEP - buttons to select a step. The new step will be inserted after the selected step. (For example, to insert a step between steps 4 and 5, select step 4)
4. Press the ADD STEP button. The DISPLAY shows the inserted step number with a decimal point indicating that it is unprogrammed.
5. Use the PRESET A and/or PRESET B faders to set the required output levels for the new step. The output will appear live.
6. Press the PROGRAM button to save the output levels into the new step. The decimal point disappears from the DISPLAY.

Deleting a Step

1. Use the MEMORY + and MEMORY - buttons to select the required sequence memory.
2. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
3. Use the STEP + and STEP - buttons to select the step to be deleted.
4. Press and hold the CLEAR button for 1 second. The selected step will be removed from the sequence. The DISPLAY will show the previous step number, except if step 1 is deleted, when it will flash briefly and then display step 1.

Overwriting a Step

1. Use the MEMORY + and MEMORY - buttons to select the required sequence memory .
2. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
3. Use the STEP + and STEP - buttons to select the step to be overwritten
4. Set the required output levels using the PRESET A and/or PRESET B faders. The output is live.
5. Press the PROGRAM button. All the output levels are stored in the current step. The original contents of the step are overwritten. The decimal point in the DISPLAY flashes once.

NOTES

Adding Steps

A new step cannot be added until the current step has been saved by pressing the PROGRAM button. If the current step is not saved, pressing the ADD STEP button will have no effect.

Renumbering Steps

Any original steps in the sequence after the inserted step will be renumbered accordingly. For example, if you started with a 10 step sequence and added a step between steps 4 and 5, the new step becomes step 5 and the original steps 5 - 10 become steps 6 - 11.

Any steps in a sequence after a deleted step will be renumbered accordingly. For example, if you start with a 10 step sequence and delete step 5, original steps 6 - 10 become steps 5 - 9

Inserting Steps

The ADD STEP button can only insert a step after the current step. If the user wishes to insert a step before Step 1 of a sequence then following actions must be performed: Insert a new step after Step 1 using the ADD STEP button. Use the COPY and PASTE buttons to copy the contents of Step 1 into the new step. Re-program Step 1 with the required values.

Deleting Only Step

If there is only one step in the sequence and it is deleted using the CLEAR button, the memory will change to an unprogrammed SCENE memory. The DISPLAY will change to show the memory number (plus decimal point), and the lights above the MEMORY TYPE button will indicate SCENE.

Maximum Steps Programmed

If an attempt is made to insert a step into the sequence when the maximum 99 steps have been programmed, the DISPLAY flashes 99 for a second, and then returns to the previously displayed step number. The sequence and outputs are unaffected.

Editing a Step

Individual channels of a step in a Sequence memory may be edited without affecting the other programmed levels in the sequence step.

1. Use the MEMORY + and MEMORY - buttons to select the required sequence memory .
2. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
3. Use the STEP + and STEP - buttons to select the step to be edited.
4. Ensure that EDIT is active. The contents of the selected step only is output at full (the PRESET faders are not mixed into the outputs).
5. Hold down a CHANNEL FLASH button. The value of the channel in the step is shown in the DISPLAY.
6. Pick up the existing level by bringing the corresponding PRESET fader through the level shown on the DISPLAY. Once the level has been picked up, set the required level using the fader. The current level is shown in the DISPLAY. Release the CHANNEL FLASH button. The level is saved in the step and the DISPLAY returns to showing the step number.
7. Repeat steps 5 and 6 for other channels as required.
8. When editing is complete, press the PREVIEW/EDIT button to exit from EDIT. The step will no longer be output, and the output will revert to the levels set on the PRESET faders.

Clearing/Deleting a Sequence Memory

1. Use the MEMORY + and MEMORY - buttons to select the sequence memory to be deleted.
2. Press and hold the CLEAR button for 1 second. The memory will change to an unprogrammed SCENE memory. The DISPLAY will show the memory number plus a decimal point, and the lights above the MEMORY TYPE button will indicate SCENE.

