



JESTER OPERATING MANUAL



zero[®]88

If a portable or temporary three phase mains supply is used to power this desk, we recommend that the desk mains plug is removed before connecting or disconnecting the supply. Serious damage will occur if the desk 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 reserves the right to make changes to the equipment described in this manual without prior notice.
E & OE.

Federal Communications Commission

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause unacceptable interference in which case the user will be required to correct the interference at the operators expense.

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Introduction

This Manual

This manual describes the operation and programming of the Jester 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 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 then moves on to more specific areas of the desk such as Auxiliary controls, and concludes with sections on the SUPER USER functions and the technical specification of the desk.

As the Jester is available in two styles (12/24 and 24/48), this manual will refer primarily to the 12/24 model, with variations for the 24/48 notated in brackets. For example: Preset B controls faders 13-24 (25-48).

The Jester

The Jester lighting desk is a compact user-friendly memory desk which records channel levels and provides both theatre style sequential memory access and sub-master style access. Memories and Submasters can be recorded as scenes or sequences (chases). Crossfade times and chase speed, direction and attack can be adjusted by the user as required. The Jester 12/24 has 24 control channels. The Jester 24/48 has 48 control channels. The output from the desk is by DMX 512 only.



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 to the left of 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.

BLACKOUT

The BLACKOUT button makes all the desk channels output zero and operates in all modes except SUPER USER. Pressing the BLACKOUT button toggles between Blackout (all channels at zero) and normal desk outputs. The light in the BLACKOUT button indicates the current state (Flashing = Blackout, Off = Normal). This is also replicated on the monitor, with flashing 'BLACKOUT' text on the screen. Blackout does not affect Auxiliaries and DMX-input.

PROGRAM/GO

The PROGRAM/GO button is a multi-coloured, multi-function button which adapts to the mode in which the desk is currently set. In Preset mode, the button is inactive although when set to wide mode, it functions as a preset store button, and is coloured yellow. In Program mode, the PROGRAM/GO button functions as a program (record) button, and is coloured red. In Run mode, the PROGRAM/GO button acts as a go/pause button and is coloured green.

Turning on the Desk

1. Connect the DMX cable and Monitor (if required). Although the monitor is optional, you will find the desk easier to use with a monitor attached.
2. Connect the power supply to the desk and switch it on at the mains.
3. Ensure that 'Blackout' is not active (the red light in the Blackout button is off).
4. Set the A MASTER and B MASTER faders to zero.
5. Set the GRAND MASTER fader to full.
6. Set the FADE TIME control to manual.

Numeric Entry

Numeric fields can be completed by using the CHANNEL FLASH buttons on preset B. Firstly navigate to the required field, then press ENTER. The flash buttons now function as number buttons, with channels 1 to 9 entering the numbers 1 to 9, and channels 10 onwards entering the number 0. Once the number is entered, press ENTER to confirm.

Preset Mode

When the desk is in PRESET Mode all the memory functions are disabled, offering a completely manual control system. The desk can be operated using either two 12 (24) channel presets controlling 12 (24) channels, or a single preset controlling 24 (48) 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 mode selected (13-24 active on the bottom bank, PAGE B) 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 in the desk temporarily using the yellow PROGRAM/GO (Store) 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 between scenes can be manual or timed. As with all operating modes of the desk, overall output is under the control of the GRAND MASTER.

PRESETS A AND B

There are 12 (24) PRESET A faders which control individual channels 1 -12 (1 - 24) and 12 (24) PRESET B faders which control individual channels 1 -12 (1 - 24) or channels 13 - 24 (25 - 48) if the faders are switched to wide mode.

CHANNEL FLASH BUTTONS

There are 24 (48) CHANNEL FLASH buttons corresponding to the 12 (24) PRESET A and 12 (24) PRESET B faders. These are used to flash individual channels. These buttons can be disabled on the LCD, or switched to SOLO mode.

A MASTER AND B MASTER

In two preset mode, the A MASTER controls the output level from the PRESET A faders and the B MASTER controls the output level from the PRESET B faders. In wide mode, the A MASTER and B MASTER faders control the output level from both the PRESET A and PRESET B faders, and the stored scene. The B MASTER is reversed (100% at the bottom of its travel) to facilitate manual crossfades when moving the A MASTER and B MASTER in tandem.

FADE TIME

The FADE TIME 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. This time is indicated on the LCD screen and monitor. The red FADING light above the FADE TIME control flashes when a crossfade is taking place.

PROGRAM/GO

The PROGRAM/GO button is used in wide mode as a STORE button. 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).

Two Preset Operation

In 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 FADE TIME 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 next to the MODE button will come on.
2. Ensure the bottom bank of faders are set to 1-12(24) mode and the FADE TIME 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. The scene set up on PRESET A is output live.

To Output a Scene from Preset B

1. Check that the B MASTER is set to 0.
2. Set the required levels for each channel on the PRESET B faders. This action is performed without the output levels of the desk changing.
3. Set the B MASTER to full. The scene set up on PRESET B is output live, mixed with the scene on PRESET A.
4. To remove the scene on PRESET A, bring the A MASTER to zero.

Manual Fading between Scenes

1. Ensure that the FADE TIME control is set to Manual.
2. Set up a scene using the PRESET A faders.
3. Set the A MASTER to full, and the B MASTER to zero. The scene set on the PRESET A faders will be output.
4. Set up a different scene on the PRESET B faders. This is done blind, without the output levels changing.
5. To crossfade to the new scene set up on PRESET B, simultaneously move the A MASTER to zero and the B MASTER to full. You have direct control over the speed of the crossfade. As the master faders are moved in tandem the scene setup on PRESET B will fade in and the scene set on PRESET A will fade out. This 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 A and B master faders are moved in tandem the scene set up on PRESET B will fade out and the new 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 FADE TIME 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 FADE TIME control).
6. The red FADING light will flash while the dipless crossfade is taking place, and go out when the crossfade is complete
7. 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 time defined by the FADE TIME control. The red FADING light will flash during the crossfade.
8. A new scene can then be set up on PRESET A without affecting the outputs.
9. 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 – Two Preset Mode

1. Ensure that the flash function is active. To do this, use the cursor up/down keys to alter the flash mode between Off, Flash and Solo.
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 (fader) level.

FLASH: The selected channels will be sent to full when the button is pressed, and will be returned to its fader level when the button is released. No other channels are affected.

SOLO: The selected channels will be sent to full and all other channels will be sent to blackout. When the button is released, all channels are returned to their fader levels.

Wide Mode

When operating in wide mode, you are able to crossfade between or combine two scenes which are 24 (48) channels wide. A scene is set up using the PRESET A and PRESET B faders. The PRESET A faders control channels 1 -12 (1 - 24) whilst the PRESET B faders control channels 13 - 24 (25 - 48).

This scene is then stored temporarily by pressing the PROGRAM/GO (store) 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 PROGRAM/GO button is used to control which master has control of the PRESET channel faders, and which the stored scene.

The GRAND MASTER is used to control the final output levels from the desk.

The FADE TIME 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 next to the MODE button will come on.
2. Activate wide mode. To do this, ensure that PAGE B is set to channels 13-24 (25-48). On first invoking wide, the PRESET faders will be assigned to the A MASTER, and the stored scene assigned to the B MASTER. The lights under the PROGRAM/GO button will indicate this (A FADERS, B STORED). The temporarily stored scene will be cleared.

Storing and Cross Fading Scenes

1. Set the A MASTER and GRAND MASTER to full and the B MASTER to zero. Set the FADE TIME control to manual.
2. Ensure that the lights next to the PROGRAM/GO button indicate A FADERS, B STORED (if no lights show, you're not in Wide mode, and if the lights indicate B FADERS, A STORED, press the PROGRAM/GO button)
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 PROGRAM/GO button, which in preset mode is coloured yellow to indicate its function as STORE. The fader levels are temporarily stored and the lights under the PROGRAM/GO button change to indicate B FADERS, A STORED (this text is also replicated on the monitor and in the LCD). The A MASTER is now assigned to the stored scene and the B MASTER assigned to the 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 PROGRAM/GO button is pressed again, the output levels are saved into the temporary store (overwriting the previous values) and the lights under the PROGRAM/GO 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 FADE TIME control is set to manual, the crossfade time is determined by the speed at which the A MASTER and B MASTER faders are moved. You have direct control over the speed of the crossfade.

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

Flashing Channels - Wide mode

1. Ensure that the flash function is active – to activate it, press the up or down cursor keys to toggle between Off, Flash and Solo.
2. Press and hold an individual CHANNEL FLASH button. The buttons below the PRESET A faders control channels 1 - 12 (1 - 24), those below the PRESET B faders control channels 13 - 24 (25 - 48). The corresponding channel is then added to the scene at the level set on the GRAND MASTER. Dependant on the flash mode, the other channels may or may not be affected – see below.
3. Release the CHANNEL FLASH button. All channels return to their previous level.

