

LightProcessor.
20, Greenhill Crescent
Watford. WD18 8JA.
England
Tel: 01923 698090, Fax: 01923 698081
info@lightprocessor.co.uk
www.lightprocessor.co.uk

Q24

INSTRUCTIONS FOR USE

UNPACKING

The carton should contain the following:-

- 1 x Q24 desk
- 1 x Instruction manual

POWER CONNECTION AND SWITCHING ON

The Q24 requires a supply voltage of +18V DC at 800mA. This can be provided by a special Q24 power supply unit available from LightProcessor or by phantom power from certain types of dimmer pack, such as LightProcessor's Q Pack. See CONNECTIONS later in this manual for details.

In case switches have been disturbed in transit, ensure that the switches in the top right hand corner of the desk are set as follows:-

- Desk On/DBO is set to Desk On
- Blind is not selected
- Program/Run/Modify is set to Run.

The Q24 has no mains switch. When power is supplied to the desk, the red 'Desk On' LED lights.

MASTER SLIDERS

The GRAND MASTER slider controls the overall output of the Q24.

The CHASE MASTER slider controls the overall level of a chase.

The FLASH MASTER slider controls the overall level of channel flashes, scene flashes or solos.

The sliders PRESET A and PRESET B are masters which control the overall levels from the two sets of sliders. Varying fade times between the A and B masters may be selected (see the paragraph Crossfade Timer).

It is usual to invert the operation of the PRESET B master slider, so that it may be moved together with the A Master and not in the opposite direction. See Options section for details.

Q24

INSTRUCTIONS FOR USE

MANUAL OPERATION

With the grand master set to full on and the B Master set to off, arrange the A sliders (top bank) as you require. The collective positions of the faders is called a preset. As the sliders move, the changes in level will be seen in the output LED's across the top of the desk and also in any lamps which are connected to the outputs. Set up another preset using the B sliders (bottom bank). As you reduce the level of the A Master, the levels of the channels called by the A Master reduce. As you increase the level of the B Master, the level of the channels called by the B Master increase. Move the A and B Masters together to fade from one preset to the other.

CROSSFADE TIMER

The A and B Masters are connected to an internal fade timer which allows a constant fade in/out time, no matter how fast the sliders are moved. To set the crossfade timer, the page switch must first be set to position 'P'. The fade time is then adjusted by means of the RATE rotary switch and is stored by pressing the button marked FADE/CHASE. The minimum setting (clockwise) gives the longest fade time, approximately 35 seconds.

Desk Blackout

The DBO switch enables/disables all outputs from the Q24. The red LED flashes when DBO is active.

Flash Buttons

Pressing a flash button will bring that channel to the level set by the FLASH MASTER. If 'Solo' has been selected as a power-up option (see Options section), then pressing a flash button will bring that channel to the level set by the FLASH MASTER, while all other channels are extinguished.

Q₂₄

INSTRUCTIONS FOR USE

SCENES

The Q24 can store 240 static scenes of any combination of the twenty-four channels and their associated levels. Scenes are stored across ten pages of memory. Each page of twenty-four scenes is selected by means of the rotary PAGE selector switch. Each scene within the page is accessed, either by its associated slider or by its flash button.

SCENE TIMERS

The sub-masters are each connected to internal scene fade timers, determining the fade-in and fade-out times of a scene. These times are set during the programming of the scene. They range from no fade at all (anti-clockwise) to approximately 50 seconds (clockwise).

TO PROGRAM A SCENE

- 1 Select PROGRAM. Note that both the SCENE and CHASE LED's flash.
- 2 Press SCENE and the CHASE LED goes off.
- 3 Position A faders.
- 4 Select the page on which the scene is to be stored.
- 5 Press the flash button where the scene is to be stored.
- 6 Select the desired fade-in time with the RATE selector and press FADE/CHASE.
If no fade-in time is selected, scene recall is instantaneous.
- 7 Select the desired fade-out time with the RATE selector and press FADE/CHASE.
If no fade-out time is selected, scene switch-off is instantaneous
- 8 Select RUN

INSTRUCTIONS FOR USE

TO MODIFY A SCENE

- 1 Select MODIFY.
- 2 Press SCENE.
- 3 Select page and flash button.
- 4 Re-position A faders as desired. Add new channels or change existing levels by moving the fader to the existing level and picking up control of that channel.
- 5 Re-set fade-in time. Fade-in will be cancelled if this is not done.
- 6 Re-set fade-out time. Fade-out will be cancelled if this is not done.
- 7 Select RUN

BLIND

The BLIND switch is normally used in conjunction with PROGRAM/RUN/MODIFY. Its function is to allow the Q24 to be operated without having any effect on the pattern being output. It is most often used to amend scenes or to turn off a selected channel in the event of a lamp failure. All programming/modification is done using the A sliders but, as these could be forming a part of the output effect, BLIND is used to hold the outputs from the A sliders while they are adjusted during the programming/modification. Note that any new settings in the A sliders will be displayed in the outputs, when you return from PROGRAM or MODIFY to RUN. Remember to de-select BLIND after use.