NOTES

Previewing Steps

It is possible to scroll through the steps of a sequence memory while in EDIT mode, using the STEP + and STEP - buttons, outputting each one in turn..

Converting between Memory Types

The type of a programmed memory can be changed from SCENE to SEQUENCE or vice versa by selecting the memory number and then pressing the MEMORY TYPE button and holding it down for 1 second. The light above the button will indicate when the memory type has changed.

When a SCENE is changed to a SEQUENCE - the contents of the scene memory become the contents of Step 1 of the Sequence.

When a SEQUENCE is changed to a SCENE - the contents of the current step of the sequence become the contents of the Scene memory. **All other steps are lost.**

Using the Copy and Paste Buttons

The COPY and PASTE buttons are used to copy memory data from one location to another. The contents of a scene memory or sequence step can be copied, and then pasted into a different scene memory or sequence step. The same memory data may be copied into several destinations.

Copying a Scene Memory

1. Use the MEMORY + and MEMORY - buttons to select a programmed scene memory.
2. Press the COPY button. The contents of the scene memory will be stored internally. The light in the PASTE button will be illuminated.

Copying a Sequence Step

1. Use the MEMORY + and MEMORY - buttons to select a programmed sequence memory.
2. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
3. Use the STEP + and STEP - buttons to select the step to be copied.
4. Press the COPY button. The contents of the sequence step will be stored internally. The light in the PASTE button will be illuminated.

Pasting into a Scene Memory

1. Copy the required memory data (from a scene memory or sequence step) as described above. Ensure that the light in the PASTE button is on.
2. Use the MEMORY + and MEMORY - buttons to select a scene memory.
3. Press the PASTE button. The memory data copied will be pasted into the scene memory.

Pasting into a Sequence Step

1. Copy the required memory data (from a scene memory or sequence step) as described above. Ensure that the light in the PASTE button is on.
2. Use the MEMORY + and MEMORY - buttons to select a sequence memory.
3. Press the STEP + or STEP - button. The DISPLAY will change from displaying the memory number to displaying the step number (1), and the STEP light will be illuminated.
4. Use the STEP + and STEP - buttons to select the step into which the data is to be pasted.
5. Press the PASTE button. The memory data copied will be pasted into the sequence step.

NOTES

Unprogrammed Copy

If the user selects an unprogrammed scene memory or sequence step, and presses the COPY button, any previously copied memory data will be lost. The light in the PASTE button will be off, indicating that there is no memory data available to paste.

Overwriting Copy Data

When the COPY button is pressed, if there is already memory data stored internally, the light in the PASTE button will flash briefly and then stay on.

Paste Light Off

If the light in the PASTE button is off, pressing the PASTE button will have no effect.

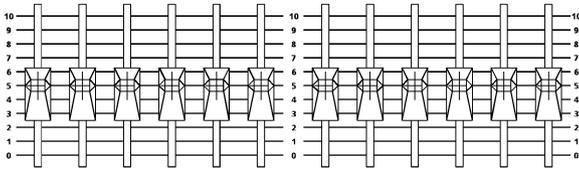
Pasting to Unprogrammed Memory/Step

If memory data is pasted into an unprogrammed SCENE memory or SEQUENCE step, the memory or sequence step is now regarded as programmed and the decimal point after the memory number or step number will be removed.

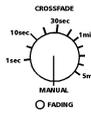
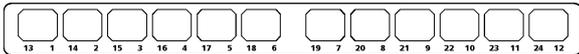
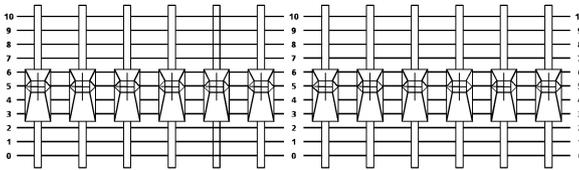
Paste Overwrites

*If memory data is pasted into a programmed SCENE memory or SEQUENCE step, the original contents of the memory or step are overwritten. **No warning is given.***

PRESET A



PRESET B



A MASTER B MASTER



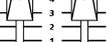
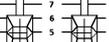
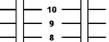
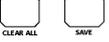
MEMORY TYPE

- SEQUENCE
- SCENE



- HIDE
- SUPER USER
- PRESET
- PROGRAM
- RUN

- D.B.O.
- FLASH ON/OFF
- LOAD PROGRAM
- SAVE



RUN Mode is used to replay the previously recorded memories. The memories are stored in a stack and can be replayed one at a time in ascending numerical order. This allows the complete show to be replayed in order simply by pressing the GO NEXT button.