FLASH: The selected channels will be sent to full when the button is pressed, and will be returned to its fader level when the button is released. No other channels are affected.

SOLO: The selected channels will be sent to full and all other channels will be sent to blackout. When the button is released, all channels are returned to their fader levels.

NOTES

Stored Scene

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

Program Mode

Introduction

Program Mode on the desk is used to select and create new memories or submasters and enter lighting data. Once a memory has been created it can be modified within Program Mode, and the contents re-stored.

Memory Types

There are two memory types which can be programmed on the Jester desk. They are SCENE memories and CHASE memories.

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

A CHASE memory consists of a number of steps (maximum of 999 steps). Each step consists of a single static state, recording the output level of each channel.

The up or down cursor buttons are used to select the required memory, whilst the LCD is displaying the <Mem:> field. The LCD shows the selected memory number, along with its associated fade time(s) and its name. If the memory being programmed is a CHASE, the LCD also shows the current step number. The PRESET faders are used to set the output levels and the PROGRAM/GO button used to save the levels to memory.

Submaster Types

Scenes and Chases can also be recorded onto Submaster faders. These faders allow you to fade in scenes or chases on a single fader, whilst in Run mode. Pressing a channel flash button whilst in Program mode allows you to select the required submaster for programming. The Jester has 2 pages of 12(24) submasters, totalling 24(48). In Program mode, PRESET A represents submasters 1-12(24) and PRESET B represents submasters 13-24(25-48).

Low Memory Warning

The Jester has a maximum capacity of 500 memories, plus 24(48) submasters. Each memory may be a SCENE or a CHASE. The number of CHASE steps may cause the total number of memories to be less than 500. The desk software monitors the amount of memory used and displays a warning when the memory available is getting low, and when there is none left.

NOTES

Recording Output Values

It is recommended that the GRAND MASTER is 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 Jester stores scenes with the internal levels BEFORE the grand master.

Desk Channels

All desk channels are recorded into every memory or submaster, and are mixed on a highest-takes-precedence (HTP) basis.

Program Controls and Displays

PRESET A AND PRESET B

There are 12 (24) PRESET A faders which control individual channels 1 -12 (1 - 24). There are 12 (24) PRESET B faders which control individual channels 13 - 24 (25 - 48).

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 and B MASTER

The A and B MASTER faders are disabled in PROGRAM mode.

LCD

The LCD indicates the selected memory or submaster number and the current step number (if applicable). An asterix (*) after the number indicates that the memory (or step) is unprogrammed, whilst a plus (+) indicates the memory includes captured DMX data from the DMX-in port.

MONITOR

The monitor displays the selected memory or submaster with a yellow bar and the current step number, in the 'steps' column. An asterix (*) after a number indicates that the memory (or step) is unprogrammed. Names for both submasters and memories are displayed on the monitor output, as are the fade up & down times for a memory, and the output levels.

CLEAR

This button is used to clear a memory, submaster or to clear a step from a chase memory/submaster. Hold the button for 1 second to delete a scene/step, hold for 1s with Shift to delete a chase and tap to backspace when entering names.

PROGRAM/GO

In Program mode, this button is used to save the output levels and fade times into the selected memory or submaster (no fade times are stored for submasters). If the memory is a chase, the output levels are saved into the current step and the chase modifiers are stored for the entire chase.

COPY/PASTE

When used alone, the Copy button is used to copy the memory data of the selected scene or chase step, so that it can be pasted into a different scene memory or chase step. If the selected scene or chase step is empty, pressing the COPY/PASTE button will clear the copy memory.

When used with SHIFT, the COPY/PASTE button functions as Paste. In Paste mode, this button is used to replace the selected scene memory or Chase step data with previously copied memory data. The red light in the COPY/PASTE button is illuminated when there is data available. If the light is not illuminated, pressing the PASTE button will have no effect.

The COPY function also works in RUN Mode, to allow looks created there to be stored, ready to PASTE into a memory/submaster in PROGRAM Mode.

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 blackout is not active (light in the BLACKOUT button is off).
3. Set all the PRESET faders to zero and the GRAND MASTER to full.

NOTES

Editing 'Live'

*When changing from RUN Mode to PROGRAM Mode, it is the NEXT memory which will be selected for editing. To make an edit to the current memory without sudden output changes, simply set the NEXT memory to the same as the CURRENT memory, **before** changing from RUN Mode to PROGRAM Mode.*

Selecting a Memory Number

The LCD shows the selected memory number <Mem: #>. This is replicated on the monitor by the selection having a yellow bar.

An unprogrammed memory has an asterix (*) after the memory number. An unprogrammed memory is always a scene memory, but can be converted to a chase easily. The up or down cursor buttons are used to select the required memory number to program.

Scene Memories

Programming a New Scene Memory

1. Set up the desk for programming as described above.
2. Use the up or down cursor buttons to select an unprogrammed memory.
3. Use the PRESET A and PRESET B faders to set the required output levels.
4. Set the required fade time on the FADE TIME pot.
5. Press the PROGRAM/GO button. The output levels and fade time are now stored in the selected memory. If the next memory in the stack is unprogrammed, the LCD and monitor will now select it, ready for programming. The outputs remain unaltered.

Programming a New Scene Submaster

1. Set up the desk for programming as described above.
2. Press the CHANNEL FLASH button below a submaster you wish to program.
3. Use the PRESET A and PRESET B faders to set the required output levels.
4. Press the PROGRAM/GO button. The output levels are now stored in the selected submaster. The outputs remain unaltered.

Split Fade Times

Sometimes you may wish a scene to have different up and down fade times. The Jester allows you to define these times, with the FADE TIME pot.

1. Select the memory you wish to alter the fade times of.
2. Use the FADE TIME pot to set the Fade UP time for the scene. This time will be displayed on the LCD and monitor.
3. Holding SHIFT, now set the Fade DOWN time for the scene. This time will be added to the LCD and monitor. If both times are equal, or no split time has been defined, no down time is shown.
4. Overwrite the memory. To do this, press and hold the PROGRAM/GO button for 1 second. See note on page 15 for more information on overwriting memories.

Overwriting a Programmed Scene

1. Set up the desk for programming as described above.
2. Use the up or down cursor buttons to select a programmed memory.
3. Use the PRESET A and PRESET B faders to alter the output levels. If a channel is higher than the current fader level, push the fader up to 'grab' the level, then pull it down to the required level. Channel levels are displayed at the bottom of the monitor output.
4. Press the PROGRAM/GO button. The LCD asks you if you wish to overwrite the memory. Press the PROGRAM/GO button again, or hit ENTER. The new levels are now stored in the selected memory. The original contents of the memory are overwritten. The outputs remain unaltered.

Overwriting a Programmed Submaster

1. Set up the desk for programming as described above.
2. Press the CHANNEL FLASH button below the submaster you wish to overwrite.
3. Use the PRESET A and PRESET B faders to alter the output levels. If a channel is higher than the current fader level, push the fader up to 'grab' the level, then pull it down to the required level. Channel levels are displayed at the bottom of the monitor output.
4. Press the PROGRAM/GO button. The LCD asks you if you wish to overwrite the submaster. Press the PROGRAM/GO button again, or hit ENTER. The new levels are now stored in the selected memory. The original contents of the submaster are overwritten. The outputs remain unaltered.

Editing Channel Levels in a Scene

If you wish to make changes to a scene memory or submaster, the easiest way is to follow these simple steps.

1. Use the cursor keys or channel flash buttons to select the programmed memory or submaster. The Jester will output the requested scene.
2. Move the required channel faders to their new levels. To gain control of a channel you will need to push the fader up above the level of the channel in the scene, to 'grab' the channel, then move it to its new value.
3. Once you have made all the required edits, press the PROGRAM/GO button. The LCD and monitor will ask you to confirm whether you'd like to overwrite the memory or make the memory into a chase. Select <Overwrite> and press ENTER.

NOTES

Overwriting

The Jester has four methods of overwriting a memory:

- Press Program, then press Enter at the prompt.
- Press Program, then press Program again at the prompt.
- Hold Program for a few seconds.
- Press Shift and Program together.

Overwrite with Paste

When pasting in a memory or step, there are three ways to confirm an overwrite:

- Press SHIFT+ COPY/PASTE, then press ENTER at the prompt.
- Press SHIFT+COPY/PASTE, then press SHIFT+COPY/PASTE again at the prompt.
- Hold SHIFT+COPY/PASTE for a few seconds.

Deleting a Scene Memory

1. Use the cursor keys to select the programmed memory to clear.
2. Hold the CLEAR button for 1 second. All the channel values in the memory will be reset to zero, and the asterix (*) will appear next to the memory number in the LCD to indicate that the memory is now unprogrammed.