SUB-MASTERS - RECALLING PROGRAMMED SCENES

Whereas, in manual operation the B faders control the level of individual channels, in scene mode they act as sub-masters and recall pre-programmed scenes. Six scenes may be recalled at any one time. Press the SCENE button so that the LED lights, then operate the B faders to recall scenes at the desired level. Alternatively, scenes may be recalled at 100% of their programmed levels by means of the flash buttons. See OPTIONS section for details of how to set up the flash buttons to recall scenes.

A fader must be returned to its zero position before it can recall a scene in the same position from another page.

Whenever scenes from two or more pages have been selected, the MIX LED flashes.

COPYING SCENES

Scenes may be copied to other locations within the ten pages of memory by using the COPY TO button. The destination memory is over-written by COPY TO.

- 1 Press COPY TO. COPY TO LED flashes.
- 2 Select the page from which to copy.
- 3 Press the flash button of the 'from' scene.
- 4 Select the page to which to copy.
- 5 Press the flash button to which to copy.
- 6 Press COPY TO. COPY TO LED stops flashing.

PILE ADD

Pile add copies scenes cumulatively into one memory location. Where several values are copied into any one channel, it is the highest value which is stored.

- 1 Press COPY TO. The COPY TO LED flashes.
- 2 Select the page to which to copy.
- 3 Hold down the flash button to which to copy.
- 4 Select the page from which to copy.
- 5 Press the flash button of the scene from which to copy.
- 6 Repeat steps 5 and 6 for subsequent scenes.
- 7 Release the flash button held down in 3 above.
- 8 Press COPY TO. The COPY TO LED stops flashing.

Q24

INSTRUCTIONS FOR USE

CHASES

The Q24 can store twenty-four moving sequences (chases) along with the level applied to each channel during programming. The chases are stored under the flash buttons. Four chases may be run simultaneously. A total of 750 chase steps may be stored with a maximum of 99 steps in any one chase.

TO PROGRAM A CHASE

- 1 Select PROGRAM. Both CHASE and SCENE LED's flash.
- 2 Set the fade time on the RATE selector. Ignore this step for a switching (non-crossfading) chase.
- 3 Hold down FADE/CHASE. Ignore this step for a switching (non-crossfading) chase.
- 4 Press CHASE The SCENE LED goes off.
- 5 Press a flash button to select a chase memory.
- 6 Release FADE/CHASE. Ignore this step for a switching (non-crossfading) chase.
- 7 Move the A faders to the desired position.
- 8 Press CHASE to register the step. Press several times for a proportionately longer step.
- 9 Repeat steps 7 and 8 for subsequent steps.
- 10 Select RUN.

RUNNING A CHASE

- 1 Select RUN. If not already selected.
- 2 Press CHASE.
- 3 Press the flash button in which the chase is stored and the chase starts to run.
- 4 Adjust the run speed if desired, using the rotary RATE selector.
- 5 Repeat steps to 2,3 and 4 to run another chase.
- 6 Press CHASE and the appropriate flash button to turn off a chase or press CHASE twice to turn off all running chases.

PROGRAMMING A SEQUENCE OF SCENES (SCENE CHASE)

- 1 Press SCENE The SCENE LED lights.
- 2 Select PROGRAM. Both SCENE and CHASE LED's flash.
- 3 Set crossfade time on the RATE selector. Ignore this step for a switching (non-crossfading) chase.
- 4 Hold down FADE/CHASE. Ignore this step for a switching (non-crossfading) chase.
- 5 Press CHASE The SCENE LED goes off.
- 6 Press a flash button to select a chase memory.
- 7 Release FADE/CHASE. Ignore this step for a switching (non-crossfading) chase.
- 8 Select the page on which the desired scene appears.
- 9 Recall the desired scene using the appropriate B fader.
- 10 Press CHASE to register the step.
- 11 Repeat steps 8,9 and 10 for subsequent steps.
- 12 Select RUN.
- 13 Press SCENE The SCENE LED goes off.