The MEMORY + and MEMORY - buttons can also be used to select a particular memory, which can then be faded to by pressing the GO NEXT button.

The DISPLAY shows the next memory to be output. The crossfade time, sequence speed and attack can be adjusted using the various front panel controls.

The output levels of a memory are determined by the programmed levels in the memory, the MEMORY MASTER and the GRAND MASTER. Individual channels can be mixed in with the current memory using the PRESET faders.

The desk outputs 24 channels of DMX all the time. If WIDE is not active, channels 13 - 24 are output at zero.

Run Mode Controls and Displays

- PRESET A AND PRESET B

There are 12 PRESET A faders which control individual channels 1 -12.

There are 12 PRESET B faders which control individual channels 1 -12 or channels 13 - 24 if WIDE is active.

- CHANNEL FLASH BUTTONS

The 24 CHANNEL FLASH buttons corresponding to the 12 PRESET A and 12 PRESET B faders are used to flash individual channels. These buttons can be disabled using the FLASH ON/OFF button.

- A MASTER AND B MASTER

In two preset operation, the A MASTER is used to control the maximum output level from the PRESET A faders.

The B MASTER is used to control the maximum output level from the PRESET B faders.

In WIDE operation, the A MASTER and B MASTER are used to control the maximum output level from both the PRESET A and PRESET B faders, and the stored scene.

- MEMORY MASTER

The MEMORY MASTER is used to control the output level of the current memory.

- CROSSFADE

The CROSSFADE control is used for several things in RUN Mode:

To determine the rate at which the current memory will fade out and next memory fade in when the GO NEXT button is pressed.

To determine the fade between steps of a sequence memory.

To determine the preset crossfade time when the A MASTER and B MASTER are moved.

- FADING LIGHT

The red FADING light flashes when a timed crossfade is taking place. The light continues to flash if the crossfade is stopped with the PAUSE button. The FADING light goes out when the crossfade is completed.

- PRESET CONTROL

The PRESET CONTROL button is only applicable when WIDE is active. The PRESET CONTROL button and the accompanying lights on the front panel are used to control and indicate which master (A MASTER or B MASTER) has control of the PRESET channel faders, and which master has control of the stored scene.

- PREVIEW/EDIT

The PREVIEW/EDIT button is used to provide the user with an indication of the contents of the next memory (as indicated on the DISPLAY). The light in the button is lit when the PREVIEW function is active.

- MEMORY TYPE

The red lights above the MEMORY TYPE button indicate the type of the next memory (as indicated in the DISPLAY).

- DISPLAY

The DISPLAY shows the number of the next memory to be output. The NEXT light is illuminated.

- MEMORY + and MEMORY -

These buttons are used to select the next memory to be output.

- STEP + and STEP -

If the memory currently being output is a sequence, these buttons can be used to move through the steps of the sequence.

- SPEED

The SPEED control is used to regulate the speed of the current sequence memory. This control has a switch position at the minimum end of its rotation which stops automatic stepping through a sequence and gives full manual control.

- DIRECTION

This button is used to select the direction that a sequence memory runs when output. The accompanying lights indicate which direction has been selected.

- SOUND

This button is used to activate the audio input into the desk. The audio input is used to advance sequences. When the SOUND function is active the light in the button is illuminated.

- GO NEXT

The GO NEXT button is used to initiate a crossfade between the memory currently being output and the next memory as indicated by the DISPLAY.

Pressing the GO NEXT button auto-increments the memory number in the DISPLAY (the number in the DISPLAY changes to the next programmed memory).