Deleting a Scene Submaster

1. Press the CHANNEL FLASH button under the Submaster you wish to clear.
2. Hold the CLEAR button for 1 second. The Submaster will be cleared.

NOTES

Viewing Memories

In Program mode, it is possible to scroll through the memories, using the cursor buttons, outputting each memory in turn.

Inserting Memories

1. Use the up or down cursor buttons to select the required memory (if you wish to insert 3.5, select memory 3).
2. Press the INSERT button.
3. Use the up or down cursor keys to navigate to the required memory number. All memories between 3.1 and 3.9 will be available. The LCD shows the memory number with an asterix, indicating that it is unprogrammed.
3. Use the PRESET A and PRESET B faders to set the required output levels for the new step. The output will appear live.
4. Press the PROGRAM/GO button to save the output levels and fade time into the new memory. The asterix disappears from the LCD, and the next memory is selected.

Inserting a Step

1. Use the up or down cursor buttons to select the required chase memory.
2. Press the left and right cursor buttons to select the Step field.
3. Use the cursor up or down buttons to select the step before the one you wish to insert, (eg, to insert a step between steps 4 and 5, select step 4).
4. Press the INSERT button. The LCD shows the inserted step number with an asterix, indicating that it is unprogrammed.
5. Use the PRESET A and PRESET B faders to set the required output levels for the new step. The output will appear live.
6. Press the PROGRAM/GO button to save the output levels into the new step. The asterix disappears from the LCD.

Deleting a Step

1. Use the up or down cursor buttons to select the required chase memory.
2. Press the right cursor button.
3. Use the cursor up or down buttons to select the step to be deleted.
4. Hold the CLEAR button for 1 second. The selected step will be removed from the chase. The LCD will show the previous step number.

Overwriting a Step

1. Use the up or down cursor buttons to select the required chase memory.
2. Press the left and right cursor buttons to select the Step field.
3. Use the cursor up or down buttons to select the step before the one you wish to overwrite.
4. Set the required output levels using the PRESET A and/or PRESET B faders. The output is live.
5. Press the PROGRAM/GO button. The LCD asks you if you wish to overwrite the step, select <Overwrite> and press ENTER. Overwrite can be forced by holding the PROGRAM/GO button or by using SHIFT+PROGRAM/GO.

NOTES***Adding Steps***

A new step cannot be added until the current step has been saved by pressing PROGRAM/GO

Renumbering Steps

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

Inserting Steps

The INSERT button can only insert a step after the current step. If the user wishes to insert a step before Step 1 of a Chase then following actions must be performed: Insert a new step after Step 1 using the INSERT button. Use the COPY/PASTE button to copy the contents of Step 1 into the new step, then re-program Step 1 with the required values.

Deleting Last Step

If there is only one step in the chase, it will be automatically converted to a scene memory. The last step should be deleted in the same way you would delete a normal scene.

Maximum Steps Programmed

If an attempt is made to insert a step into the Chase when the maximum 999 steps have been programmed, the LCD displays a warning. The chase and outputs are unaffected.

Deleting a Chase Memory

1. Use the cursor up or down buttons to select the chase memory to be deleted.
2. Press and hold SHIFT with the CLEAR button for 1 second. The memory will change to an unprogrammed scene memory.

Deleting a Chase Submaster

1. Press the CHANNEL FLASH button under the Submaster you wish to clear.
2. Press and hold SHIFT with the CLEAR button for 1 second. The Submaster will be cleared.

NOTES**Viewing Steps**

It is possible to scroll through the steps of a chase memory, using the cursor up or down buttons, outputting each one in turn.

Using the Copy/Paste Button

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

Copying a Scene Memory

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

Copying a Chase Step

1. Use the cursor buttons to select a programmed chase memory or press the channel flash button under the submaster.
2. Press the cursor right button.
3. Use the cursor buttons to select the step to be copied.
4. Press the COPY/PASTE button. The contents of the chase step will be stored internally. The light in the COPY/PASTE button will be illuminated.

Copying a Submaster

1. Use the channel flash buttons to select a programmed submaster.
2. Press the COPY/PASTE button. The contents of the submaster will be stored internally. The light in the COPY/PASTE button will be illuminated.

Pasting into a Scene Memory

1. Copy the required memory data (from a scene memory or chase step) as described above. Ensure that the light in the COPY/PASTE button is on.
2. Use the cursor buttons to select a scene memory.
3. Press and hold SHIFT and press the COPY/PASTE button. The memory data copied will be pasted into the scene memory.

Pasting into a Chase Step

1. Copy the required memory data (from a scene memory or chase step) as described above. Ensure that the light in the COPY/PASTE button is on.
2. Use the cursor buttons to select a chase memory.
3. Press the right cursor button.
4. Use the cursor buttons to select the step into which the data is to be pasted.
5. Press and hold SHIFT whilst pressing the COPY/PASTE button. The memory data copied will be pasted into the chase step.

Pasting into a Submaster

1. Copy the required memory data (from a scene memory or chase step) as described above. Ensure that the light in the COPY/PASTE button is on.
2. Use the submaster buttons to select a submaster.
3. Press and hold SHIFT and press the COPY/PASTE button. The memory data copied will be pasted into the submaster.

NOTES***Unprogrammed Copy***

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

Overwriting Copy Data

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

Copy/Paste Light Off

If the light in the COPY/PASTE button is off, pressing and holding SHIFT with the COPY/PASTE button will have no effect.

Pasting to Unprogrammed Memory/Step

If memory data is pasted into an unprogrammed SCENE memory or CHASE step, the memory or chase step is now regarded as programmed.

Pasting to Programmed Memory/Step

If memory data is pasted into a programmed SCENE memory or CHASE step, the original contents of the memory or step are overwritten. The desk asks you to confirm the override.

DMX Input

The Jester allows you to input a full universe of DMX and capture this to any memory, allowing the Jester to act as a backup console. When a DMX input is attached to the desk, the Jester automatically re-transmits any unpatched channels on the DMX output. Channels which are patched are mixed highest-takes-precedence.

When a memory (or submaster) is recorded with a DMX-input present, the memory (or submaster) will store all 512 channels, including any unpatched channels. The memory or submaster will show a +, to indicate the additional data has been stored. This will then act as a backup memory or submaster, allowing you to replicate the scene at any required time.

Run Mode

Introduction

Run Mode on the desk is used to replay the previously recorded memories and submasters. The programmed 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 PROGRAM/GO button. The cursor buttons can also be used to select a particular memory, which can then be output by pressing the PROGRAM/GO button. The LCD shows the current and next memory to be output. The crossfade time, chase 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. Submaster levels are controlled directly by the submaster and the GRAND MASTER. The desk outputs 512 channels of DMX all the time.

Run Mode Controls and Displays

PRESET A AND PRESET B

There are 12 (24) PRESET A faders which control individual channels 1 -12 (1 - 24). There are 12 (24) PRESET B faders which control submasters.

CHANNEL FLASH BUTTONS

The 24 (48) CHANNEL FLASH buttons corresponding to the 12 (24) PRESET A and 12 (24) PRESET B faders are used to flash individual submasters.

A MASTER AND B MASTER

The A MASTER is used to control the maximum output level from the PRESET A faders. The B MASTER fader is inactive in RUN mode.

MEMORY MASTER

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

FADE TIME

The FADE TIME 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 PROGRAM/GO button is pressed, and to determine the fade time of submasters and the PRESET A master.

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.

LCD

The LCD shows details of the current and next memory to be output.

MONITOR

The monitor shows details of the current and next memories, as well as all submasters.

SPEED

The SPEED control is used to regulate the speed of all currently active chases. Each chase is 'grabbed' by moving the control to the chases current value. This control has a switch position at the

minimum end of its rotation which stops automatic stepping through a chase and gives full manual control, using the INSERT button.

ATTACK

The attack button lets you switch between various modes for chases. Again, each chase is grabbed by visiting its current value, then moving to the new value. The options are: Snap on, Snap off; Snap on, Fade off; Fade on, Snap off; Fade on, Fade off.

DIRECTION

This button is used to override the direction that a chase memory runs in, when output. Again, you must grab the current value of the active chases, then adjust to the new value. The accompanying lights indicate which direction has been selected. A Random option is also provided, for the creation of simple effects.

PROGRAM/GO

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

Pressing the PROGRAM/GO button automatically increments the memory number in the LCD, and the selection on the monitor.

Pressing PROGRAM/GO with SHIFT held down acts as a PAUSE button, stopping the crossfade which is currently active. The crossfade can then be restarted by pressing the PROGRAM/GO button again.

COPY/PASTE

The COPY function also works in RUN Mode, to allow looks to be stored, ready to PASTE into a memory/submaster in PROGRAM Mode. The red light in the COPY/PASTE button is illuminated when there is data available. To clear the buffer, press the button again and the light will go out.