TO MODIFY A CHASE

- 1 Select MODIFY.
- 2 Set new crossfade time on RATE selector The chase reverts to a switching chase if this is not done.
- 3 Press FADE/CHASE.
- 4 Press CHASE
- 5 Press the flash button under which the chase is stored
- 6 Position the channel faders as desired
- 7 Press CHASE The next step is shown in the LED's
- 8 Repeat steps 6 and 7 as desired
- 9 Select RUN

Q24

INSTRUCTIONS FOR USE

Press MODIFY, adjust RATE, press FADE/CHASE, press the flash button where the chase is stored, select RUN..... changes the crossfade rate only.

Single shot chase

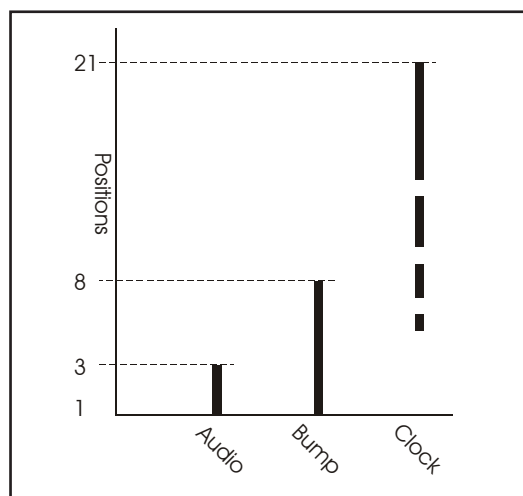
The chase runs for one programmed cycle only and the Q24 then returns to its previous state. Press CHASE, hold down FADE/CHASE and press the flash button where the chase is stored. Release FADE/CHASE.

BUILT-IN CHASES

When this option is selected, pre-programmed chases are assigned to memories 1-4. These chases may be modified or over-written in the same way as user-programmed chases. They may also be cancelled by re-selecting the option when powering up.

CHASE RUN SPEED

The RATE speed adjustment knob on the right hand side of the Q24 has 21 positions. Selection of one of these positions allows a chase to run according either to (a) an audio input, (b) the bump switch or (c) the internal clock. Audio only operates if the knob is set to one of the three lowest positions (fully anti clockwise). Bump works in the lowest eight positions and may be used to manually override audio. The internal clock begins to take over at the fifth position in a clockwise direction; this is the slowest clock speed but can still be overridden by the BUMP switch. As you turn the knob in a clockwise direction, the run speed gets faster and BUMP ceases to be useful. See the following diagram:-



How the RATE control works

Q24

INSTRUCTIONS FOR USE

DMX AND THE Q24

The reasons you might wish to control lighting using the DMX 512 serial protocol are for the added control facilities that you obtain and for the reduced amount of wiring that DMX allows.

The Q24 can only ever send out 24 channels of information but it can route those 24 channels to 96 different locations or addresses. When you receive your Q24, it is installed with a default DMX map. This transmits the Q24's channels to the DMX channels in groups of twenty-four, so that channel 1 from the Q24 is transmitted to DMX channels 1, 25, 49 and 73. Channel 2 from the Q24 is transmitted to DMX channels 2, 26, 50 and 74 - and so on with Q24 channels 3 to 24.

PREPARING THE Q24 FOR DMX MAPPING

If you wish to software patch the Q24 to luminaires capable of working with DMX, it will first of all be necessary to clear any previous programming or, if there is none, clear the default DMX map. This maps all 96 DMX channels to 'off'. There are three power-up options on the Q24 which are relevant here.

Flash button no. 8 completely resets the Q24, resets the DMX map to the default setting and disables DMX programming. Every time that the Q24 is switched on, the DMX programming facility reverts to DMX programming disabled.

Hold down flash button no. 2 during power up to wipe any previous DMX map.

Flash button no. 7 enables DMX mapping. Mapping remains enabled until the power is switched off.

INTELLIGENT LIGHTING

It will be necessary to control some or all of the following features of intelligent lighting fittings:-

1. Mirror X axis
2. Mirror Y axis
3. Colour change
4. Gobo change
5. Strobe speed
6. Dimming level
7. Iris

Q24

INSTRUCTIONS FOR USE

The diagram at the end of this section shows one way in which just 12 channels of the Q24 can control the 14 channels presented by two lighting fixtures like the above example. The two fixtures would use the DMX start addresses 1 (for the first channel of fixture 1) and 8 (for the first channel of fixture 2). Note that channel 11 from the Q24 is controlling DMX channels 6 and 13; the Q24's channel 12 is controlling DMX channels 7 and 14. Additional fixtures could be added to the example and they would each have the start address 1 or 8, in order to determine whether they would function as clones of fixture 1 or of fixture 2. If the other 12 channels of the Q24 were used, fixtures 3 and 4 (and their clones) could be added.