- PAUSE

This button is used to pause a crossfade between the current and next memories. When a crossfade has been paused the red light in the PAUSE button flashes. The PAUSE button is also used to restart a crossfade that has been paused.

NOTES

Remote Go

Pressing a switch connected to the Remote Go jack socket on the back panel, will have the same effect as pressing the GO NEXT button.

Entering Run Mode

1. If the desk is in PRESET Mode or SUPER USER Mode, press and hold the MODE button for 1 second. The desk will change to PROGRAM Mode. When the desk is in PROGRAM Mode press the MODE button to enter RUN Mode.
2. Ensure that DBO is not active.
3. Select WIDE, if required.
4. Set all the PRESET faders and the A MASTER and B MASTER to zero.
5. Set the MEMORY MASTER and GRAND MASTER to full.
6. Set the CROSSFADE control to the desired value.

Selecting the Next Memory to be Output

The DISPLAY indicates the next memory to be output. The red NEXT light is illuminated. The red lights above the MEMORY TYPE button indicate the type of the next memory. The MEMORY + and MEMORY - buttons are used to select the next memory to be output.

Pressing the MEMORY + button will take you to the next programmed memory. When the last programmed memory is reached, pressing the MEMORY + button will take you to the first programmed memory.

Pressing the MEMORY - button will take you to the previous programmed memory. When the first programmed memory is reached, pressing the MEMORY - button will take you to memory zero (see notes) The DISPLAY shows 0 . Pressing the MEMORY - button again will take you to the last programmed memory.

Pressing the MEMORY + and MEMORY - buttons together will take you to memory zero.

To Determine the Current Memory

Use the MEMORY + or MEMORY - buttons to cycle through the programmed memories. When the memory number shown in the DISPLAY is the same as the current memory, the red CURR light next to the DISPLAY is illuminated.

Outputting a Programmed Memory

The MEMORY + and MEMORY - buttons are used to select the next memory to be output. Once selected, the GO NEXT button is used to initiate a dipless crossfade between the current memory and the next memory. The DISPLAY auto-increments to the next programmed memory.

The crossfade depends on the position of the CROSSFADE control and may be adjusted while in progress, or paused, if required (see examples below).

Example 1 - No Fading (Snapping) between Memories

1. Set the CROSSFADE control to Manual.
2. Use the MEMORY + and MEMORY - buttons to select the next memory to be output.
3. Press the GO NEXT button. The output snaps from the current memory to the selected memory.

Example 2 - Fading between Memories

1. Set the CROSSFADE control to the required crossfade time.
2. Use the MEMORY + and MEMORY - buttons to select the next memory to be output.
3. Press the GO NEXT button. This initiates a crossfade to the selected memory. While the crossfade is taking place, the red FADING light flashes.
4. To slow down or speed up the crossfade while it is in progress, alter the CROSSFADE control accordingly. When the crossfade is complete, the red FADING light goes out.

Example 3 - Pausing a Crossfade

1. Set the CROSSFADE control to the required crossfade time.
2. Use the MEMORY + and MEMORY - buttons to select the next memory to be output.
3. Press the GO NEXT button. This initiates a crossfade to the selected memory. While the crossfade is taking place, the red FADING light flashes.
4. To pause the crossfade, press the PAUSE button. The red light in the PAUSE button flashes, the red FADING light continues flashing, and the outputs remain static.
5. To restart the crossfade, press the PAUSE button again. The red light in the PAUSE button goes out, and the crossfade continues. When the crossfade is complete, the red FADING light goes out.

NOTES

Memory Zero

Memory Zero is a blackout memory (all channels at 0%) provided in RUN mode only. It can be selected in RUN mode like any other programmed memory, and faded to using the GO NEXT button.

Selecting Memories

Only programmed memories and memory zero are selectable. Any unprogrammed memories are ignored.

Outputting a Sequence Memory

1. Use the MEMORY + and MEMORY - buttons to select a sequence memory to be output. The memory type is indicated by the lights above the MEMORY TYPE button.
2. Press the GO NEXT button to initiate a crossfade to the selected memory. The transition between the current memory and the selected memory depends on the position of the CROSSFADE control (see examples above).
3. When the sequence memory is being output, the rate of advance (speed), transition between steps and direction can be adjusted using various front panel controls as described below.