NOTES**Remote Go**

Pressing a switch connected to the Remote Input jack socket on the back panel has the same effect as pressing the PROGRAM/GO button, by default. This can be altered in SUPER USER.

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 blackout is not active (the light in the BLACKOUT button is off).
3. Set all the PRESET faders and the A MASTER and B MASTER to zero.
4. Set the MEMORY MASTER and GRAND MASTER to full.
5. Set the FADE TIME control to the desired value.

NOTES**Editing 'Live'**

*When changing from RUN Mode to PROGRAM Mode, it is the NEXT memory which will be selected for editing. To make an edit to the current memory without sudden output changes, simply set the NEXT memory to the same as the CURRENT memory, **before** changing from RUN Mode to PROGRAM Mode.*

Selecting the Next Memory

The LCD and monitor display data about the current and next memories. The cursor up or down buttons are used to select the next memory to be output.

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

Pressing the cursor up button will take you to the previous programmed memory. When the first programmed memory is reached, pressing the cursor up button will take you to the last programmed memory.

Pressing cursor up and cursor down together will select the first programmed memory.

To Determine the Current Memory

The LCD display shows the current memory number in the left hand side of the display – <C: #>. This is also shown in the monitor, highlighted with a green bar.

Outputting a Programmed Memory

The cursor up or down buttons are used to select the next memory to be output. The PROGRAM/GO button is used in run mode as the GO button, which will initiate a dipless crossfade between the current memory and the next memory. The LCD automatically selects the next programmed memory, and changes the current (C:) memory to the one which is now being output. The crossfade takes its time from the programmed 'Fade' time for the incoming cue. This crossfade time can be manually overridden by moving the FADE TIME pot to an appropriate value.

Pausing a Crossfade

1. Use the cursor buttons to select the next memory to be output.
2. Press the PROGRAM/GO button. This initiates a crossfade to the selected memory, in the time defined by the memory. While the crossfade is taking place, the red FADING light flashes.
3. To pause the crossfade, press and hold the SHIFT button and press the PROGRAM/GO button. The PROGRAM/GO light and the red FADING light will flash and the outputs remain static.
4. To restart the crossfade, press the PROGRAM/GO button again. The crossfade continues. When the crossfade is complete, the red FADING light goes out. The PROGRAM/GO button will stop flashing as soon as it is pressed.

NOTES

Selecting Memories

Only programmed memories are selectable. Any unprogrammed memories are ignored.

Presets in Run Mode

When in Run mode, the preset faders (Preset A) function as highest takes precedence (HTP) channels. Each channel can be increased in brightness by raising its appropriate fader (remember that Preset A will be controlled overall by the A MASTER). The channels can also be flashed, using the Flash Mode set on the LCD. As the Jester has two pages of channels 1-12 & 13-24 (1-24 & 25-48), the PAGE A button is used to switch between the two pages. When you switch to a new page of channels, all the faders reset in software to the level of the presets on that page. In order to adjust these levels, you must first grab the level that the preset is currently at. Once the level has been grabbed, you can increase or decrease the brightness as required.

Submasters in Run Mode

When in Run mode, the submaster faders (Preset B) function as highest takes precedence (HTP) merge memories. Each submaster can be pushed up, and the channels in its memory are raised proportional to the level of the fader.

The submasters can also be flashed, using the Flash Mode set on the LCD. As the Jester has two pages of submasters 1-12 & 13-24 (1-24 & 25-48), the PAGE B button is used to switch between the two pages.

When you switch to a new page of submasters, all the faders reset in software to the level of the submasters on that page. In order to adjust these levels, you must first grab the level that the submaster is currently at. Once the level has been grabbed, you can increase or decrease the brightness as required. Note that if a submaster includes a chase, this will automatically be started when you raise the submaster.

Outputting a Chase Memory

1. Use the cursor buttons to select a chase memory to be output.
2. Press the PROGRAM/GO button to initiate a crossfade to the selected memory. The transition between the current memory and the selected memory depends on the programmed fade time. You can alter the fade time of the next memory by moving the FADE TIME control.
3. When the Chase 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 Chase Steps - Manual Stepping

1. First select the memory or submaster containing the chase you wish to step through.
2. Move the SPEED control to grab the currently programmed value, then move the SPEED control back to the slowest speed. You will feel a click as the control moves into Manual mode.
3. Press the INSERT button each time to move to the next step.

Moving between Chase Steps - Automatic Stepping

1. First select the memory or submaster containing the chase you wish to run.
2. Move the SPEED control to grab the currently programmed value, then move the SPEED control to the desired speed. If you wish to adjust only the chase speed of

the selected memory (as opposed to all active chases), ensure you hold down SHIFT whilst adjusting the SPEED control.

Beat Setting

Sometimes it is desirable to set a chase to match the beat of music. To do this, firstly you need to set the Flash Mode to <Beat>. Once this is done, press the INSERT button twice (once on each down-beat of the music) to override the speed of the chase running on the memory stack.

If a chase is running on a submaster and you wish to set a beat, set the Flash Mode to <Beat> then use the channel flash button under the required submaster to set the beat. The Jester measures the time between one button press and the next, and takes that as the time for the chase, until another option is defined.

Using Sound Input

A chase can be advanced in time with the bass beat of a music source, or the basic speed of the chase 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. See the Super User section of this manual for more information on activating the sound function.
3. To use only the sound to trigger the chase, set the SPEED control to Manual.
4. To use a combination of sound and automatic, set the basic speed with the SPEED control.

NOTES

Insert Button

The INSERT button is active at all times while a chase is running. It can be used to advance the chase running on the memory stack by one step. To advance a manual chase on a submaster, use the submaster flash button, with the <Flash Mode> set to <Go>.

Sound Input

If an external sound source attached to the desk is used to advance a chase, the sound function must be activated. This is done in Super User.

Removing Sound Input

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

Attack

The Jester allows you to have several different types of chase – in particular: Snap on-Snap off, Snap on-Fade off, Fade on-Snap off, Fade on-Fade off.

Controlling Chase Direction

The direction of a Chase is controlled by the DIRECTION button. Press the DIRECTION button to select the direction required - Forwards (>), Backwards (<) or Auto-Reverse (< >). Another option under the DIRECTION heading is Random (?), which selects steps in a random order.

Previewing a Memory

An indication of the contents of the next memory can be obtained by previewing the memory.

Previewing a memory is automatic on the Jester, with a monitor connected. Select the memory you wish to preview by using the cursor up or down buttons. The Preview field (above the Outputs field) displays the contents of the selected memory.

Previewing a Submaster

An indication of the contents of a submaster can be obtained by previewing the submaster. To do this, press and hold SHIFT+CHANNEL FLASH button under the submaster you wish to program. The submaster will be previewed. To stop the preview, release SHIFT + the CHANNEL FLASH button.

Auxiliary Control

Introduction

The Jester provides 12(24) auxiliary buttons for you to control simple DMX devices such as smoke machines, strobe lights and scrollers. Each auxiliary can be patched to multiple DMX addresses, and can be defined with an ON and an OFF value. Alongside these, auxiliaries can also be set up to function with a flash motion, a latching motion, a solo motion, or be disabled.

Auxiliaries aren't recorded into cue data, but are great for adding in effects with the press of a button. Auxiliaries can be used in Preset, Program and Run modes.

Setting up Auxiliaries

1. To set up your auxiliaries, you must first enter Super User. To do this, hold down SHIFT and press the MODE button for 1 second. Once in Super User, use the cursor keys to navigate to <Aux Setup> and press ENTER
2. Now press the FLASH BUTTON under the auxiliary you wish to change. Auxiliaries are always associated with the PRESET A flash buttons.
3. The menu shown on the LCD and monitor allows you to alter the mode, on and off values for the auxiliary. Select the area you want to alter, and press ENTER
4. Use the cursor keys to toggle the values of the selected field. The values set will be output live, so you can check your settings. It is also possible to set the numeric values using the preset faders. Again these are output live.
5. When you've finished altering your auxiliaries, navigate to <OK> and press ENTER.
6. Press and hold SHIFT+MODE for 1 second to leave Super User.

For more information on setting up and patching Auxiliaries, see the Super User section of the manual.

Using Auxiliaries

The use of Auxiliaries is always associated with the SHIFT button. By default, all auxiliaries are in their OFF values.

In Program or Run modes, you can activate an auxiliary by pressing and holding SHIFT, and pressing one of the PRESET A channel flash buttons.

If an auxiliary is set to <Flash>, the auxiliary will raise to its ON value and when you release the flash button, the auxiliary will return to its OFF value.

If an auxiliary is set to <Solo>, the auxiliary will raise to its ON value and all other outputs from the desk will be set to 0. When the flash button is released, all channels will return to their previous values.