WORKING THROUGH POWER PACKS

Whereas mains power is likely to be supplied directly to intelligent lighting fixtures, pinspots etc. will be fed from a power pack. Using a DMX power pack like the Q Pack, it is possible to allocate DMX addresses to 96 channels of lighting. The DMX start address is selected on the DIL switch on the front of the Q Pack. Since the Q Pack is a six channel device, it outputs in groups of six channels, starting with the channel selected on the DIL switch, e.g 1-6, 7- 12, 13-18, 19-24 etc.

DMX MAPPING

The 24 analogue output channels can be transmitted as DMX data to 96 separate DMX channels. This process is known as DMX mapping. Normally channels 1-24 are repeated sequentially throughout the 96 DMX channels (24 channels per page). This may be varied to suit the particular DMX power packs being used.

MAPPING DMX CHANNELS

Hold down flash button 7. Disconnect the power. Reconnect the power. Release button 7. This enables DMX mapping.

To map a DMX channel to another fader...

- 1 Select BLIND. To move channel 1 to fader 2, press flash button 1 and then flash button 2. De-select BLIND.
- 2 Moving fader 1 now does nothing. Moving fader 2 brings on DMX channels 1 and 2.

To unmap/switch off a DMX channel...

- 1 Select BLIND. To switch off channel 25, for example, select DMX 25 (page 2, channel 1) by turning the page selector to page 2 and press flash button 1. De-select BLIND.
- 2 The result of this is that moving fader 1 gives no output when the page selector is set to page 2, i.e. DMX 25.

Q24

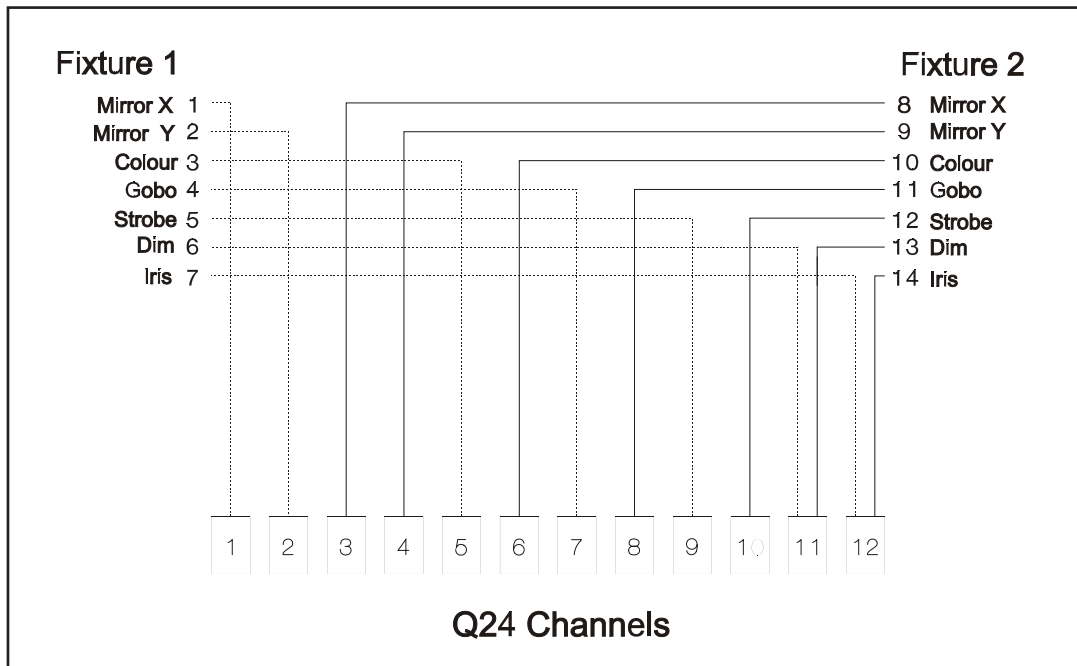
INSTRUCTIONS FOR USE

To map/switch on a channel which has been unmapped...

- 2 Select BLIND. To switch on channel 25, for example, select DMX 25 (page 2, channel 1) by turning the page selector to page 2 and pressing flash button 1 twice. De-select BLIND.
- 3 Fader 1 on page 3 now operates normally.

CHANNEL BLANKING

Any DMX channel may be mapped off in the case of lamp failure etc. Re-mapping a previously mapped channel maps the channel to 'off'.