Moving between Sequence Steps

Manually Stepping through a Sequence

1. Ensure that the SPEED control is set to Manual and the SOUND function is not active.
2. Press the STEP + button to move to the next step.
3. Press the STEP - button to return to the previous step.

Automatically Stepping through a Sequence

1. Ensure that the SPEED control is not set to Manual and the SOUND function is not active.
2. Use the SPEED control to adjust the rate at which the sequence is advanced (the sequence speed).

Using Sound Input to Step through a Sequence

The sequence can be advanced in time with the bass beat of a suitable music source, or the basic speed of the sequence can be set and the bass beat from the music source used to increment extra steps.

1. Connect a suitable music source to the audio input on the desk.
2. Ensure that the SOUND function is active.
3. To use only the sound to trigger the sequence, set the SPEED control to Manual.
4. To use a combination of sound and automatic, set the basic speed with the SPEED control.

NOTES

Step Buttons

The STEP + and STEP - buttons are active at all times while a sequence is running. They can be used to advance or reverse the sequence by one step. If either of these buttons are held down for more than two seconds, the sequence will advance for as long as the button is held down.

Sound Input

If an external sound source attached to the desk is used to advance a sequence, the SOUND function must be activated using the SOUND button.

Removing Sound Input

If the external sound source is removed, the sequence will advance at the rate set on the SPEED control. If the SPEED control is set to Manual, the sequence will stop.

Snap or Crossfade Between Sequence Steps

To **snap** from one sequence step to the next set the CROSSFADE Control to manual.

To **crossfade** from one step to the next move the CROSSFADE control to any timed setting.

If stepping is manual (via the STEP + and STEP - buttons) the crossfade time is set on the CROSSFADE control.

If stepping is automatic or sound controlled, the sequence crossfades at a rate set by the SPEED control.

Controlling the Direction of a Sequence

The direction of a sequence is controlled by the DIRECTION button. Press the DIRECTION button to select the direction required - Forwards (>), Backwards (<) or Auto-Reverse (< >).

Previewing a Memory

An indication of the contents of the next memory (as indicated by the DISPLAY) can be obtained by previewing the memory.

1. Press the PREVIEW/EDIT button. The light in the button comes on.
2. The light in each of the CHANNEL FLASH buttons will illuminate if the corresponding channel in the memory or sequence step is above 5%. If the memory being previewed is a sequence, the CHANNEL FLASH buttons will indicate the contents of each step in turn. The speed and direction of the sequence will be determined by the current settings of the front panel controls (see section on Outputting a Sequence Memory).
3. Press the PREVIEW/EDIT button. The light in the button, and any lights illuminated in the CHANNEL FLASH buttons will go out.



In SUPER USER Mode the presets and memory functions are disabled. The user has the options of setting recovery to on or off, clearing all the programmed memories, and saving or loading memory data.

WARNING

Only a Zero 88 memory module should be connected to the 9 pin D type connector on the rear panel of the desk. It is advisable to switch the desk off before connecting or disconnecting the memory module.

Entering Super User Mode

Press and hold down the STEP + and STEP - buttons together, and then press and hold the MODE button for 1 second. The SUPERUSER light above the MODE button comes on. The DISPLAY shows the software version.

Exiting Super User Mode

To exit SUPER USER mode press and hold the MODE button for 1 second. The desk will return to PROGRAM mode.

Setting Recovery Mode

Recovery mode determines the state that the desk starts in when it is switched on.

If Recovery Mode is On - the desk will start in the mode that it was in when it was switched off, except if it was in SUPER USER Mode, in which case it will start in PROGRAM mode.

If Recovery Mode is Off - the desk will start in the Default State.

Press the WIDE button to toggle the Recovery state. The light in the WIDE button indicates the recovery state (on = Recovery On, off = Recovery Off).