If the auxiliary is set to <Go>, the auxiliary will raise to its ON value and stay there. To send the auxiliary to its OFF value, press it again. You can release SHIFT and perform other functions with the desk in between activating and deactivating the auxiliary, however SHIFT must be held to control the auxiliaries themselves (unless they are locked-on, see below).

Fader Control of Auxiliaries

It is possible to set precise levels on an Auxiliary by using the channel faders. Firstly, lock the A-buttons to AUXILIARY mode. To do this, press and hold SHIFT and press the PAGE A button. Now with the CHANNEL FLASH button held down, move the channel fader below the Auxiliary you wish to adjust. Once you've grabbed the channel, you can adjust the level up and down as required. Releasing the CHANNEL FLASH button will lock the Auxiliary into its new level, until it is adjusted again. In Flash or Solo mode, the Auxiliary will return to its Off level as soon as the CHANNEL FLASH button is released.

Notes**Auxiliary Lock**

It is possible to lock the PRESET A buttons to become Auxiliary buttons in Program, Run and Preset modes. To do this, hold down SHIFT and press the PAGE A button. AUXLOCKED appears on the monitor and the PRESET A flash buttons now function as auxiliary controls without holding shift. To turn AUXLOCK off, hold SHIFT and press the PAGE A button again.

Fader Control

When using Auxiliaries with fader control, it is advisable to set the <Mode> to <Off>, in Super User. That way, when you press or release the flash button, the Auxiliary won't jump ON or OFF.

Super User Mode

Introduction

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 resetting the DMX patch, locking the desk, patching the desk channels to the DMX and saving or loading memory data, as well as setting up auxiliaries and remote inputs, and changing the online help language.

Numeric fields can be filled using the Preset B flash buttons as number entry keys. Channel1 flash button will enter a 1, Channel2 will enter a 2, etc, through to 10, which will enter a 0.

Entering Super User Mode

To enter Super User Mode press and hold SHIFT and the MODE button together. The SUPER USER LED next to the MODE button comes on. The monitor and LCD show the software version (eg Jester 48 r2 V3.2) and the Desk Serial Number (eg 0010900 05251234), as well as the first two options in Super User.

Notes

Hardware Revisions

There are 2 versions of the processor board used in the Jester – r1 and r2. There are no external visible differences – you can see which version is fitted in the Super User Menu.

Software update JOS files will work on either version of hardware. Showfiles are completely compatible between hardware versions.

The main operational difference is that the r2 hardware supports USB Keyboards, the r1 hardware does not.

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.

Saving Show Data

1. Ensure that a memory stick is connected to the USB socket on the front panel of the desk.
2. Use the cursor keys to select <Load/Save Show> and press ENTER.
3. Move to select <Save Show> and press ENTER.
4. Give the file an appropriate name and press ENTER. The programmed memory data and DMX patch are saved onto the memory stick.
5. Once complete, you can move to select <OK> and press ENTER. You will be returned to the Super User menu.

Loading Show Data

1. Ensure that a memory stick is connected to the USB socket on the front panel of the desk.

2. Use the cursor keys to select <Load/Save Show> and press ENTER.
3. Select the show you wish to load, using the cursor keys.
4. Move to select <Load Show> and press ENTER. The programmed memory data and DMX patch are loaded from the memory stick.
5. Once complete, you can move to select <OK> and press ENTER. You will be returned to the Super User menu.

Erasing Show Data

1. Use this option to delete show files from the memory stick if there is insufficient space left on it to store new shows. Note that the show data stored in the desk is unaffected by this operation. Plug the memory stick into the USB socket on the front panel of the desk.
2. Use the cursor keys to select <Load/Save Show> and press ENTER.
3. Move to select <Erase Show> and press ENTER.
4. Select the show you wish to erase, using the cursor keys and press ENTER. The show will be deleted from the memory stick.
5. Once complete, you can move to select <OK> and press ENTER. You will be returned to the Super User menu.

DMX Patching

The desk has a default 1:1 DMX patch (desk channel 1 is patched to DMX channel 1, desk channel 2 patched to DMX channel 2 etc.).

Each desk channel may be patched to any number of different DMX channels. For example, desk channel 1 could be patched to DMX channels 1, 101, 201. A desk channel may also be unpatched such that it is no longer patched to any DMX channel.

Each DMX channel can only have one desk channel or auxiliary assigned to it. The DMX patch may be changed at any time without affecting the memory data stored in the desk. The DMX patch is stored as part of the show data when the show is saved onto an external memory module.

Patching the Desk Channels

Use the cursor keys to select the menu option <DMX Patch>. The LCD and monitor display the DMX patch, in sequence from DMX 001.

If a desk channel is patched to the DMX channel shown in the monitor/LCD, the light in the corresponding CHANNEL FLASH button will be lit. If no desk channel is patched to the DMX channel shown in the monitor/LCD, the patch will be shown as Ch--.

Use the up or down cursor arrow buttons to select the required DMX channel. To patch a desk channel to the selected DMX channel, press the corresponding CHANNEL FLASH button. The light in the button is lit.

To unpatch a desk channel from the selected DMX channel, press the corresponding CHANNEL FLASH button, or tap CLEAR.

The light in the button goes out.

To patch an Auxiliary to a DMX address, press and hold SHIFT whilst pressing the CHANNEL FLASH button under the channel you wish to patch. The monitor/LCD will read Aux01. If more than one Auxiliary is patched to a single DMX address, the display will read Aux01G to indicate a group has been patched. When a group of

Auxiliaries are patched, you can use the different on/off levels to define several different points within the DMX values, useful for colour scrollers, for example.

To clear the DMX patch back to default (1:1) patch, press and hold the clear button for 1 second. The patch will be returned to default.

To leave patch mode, use the cursor keys to move to select <OK> then press ENTER. You will be returned to the Super User menu.

Aux Setup

To setup Auxiliaries, move into the Aux Setup menu. Select the CHANNEL FLASH button on the channel you wish to set up. The LCD/monitor show the mode of the Aux button and the On and Off values. To set the mode, use the cursor keys to select the Mode field, then press ENTER. The mode will flash, and you can now use the cursor keys to move through the various options (Flash, Solo, Go, Off). Select the required mode, then press ENTER.

Flash mode gives the Auxiliary a momentary action of turning the associated DMX channel(s) to the ON value whilst the button is held, then returning them to the OFF value when the button is released. This can be useful for devices like Strobes or Smoke Machines.

Solo mode is similar to Flash mode, however whilst the auxiliary is active, all other outputs from the desk are turned off. Releasing the button returns the channel(s) to their original values.

Go mode is a latching action, where an auxiliary will turn ON with the first press of the CHANNEL FLASH button, and OFF with the next. This is useful for long term effects in a show, which may need to be turned on or off for prolonged periods of time.

Setting the Auxiliary to Off mode will disable the auxiliary.

Each auxiliary can have an individual ON and OFF value. By default these are set to ON at 255 (Full) and OFF at 000. To alter these values, select the required channel by pressing the CHANNEL FLASH button, then select the ON or OFF value and press ENTER. The current value will flash, to indicate editing is possible. You can now use the cursor up or down keys to increase and decrease the value. You can also enter the value using the PRESET B CHANNEL FLASH buttons. The first 9 flash buttons enter the numbers 1-9, with channels 10 onwards entering 0. Once you've finished entering the value, press ENTER to confirm the edit. If you wish to cancel the edit, press and hold SHIFT whilst pressing ENTER. In this case, the value will return to its original level.

Once you've finished altering the auxiliary settings, use the cursor keys to move to select <OK> and press ENTER. You will be returned to the Super User menu.

Locking / Unlocking the desk

The Jester can be locked with a 4 digit code to prevent unauthorised modification to recorded data. When locked, memories, submasters and auxiliaries cannot be

programmed, edited or cleared. Additionally no Super User options (such as changing the DMX Patch) can be performed while the desk is locked. It is still however possible to replay memories, submasters and auxiliaries normally.

To lock/unlock the desk, select <Lock/Unlock>, and press ENTER.

If the desk is unlocked, you must now enter the lock code using the Submaster Flash buttons and press ENTER. The default lock code for the Jester is 0000. Once the correct lock code has been entered, you will be presented with 2 options:

Lock Desk

To lock the desk and prevent any changes to the recorded data, select <Lock Desk>, press ENTER. The desk is now locked, and you will be returned to the Super User menu.

Change Code

It is recommended that you change the lock code from the default to something that you will be able to easily remember. To do this, select <Change Code>, press ENTER, then type in the new code using the Submaster Flash buttons and press ENTER again. You will be returned to the Super User menu.

If the desk is locked, then you will be prompted to enter the 4 digit unlock code, using the Submaster Flash buttons. If this is entered correctly then the desk will be unlocked and you will be returned to the Super User menu. Changes to the recorded data can now be made as normal.