Q₂₄

INSTRUCTIONS FOR USE

MASTER AND SLAVE

Two Q24's may be joined together as 'master' and 'slave'. The master faders and controls on the 'slave' desk are disabled so that only the individual channel sliders and flash buttons are functional. All other controls reside with the 'master' desk.

To set up master and slave proceed as follows. Power up the 'slave' desk with flash button no. 10 held down. Neither the desk on LED nor the slave LED will light. Using two Light Processor 180 5-pin DIN leads, connect the two desks, ensuring that the lead from socket 1 on the 'master' connects to socket 2 on the 'slave' and the lead from socket 2 on the 'master' connects to socket 1 on the 'slave'. Now switch on the 'master' desk. The desk on and slave LEDs on the 'slave' desk will now light. You now have 'master' and 'slave' control. In manual mode you now have a 48-channel system with the masters and crossfade time control on the 'master' desk. In addition, you have the ability to program 240 scenes across 48 channels and 24 chases across 48 channels.

When working with two desks linked as 'master' and 'slave', the DMX signal is output from the 'slave' desk.

Note that DMX mapping is not possible when working with linked desks.

OPTIONS

Various options are available, as follows: To select, remove the power. Hold down the appropriate 'flash' buttons and restore the power.

1. Program Security.

Each time this option is selected, 'locked' becomes 'unlocked' and vice versa.

2. Format DMX Map.

Clears any DMX mapping from the memory and resets the default DMX map.

3. Invert B Slider.

Each time this option is selected, the direction of operation of the B Master slider is inverted/returned to normal.

4. Software Version No.

Version no. is displayed in the LED's.

5. Scene Flash.

Allows scenes to be 'flashed' to 100% of their programmed values.

6. Crossfade Times.

The default setting is 0-35 seconds in manual mode., 1 second to 4 minutes in scene mode. Selecting this option changes the cross fade timescale in scene mode to 1-10 seconds approximately. Selecting the option a second time returns to the previous crossfade values. Changes to the cross-fade timescale will not affect previous programming.

7. Allow DMX Mapping.

Unlocks the DMX map. The map remains unlocked until power is turned off.

8. Full Reset.

Completely resets the Q24.

9. Solo.

Replaces channel-flash with channel-solo.

10. Master/Slave. The default setting is Master. If this option is selected, the desk converts to slave operation.

11. Built-in Chases.

Selects built-in chases.

12. Warm Start.

The last programmed chase will run on power up.

Q24

INSTRUCTIONS FOR USE

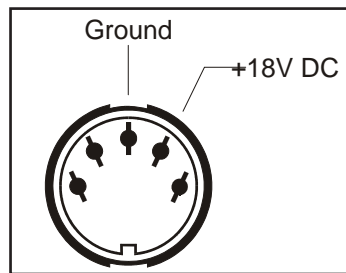
CONNECTIONS

IMPORTANT: It is recommended that this equipment is connected to a satisfactory earth, in order to minimise electromagnetic interference.

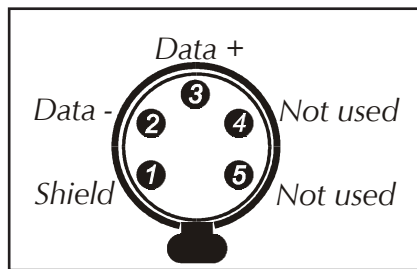
POWER SUPPLY

The Q24 requires a power supply of +18V DC at 800mA.

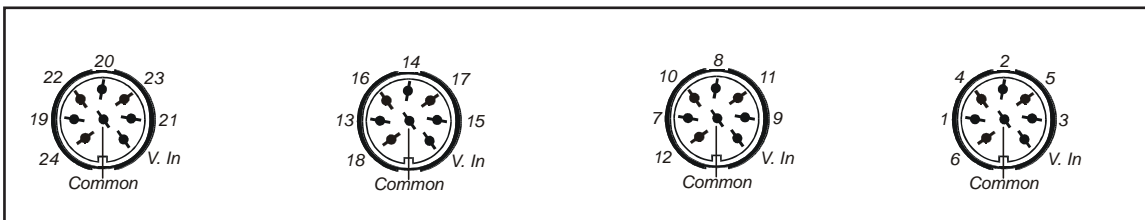
This may be supplied from a suitable external power supply unit or as phantom power from dimming packs, such as the LightProcessor Q Pack. (Four Q Packs are required to provide adequate power for the Q24. Power enters the Q24 via a 5-pin, 180° DIN socket. Connections are as shown below.



PSU Input



DMX Output



Analogue Outputs 0 to +10V