Clear All Memories

Press and hold the CLEAR button for 1 second to clear all the programmed memories. When the memories have been cleared, the DISPLAY goes blank, and then returns to displaying the software version.

Saving Memory Data

1. Ensure a memory module is connected to the D type socket on the rear panel of the desk.
2. Press the PROGRAM (SAVE) button. The programmed memory data is saved onto the memory device. **OVERWRITING ANY EXISTING DATA.** If the operation is successful, the DISPLAY flashes 00 , if not the DISPLAY flashes an error code. The display then returns to showing the software version.

Loading Memory Data

1. Ensure a memory module is connected to the D type socket on the rear panel of the desk.
2. Press the FLASH ON/OFF (LOAD) button. The memory data in the memory device is loaded into the desk. **OVERWRITING ANY EXISTING DATA** If the operation is successful, the DISPLAY flashes 00 , if not the DISPLAY flashes an error code. The display then returns to showing the software version.

Memory Module Error Codes

Code Error

Errors Saving

- 01 No module connected
- 02 Faulty module

Error Loading

- 03 No module connected
- 04 Faulty module
- 05 Wrong desk type
- 06 Incompatible version

Power Supply

Separate plug mounted mains transformer
 supplying low voltage via a 4 pin ring
 locking DIN connector
 Mains voltage
 230V -18% to +10% (190V - 253V)

DC Connection

- PIN 1 = 9V @ 400mA
- PIN 2 = 0V Signal ground
- PIN 3 = 20 V @ 200mA
 (20 V only required for Analogue)
- PIN 4 = Not used

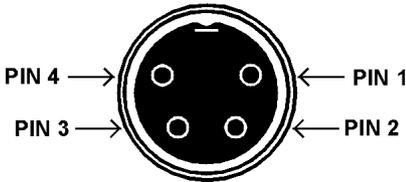


Figure A.
 Power supply connector
 Viewed from the rear of the desk

Audio Input

Stereo Input >10 k , minimum 100mV to
 maximum 10V

Connections

- Tip = Left channel
- Ring = Right channel
- Sleeve = 0V Signal ground

Remote Go

0.25 stereo jack socket.

Connect the Sleeve to Tip to simulate a
 GO NEXT button push



Figure B.
 Stereo Jack Plug Connections

Technical Specification

Zero 88 Memory Module (Optional)

EEPROM cartridge with 9 pin D type male connector.

Stock Number 00-115-00

DMX Output

5 pin XLR, Not isolated, with voltage protection, with data output indicator.
Data on channels 1 - 24 only.

Connections

PIN 1 = 0V	Signal ground
PIN 2 = 1-	DMX drive compliment
PIN 3 = 1+	DMX drive true
PIN 4 & 5	not connected.

See Figure C.

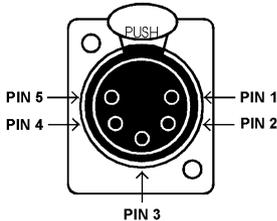


Figure C.
DMX connector
Viewed from rear of desk

Analogue Output (Optional)

Stock Number 00-118-00

24 channels 0 to +10V

Short circuit proof

All channels capable driving 5mA

All channels are diode protected

Connectors 4 x 8 pin ring locking DINs

Any dimmer supply not used.

PIN 1 = Channel 1
PIN 2 = Channel 2
PIN 3 = Channel 3
PIN 4 = Channel 4
PIN 5 = Channel 5
PIN 6 = Channel 6
PIN 7 = Not used
PIN 8 = 0V Signal Ground
See Figure D