If you forget the lock code for your Jester, please contact Zero 88 Technical Support for assistance, and have the desk's serial number to hand. You may be asked some questions to verify your identity and ensure that you have genuine reason to unlock a desk without knowing it's lock code.

Clear Mems/Subs

If you wish to clear the memories and submasters, select <Clear Mems/Subs>. Press ENTER and the desk will ask you to confirm whether you wish to clear these areas of the desk. Use the cursor keys to select <OK>, and press ENTER. The memories and submasters will be cleared, and you will be returned to the Super User menu.

Reset Desk

If you wish to clear all settings and the DMX patch, and return the desk to its factory settings, use the cursor keys to select <Reset Desk>. Press ENTER. The desk will ask you to confirm the action – use the cursor keys to select <OK>, and press ENTER. The desk will be returned to factory defaults, and you will be returned to the main Super User menu.

Setting Memory Recovery Mode

Recovery mode determines whether the Jester stores the current & next memories when restarted. If Recovery Mode is On - the desk remembers which of the memories was current, and which was next, and on restart these memories will automatically be selected. If Recovery Mode is Off - the desk will start in the first programmed memory, and the next memory will be selected as the second programmed memory.

1. Select the <Memory Recovery> menu option using the cursor keys, then press ENTER.
2. The mode can be toggled by pressing ENTER, then using the up or down cursor keys to toggle between Memory Recovery On and Off. Once you've set the recovery mode as you require, press ENTER, use the cursors to select <OK> and then press ENTER.

Remote Input

The remote input can be set to behave as any button on the front panel of the desk. Use the cursor keys to select <Remote Input> and press ENTER. Now press ENTER and the button you want the remote input to trigger. The default is Program/Go. Once you've set the input as you require, use the cursor keys to select <OK> and press ENTER.

To disable remote input, press SHIFT and ENTER with the button field selected. The display will read <Disabled>.

Sound Input

Super User allows you to enable or disable the Sound2Lite input on the back of the desk. Use the cursors to select <Sound Input> and press ENTER. Now press ENTER and use the up or down cursor keys to toggle between <Enabled> and <Disabled>. Once the option you wish is showing, press ENTER, then move to <OK> and press ENTER again.

MIDI Setup

The MIDI input can be configured in Super User. Select the <MIDI Setup> menu option and press ENTER. The LCD/Monitor display three settings:

Enabled/Disabled

This option specifies whether the MIDI input is enabled. Select this option using the cursor buttons, press ENTER, and use the up & down cursor buttons to enable or disable MIDI. Press ENTER when done. Note that due to internal resource limitations on the r2 hardware, a USB Keyboard cannot be used when MIDI is enabled.

Channel

This selects the MIDI channel which is received, 1-16. Select <Channel> using the cursor buttons, press ENTER, and use the up & down cursor buttons to set the MIDI channel number. Press ENTER when done. To set MIDI to receive on all channels, select <Channel> using the cursor buttons, hold down SHIFT and press ENTER, and <--> will be displayed as the MIDI channel number.

Note

This sets the MIDI note which corresponds to the first preset/submaster on the desk. To change this, select <Note> using the cursor buttons, press ENTER, and use the up & down cursor buttons to set the MIDI note number. Middle C is note 60. Press ENTER when done. To set MIDI to map octaves (which have 12 notes since they include both the black and white notes on a piano keyboard) to presets/submasters, select <Note> using the cursor buttons, hold down SHIFT and press ENTER, and <---> will be displayed as the MIDI note number.

For further information on what each parameter does, see the MIDI section of this manual. Select <OK> and press ENTER to return to the Setup menu.

Set Date/Time

You can set the Date & Time on the Jester by using the <Set Date/Time> option in Super User. Use the cursor keys to select <Set Date/Time> then press ENTER. You can now cycle through the date and time and use the up/down cursor keys to alter the values as required. Press ENTER whilst selecting <OK> to return to the Super User menu. There are no real-time triggers built into the Jester, and this time is only used for the system clock, visible in the bottom right of the monitor output.

Displays Setup

In the <Displays Setup> menu you can configure the brightness and contrast of the LCD. Use the cursor keys to navigate to the required menu option, and press ENTER to adjust it. The default settings can be restored by pressing CLEAR.

If the LCD Backlight or Contrast have been set to unreadable values, you will need to connect a monitor to be able to navigate to this menu and set readable values.

This menu also shows details about the monitor output. If the Monitor Output firmware is V3 or later, then it is possible to change the monitor output resolution from the default of **640 x 400 x 70Hz** to an alternative setting of **640 x 480 x 60Hz**, which may improve compatibility with some monitors. Note that the Monitor Output firmware is factory loaded and cannot be upgraded in the field.

USB Host

The Jester uses a CoProcessor to provide the USB Host functionality required for USB Storage. You can see the version number of the USB Host CoProcessor by selecting <UCB Host> and pressing ENTER. If the Jester software contains an updated version of this firmware (r2 hardware only), then an <Upgrade> button will appear. Further instructions will be given in the software release notes if it is necessary to perform this update.

Select <OK> and press ENTER to return to the Setup menu.

Help Language

The <Help Language> menu allows different languages to be selected for the Online Help. Use the cursor keys to select <Help Language>, and press ENTER. Now press ENTER and use the up or down cursor keys to select the required language (English, Deutsch, Francais or Nederlands). Other languages may be added in future software updates. Once the option you wish is showing, press ENTER, then move to <OK> and press ENTER again.

Test Mode

This option is provided primarily for factory and dealer servicing only. It allows the hardware of the Jester to be tested in isolation from setup options or programming in the show data, which can be useful in diagnosing some problems.

- Pressing a button will display it's name on the Main LCD, optionally toggle nearby LEDs, and optionally display the level of a nearby fader.
- The DMX Input and Output ports will be tested (this test may fail if a DMX-Input source is present).
- Shaded colour bar patterns are displayed on the monitor output.
- MIDI test messages are transmitted if MIDI is enabled.

Press ENTER to leave test mode and return to the Super User menu.

MIDI Control

Simple MIDI

Before using MIDI, you must first activate it in Super User. To do this, press and hold SHIFT and MODE, then navigate to the <MIDI Setup> option and press ENTER, then toggle the <Disabled> to read <Enabled>.

Once MIDI is activated, plug in a MIDI cable from a keyboard to the MIDI 'IN' socket and set the desk to Preset mode. Any note played on the keyboard will turn a channel on.

If this doesn't work, someone has been experimenting with the MIDI settings on the desk, go into Super User and perform a desk reset, then re-activate MIDI.

The introduction to MIDI below will help if you need or want to know the technical details.

Introduction to MIDI

MIDI (Musical Instrument Digital Interface) was originally designed as a means of communication between electronic musical instruments. Some of the concepts involved are important to understand before starting to program the desk to respond in a particular way to MIDI commands.

Communication

MIDI is a means of two way communication between musical instruments.

Transmit and Receive Channels

MIDI has separate Transmit and Receive channels numbered 1 to 16.

By setting Receive to a particular channel, only the signals that are wanted will be received.

Alternatively, Receive may be set to respond to all channels <--> so that any MIDI information transmitted will be received. The Transmit channel must be set to a specific value. For two MIDI instruments to communicate with each other in a system with many other instruments connected, they must be set up to use Transmit and Receive channels that are not used by other instruments.

Note Numbers

The MIDI standard assigns 'Note Numbers' to musical notes. Middle C is number 60. By default, octaves are mapped to the 12 presets/submasters (there are 12 notes in a MIDI octave since it includes both the black and white notes on a piano keyboard). However, this setting can be changed so that a specific MIDI Note is mapped to the first preset /submaster.

When MIDI is set to map octaves, the maximum number of presets / submasters that can be controlled is 12. When a MIDI note number is set, the maximum number of presets / submasters that can be controlled is limited by the desk size:

Jester12/24: 24 presets in Preset Mode or 12 submasters in Run Mode.

Jester24/48: 48 presets in Preset Mode or 24 submasters in Run Mode.

When controlling submasters in Run Mode, the action of MIDI is the same as raising the submaster fader on the desk, therefore you can only output submasters from the current page. Using MIDI does not increase the number of submasters; to control submasters from the other page, press the PAGE B button on the desk. The normal submaster Page Overlay rules apply - you must lower the submaster on one page before you can output the same submaster on the other page.

Velocity Sensing

Some keyboards have this function. It enables the musician to control the loudness of the music by playing notes and chords delicately for soft music or hard for loud music. The MIDI signal that is transmitted by such instruments consists of a Velocity in the range 0 to 127.

If the instrument does not have Velocity sensing, the Velocity is fixed by the manufacturer, often at 63 rather than 127 so that the music that is being played is not too loud.

Summary

MIDI instruments send a stream of signals from their 'OUT' port. The signals sent principally consist of Note On messages which consist of a Note On command followed by a variable number of pairs of Note Numbers and Velocities.

There may be the occasional Program Change signal if the voice is changed.

MIDI and the Jester

The Jester is designed only to receive MIDI information. It cannot transmit MIDI information to another device, although a Thru port is provided to allow daisy chaining.

MIDI Received

In Preset mode:

The first note of any octave will drive channel 1, the second note of any octave will drive channel 2 and so on. The Receiving Channel is set to <--> by default. This means that the desk will accept commands on any of the 16 channels. The velocity information is used to determine the fade rate of a channel.

In Run mode:

The first note of any octave will drive submaster 1, the second note of any octave will drive submaster 2 and so on. The velocity information is used to determine the fade rate of the submaster.

You can disable MIDI control completely by setting MIDI to <Disabled> in Super User. This is the default value, so if MIDI does not function, check it is Enabled first.

Other Features**Online Help**

The Jester has an online help section built into the desk. To access Online Help at any time, press SHIFT+LEFT+RIGHT and the Jester will display a basic summary help screen. You can navigate around the help screens to view other topic areas. The language for the online help can be selected in Super User.

Software Updates

When software updates become available for the Jester, announcements will be posted on the Zero88 website – www.zero88.com – detailing how and where to get the updates. If you are unsure if you are running the latest software, visit the download section of the Zero88 website. It is important to keep the console up to date as often software updates may mean exciting new features as well as critical updates when required.

To perform a software update on the Jester, first download the JOS file from the Zero88 website and extract it to a memory stick. Next, boot the Jester with the memory stick in the USB port, and hold down the left and right cursor keys. The update will begin after a few seconds, and you will be guided through the process. After the update is complete, you can remove the memory stick and the desk will load the new software.

Zero88 consoles have a long history of user-inspired development. If you have a suggestion for a feature which is not currently included in the Jester or any of our other consoles, visit the Zero88 website, follow the link to our forums and make a suggestion. Membership is free and information about software updates will be posted online when they become available.

Glossary (A to Z of the Jester)

A Master

The master fader which controls the level of the channels on Preset A.

Analogue

A control standard which existed before the invention of DMX. 10V control signals provide the dimmer with level information. DMX can be converted to Analogue via the use of a **Demux**.

Attack

The fade profile of a chase. This can be set to snap, fade, or combinations of the two.

Audio In

See **Sound2Light**

Auxiliary

A button on the Jester which allows you to control DMX-controlled devices with on/off values via the preset A flash buttons. Auxiliaries are not recorded in cues.

B Master

The master fader which controls the levels of the channels on Preset B.

Backlight

The level of the light behind the LCD. Also a term for a light pointing downstage, often used to create a 'halo' effect on someones shoulders.

Backward

Running a chase in reverse order, so that the steps are output 6,5,4,3,2,1,6

Blackout

All Channels at 0%. This is toggled by the use of the BLACKOUT button. Blackout is also known as **DBO**.

Blue Room

A technical discussion forum on the internet where technicians discuss all manners of backstage activities and offer support in a friendly environment. Other internet discussion forums are available. www.blue-room.org.uk

Bounce

Running a chase in forward then reverse, so that the steps are output 1,2,3,2,1,2...

Bump

The American name for Flash.

Bump Button

An American name for a **Flash Button**.

Button

A switch on the front panel of the Jester which is used to control an attribute of the desk.

CE

Conformité Européenne – A European product standard, displayed on all products on sale in the EU.

Channel

A term used to describe a single fader controlling a single light. Dimmers may have 6, 12, 24 or 48 channels. The Jester can control either 24 or 48 channels.

Chase

A chase is a series of states which are played back automatically in a loop. On the Jester, a chase can be recorded onto a submaster or as a memory in the stack. Modifiers such as direction, speed and attack are available for chases.

Clear

The button used to delete memories, submasters and backspace characters when naming items.

Contrast

The difference between the dark areas and the light areas on the LCD. This can be customised in Super User.

Copy

The function on the Jester which allows you to temporarily store a set of channel information, prior to pasting it elsewhere. This is activated via the COPY/PASTE button.

Crossfade

A transition between one scene and another, over a pre-defined time.

Cue

A cue is another name for a memory.

Cursor

The arrow keys on the front panel of the Jester are cursor keys. They allow you to navigate around the LCD and monitor, and to adjust things.

DBO

See **Blackout**.

Demux

A device which splits a DMX signal into analogue control signals, for use with older generation dimmers.

Desk

A commonly used name for the lighting control equipment. Also sometimes known as Board or Console.

Dimmer

A device which takes a control signal and turns it into a dimmed mains voltage for controlling the brightness of a standard filament lamp.

DIN

Deutsches Institut für Normung e.V. The MIDI standard specifies the use of 180degree 5 pin DIN plugs.

Dipless

The fades on the Jester are customised so that there will not be a 'dip' in the brightness on stage when crossfading from one scene to another.

Direction

The order in which chase steps are output. This can be forward, backward, bounce or random.

DMX-512

Standard communications protocol for dimmers and moving heads. 512 channels of control are digitally multiplexed and sent down a cable to dimmers, which listen for their specific data, according to their start address.

DMX In

The ability to take a DMX input (see DMX-512) into the Jester, and output it through the Jester's DMX output. This allows you to add in the 24 (48) channels of your Jester to the DMX signal, and also to store the incoming DMX signal as part of a scene or chase. These can then be replayed as a normal scene or chase, but affect the entire universe of DMX.

Enter

The key in the middle of the cursor keys which allows you to confirm something on the Jester.

Fade Down

The Fade Down time on the Jester is the time it will take for the channels which are programmed at a lower level in the incoming cue to that of the current cue to fade to their programmed level.

Fade Time Pot

The control for setting fade times on the Jester. This can be used in conjunction with SHIFT to set a split fade time.

Fade Up

The Fade Up time on the Jester is the time it will take for the channels which are programmed at a higher level in the incoming cue to that of the current cue to fade to their programmed level.

Fader

A fader is used to control the intensity of a light. In addition to the channel faders, the Jester has faders to control the overall output, memory output, and the level of the A and B presets. The faders on the Jester can have any position from 0 to 100%. A fader is sometimes referred to as a **Slider**.

Fading LED

The LED which indicates when a crossfade is in action. This is automatically lit whenever a fade is taking place.

FCC

Federal Communications Commission. The US equivalent of **CE**.

Flash

Pressing the flash button results in a temporary increase in brightness of the output for the duration of the flash button being held. The intensity channels are sent to 100% when the Flash button is pressed. This is a temporary action which is removed when the button is released. Flash buttons can also be set to **Solo**.

Flash Disk

A USB device with storage capabilities.

Forward

Running a chase sequentially so that the steps are output 1,2,3,4,5,6,1...

Go

A function of the PROGRAM/GO button. This triggers a fade between one cue and the next, over a pre-defined time.

Grab

- The ability to push a fader up or down to 'grab' the level of the channel before gaining control of it.
- The function of the Jester when a DMX-input is added to the memory data in program mode.

Grand Master

The master fader which controls the overall output of the Jester.

Green

The colour of the PROGRAM/GO button when the desk is in RUN mode.

Group

The ability to combine several auxiliary buttons to control a single DMX device with several different on/off levels. This allows you to control colour scrollers via setting each colour up on a different auxiliary button.

Help

To obtain the Online Help for the Jester, press SHIFT, LEFT and RIGHT at the same time. The language can be changed in Super User.

HTP

Highest Takes Precedence. The mixing method used on the Jester, where activating a submaster on top of a memory will result in additive mixing.

IEC320-C14

The type of mains input connector on the inline **PSU**, sometimes shortened to simply **IEC**, or referred to as a kettle plug.

Insert

The button on the Jester which is used to add a memory between two scenes, or to add another step to a chase.

Intensity

How bright a light is. Also known as **Dimmer**.

Jack

The connector used for the Audio In and Remote connectors on the Jester. The Jack used on the Jester is the ¼ inch, stereo variety.

Jester

The lighting control desk which you have in front of you.

Key

Another name for a **Button**.

Law

The curve of the dimmer, which is normally set on the dimmer itself. The Jester does not allow you to control the fade law.

LCD

Liquid Crystal Display, the area above the PROGRAM/GO button which displays basic cue information.

LED

Light Emitting Diode. A small electrical component which emits light when a current is passed through it in a particular direction. These are used on the Jester underneath the buttons, to indicate selections or presses.

Lock

The facility on the Jester which allows you to stop the memories and submasters being altered.

LTP

Latest Takes Precedence. The mixing law used when replaying grabbed DMX inputs. This means that activating another recorded memory or submaster will instantly change the grabbed DMX input to the required values.

Memory

A block of storage data containing intensity information about all of the Jesters channels. The Jester has capacity for 500 memories.

Memory Master

The master fader, which controls the overall level of the memory being output.

Memory Stick

Another name for a **Flash Disk**.