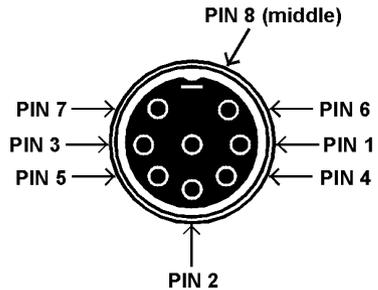
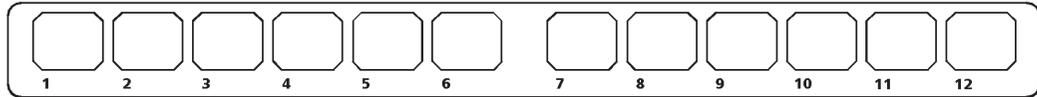
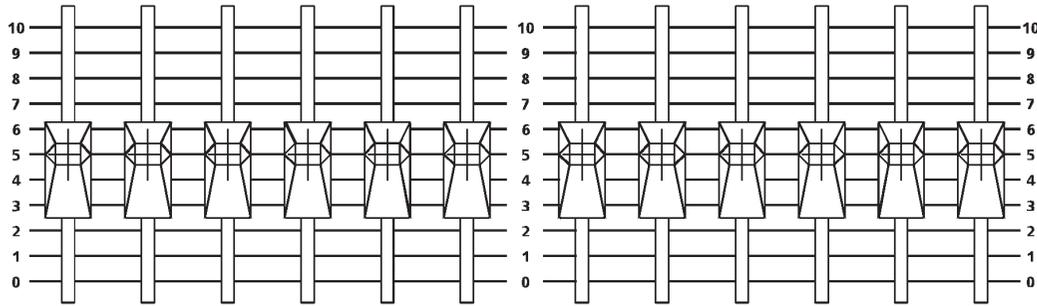
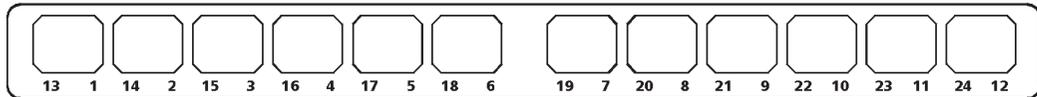
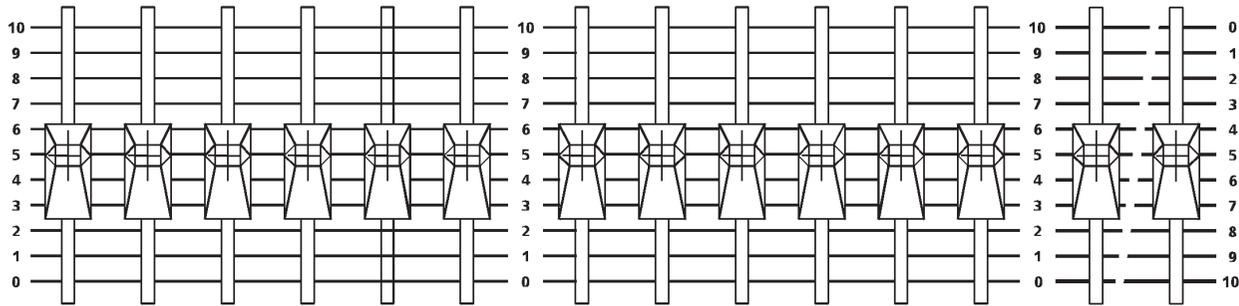


Figure D.
Analogue connector
Viewed from rear of desk

PRESET A



PRESET B



CROSSFADE

10sec 30sec 1min 5min

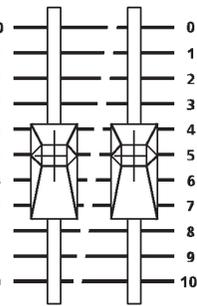
MANUAL FADING

PRESET CONTROL

A FADERS, B STORED

B FADERS, A STORED

A MASTER B MASTER



PREVIEW/EDIT

CURR

NEXT

STEP

MEMORY +

MEMORY -

COPY

PASTE

PAUSE

GO NEXT

MEMORY TYPE

- SEQUENCE
- SCENE

ADD STEP

STEP +

STEP -

DIRECTION

SOUND

SPEED

MIN MAX MANUAL

- MODE
- SUPER USER
 - PRESET
 - PROGRAM
 - RUN

- DMX OUT
- O.K.

D.B.O

WIDE

FLASH ON/OFF

RECOVERY CLEAR

LOAD PROGRAM

CLEAR ALL

SAVE

MEMORY MASTER



GRAND MASTER





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