MIDI

Musical Instrument Digital Interface. A signal from a keyboard or other musical sampling device can be input to the Jester and be used to control the level of channels and submasters.

MSD

Mass Storage Device. See **Flashdisk**.

Mode

The button which defines which mode the Jester is in.

Modifiers

Often used to describe the options available within a chase. The chase modifiers are Attack, Direction and Speed.

Non-Isolated

The DMX ports on the back of the Jester are not opto-isolated.

Notes

Part of the MIDI system, whereby a specific note can trigger a memory or submaster.

Numeric Entry

The Jester allows you to use the submaster flash buttons to enter numbers into the desk, where appropriate.

Offline Editor

See **Phantom Jester**.

Output

A single desk channel, which is controlled by the Jester.

Page

The Page buttons (PAGE A and PAGE B) allow you to switch the function of the preset faders.

Patch

The area of the Jester where you can specify which DMX addresses each fader can control. By default, fader 1 controls DMX 1, fader 2 controls DMX2, etc.

Paste

The function on the Jester which allows you to record a memory or submaster from the temporary copy store. This is activated via the COPY/PASTE button, when used in conjunction with SHIFT.

Phantom Jester

The Offline Editor (a Windows PC simulation of the desk) for the Jester, available for download from the Zero 88 website. Useful for training and for programming when away from the desk.

Playback

Another name for the sequential memory stack. Also known as a **Cue Stack**.

Pot

A potentiometer, which can be turned to set various values between a given range. The two Pots on the Jester are the Fade Time Pot and the Speed Pot. Turning clockwise increases the speed time pot, or increases the time on the fade time pot.

Preset

The default mode for the Jester. In this mode, channel faders control individual channels and can be crossfaded using the A and B Masters. In 2-Preset mode, the PROGRAM/GO button is inactive. Preset Mode can be expanded to **Wide Mode**, when the PROGRAM/GO button functions as a **Store** button.

Program

A mode of the Jester, and also a function of the PROGRAM/GO button. Both refer to storing a scene or chase as either a submaster or a memory.

PSU

Power Supply Unit. The external box of electronics which alter the supplied power voltage into the correct settings for the Jester.

Q

See **Cue**

Ramp Down

A choice of attack for a chase. The selected channels snap on to their programmed level, then fade off.

Ramp Up

A choice of attack for a chase. The selected channels fade up to their programmed level, then snap off.

Random

A function of chases, whereby the steps are output in a random order. This is useful for creating flicker flame effects. This is shown on the front panel as a "?".

Rate

Another name for Speed. How fast a chase is running.

Red

The colour of the PROGRAM/GO button when the desk is in PROGRAM mode.

Remote

The Jester provides a REMOTE port on the rear of the desk, for triggering a button press externally. This is done by contact closure.

Run

The mode of the Jester used to activate sequential playback of cues, and submaster access. In Run mode, the PROGRAM/GO button is GREEN and activates a crossfade to the selected next memory.

Shift

An important button on the Jester. The SHIFT button provides access to additional functionality and features such as Auxiliaries.

Slider

See **Fader**.

Snap

A fade which happens instantly.

Solo

A channel is at full intensity (subject to the Grand Master) and all other channels are turned off. This is a temporary action generally associated with a flash button.

Sound2Lite

The ability to control lights in time to a beat. The Jester has a sound2lite input which listens to the input music and, according to the settings of the chase, changes the lights in time to the beat.

Speed Pot

The control for setting the speed of chases on the Jester. This is located on the right hand side of the front panel.

Store

The function of the PROGRAM/GO button when the desk is in **Wide** preset mode. The button is coloured YELLOW and toggles between A FADERS B STORED and B FADERS A STORED.

Super User

The area of the Jester where settings can be altered. This is accessed via SHIFT+MODE.

Terminator

A 120Ω ½ Watt resistor soldered between pins 2+3 of a male XLR, which provides protection against signal 'bounce'. This should be placed at the end of a DMX signal chain.

Time

The JesterJester allows you to define fade up and fade down times for a memory, which define how quickly the memory will run.

Topset

The ability to set a 'top' level for a channel. This is generally set on the dimmer itself. The Jester does not allow you to set a top level for a channel.

USB

Universal Serial Bus. A standard for the transfer and storage of information. The Jester has a USB port mounted on the front panel to allow storage of show files.

VGA

Video Graphics Array. The monitor output on the back of the Jester is VGA – see Displays Setup in Super User for further details.

Wide

Wide mode is when the Jester enables all of its faders for use as channel faders. In this mode, Preset B becomes control of the second half of the channels.

www.zero88.com

The address of the Zero88 website.

X-fade

Another name for **Crossfade**. A smooth fade from one scene to another, with pre-defined up and down fade times.

XLR

The connector range used for the DMX input, DMX output and Power connectors on the back of the Jester. There are various different XLR connectors available,

primarily 3-pin (used for Audio and some cheap DMX devices), 4-pin (used for power and colour scrollers) and 5-pin (used for DMX devices). Note that you should never connect a device with a 4 pin XLR to any other device unless they were built to be used together. Different manufacturers use different voltages on these pins, and misuse could result in damage to one or both devices.

Yellow

The colour of the PROGRAM/GO button when the desk is in PRESET mode.

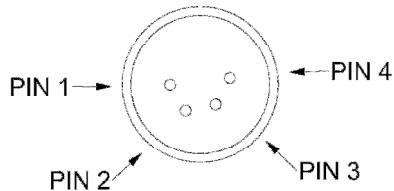
Zero 88

The manufacturer of the Jester.

Technical Specification

This section of the manual lists all the various inputs, outputs and connections to the desk.

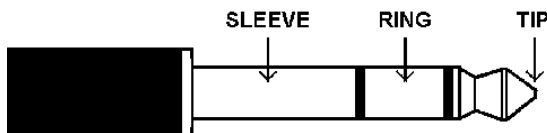
Power Supply



Pin 1	0V
Pin 2	+5V
Pin 3	+12V
Pin 4	Not Used
Shell	Ground

An inline external power supply unit is used to power the Jester. This is connected to the desk via a 4-pin XLR connector.

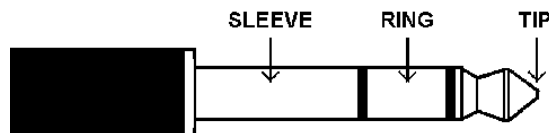
Audio In



Tip	Left
Ring	Right
Sleeve	Ground

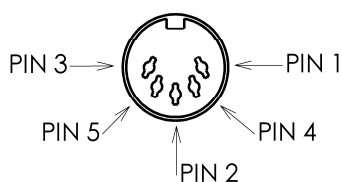
The desk has an audio port on the rear panel, in the form of a stereo 1/4 inch jack sockets. This is used for the Sound Input functions on the desk.

Remote Input



A jack connector provides a remote switch. Short tip to sleeve to simulate a button push.

MIDI



MIDI Input	
Pin 1	Not Used
Pin 2	Not Used
Pin 3	Not Used
Pin 4	Opto isolated Input
Pin 5	Opto Isolated Input

MIDI Thru	
Pin 1	Not Used
Pin 2	Signal Ground
Pin 3	Not Used
Pin 4	Output
Pin 5	Output

The desk has MIDI connections, via 5-pin DIN.

USB Port

One external USB port on the front panel.

External Floppy Drive

If required, an external floppy drive can be connected to the desk, via USB 1.1

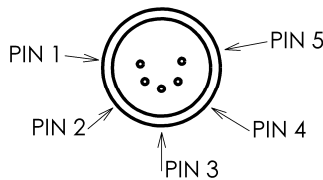
External Storage Devices (Memory Sticks)

The primary method of storage for the Jester is via USB Memory Sticks (also known as Flash Disks or Mass Storage Devices). These can be connected via the USB port.

Video Output

15 pin D connector, VGA text output. VGA is non-interlaced, 80x50 visible characters, 640x400 visible pixels, 800x449 total pixels, 31.5kHz line rate, 70Hz frame rate, 64 colours. An alternative monitor resolution may be available – see Displays Setup in Super User for details.

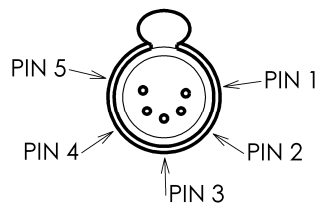
DMX Input



Pin 1	Ground
Pin 2	Signal -
Pin 3	Signal +
Pin 4	Not Used
Pin 5	Not Used

The desk has a DMX Input interface, via 5 pin XLR. This is merged with the desk channels and output via the DMX Output.

DMX Output



Pin 1	Ground
Pin 2	Signal -
Pin 3	Signal +
Pin 4	Not Used
Pin 5	Not Used

The desk has a DMX output interface, via 5 pin XLR. Data on channels 1 – 512 only. The end of a DMX chain should **always** be terminated.

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