

The Vital Link

Lighting Systems



LSC

SOFTLINK DMX SOFTPATCH OPERATOR MANUAL

**Version 3.1
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1.0 GENERAL INFORMATION

Congratulations on your purchase of a SOFTLINK proportional soft patch. The SOFTLINK was designed and manufactured in Melbourne, Australia by LSC Lighting Systems.

The SOFTLINK is invaluable for shows or set-ups where a large number of dimmer circuits need to be controlled by a smaller number of desk channels or where several desks need to feed common dimmer circuits. Utilising DMX512/1990 - the well established international standard for multiplexed digital control systems - the SOFTLINK can accept up to 1536 desk channels on its THREE inputs (a maximum of 512 channels per input) and soft patch them to any of 1536 dimmer circuits on its THREE outputs (a maximum of 512 dimmers per output).

NOTE: *Some models have two outputs for a total of 1024 dimmer circuits. This manual describes the three output model. The operation of the two output model is the same except for the number of dimmer circuits that may be connected. Throughout this manual, wherever the details would be different for a two output model, they will be shown in brackets. For example, 1536 (1024) dimmer circuits.*

The SOFTLINK will perform equally well in permanent installations or on tour. It is designed and made in Australia to suit the toughest conditions.

No peripherals - such as a VDU screen or keyboard, are required as the SOFTLINK is a self contained unit with a built-in L.C.D. screen. All features can be altered on-screen.

The graphic and text screen of the SOFTLINK and the self explanatory operation provided by menus and function keys make the SOFTLINK a breeze to use. Pop up windows will appear to prompt you when you are required to enter information into the SOFTLINK. In addition, its intelligent microprocessor design ensures the fastest response time of any soft patch on the market.

A built in fader permits direct testing of patches (dimmer circuits) without a desk being connected to the input of the SOFTLINK.

Several options are available for the SOFTLINK. These include:

- An external ten fader module that can be used for a very flexible back-up system to the main control desk(s), as a supplement to the main control desk(s) or even for the control of colour scrollers etc. A paging feature as well as page freeze means that the SOFTLINK can be utilised as a small lighting desk.
- A "Snapshot" function that allows the current output of the SOFTLINK to be captured and stored as a "patch" to a single channel. This provides a rapid method of creating backup scenes on the SOFTLINK. When used in conjunction with the ten fader option, the "snapshot" option gives the SOFTLINK comprehensive and rapid backup capability.
- A built-in 3.5" floppy disk drive for external storage and recall of patches or for transfer of patches to another SOFTLINK. A software program for editing or preparing soft patches on a standard IBM style PC is to be released shortly.
- A rugged flight case to house the SOFTLINK for touring applications.
- An analogue input that will accept up to 30 analogue desk channels.

2.0 TECHNICAL SPECIFICATIONS

- DMX512/1990 utilised for input and output circuits.
- Three separate DMX inputs of up to 512 (desk) channels each for a total of 1536 desk channels.
- Three separate DMX outputs of up to 512 (dimmer) circuits each for a total of 1536 (1024) dimmer circuits.

NOTE: *Some models may be fitted with fewer input or outputs.*

- Multiple dimmer circuits can be patched to one desk channel (a maximum of 250 dimmer circuits to one desk channel).
- Multiple desk channels can be patched to one dimmer circuit (highest takes precedence).
- In excess of 4000 crosspoints may be patched.
- Each crosspoint can be patched at a chosen % level (proportional patch).
- Each desk channel can be patched at a chosen % level (channel scaling).
- Each dimmer circuit can be limited to a maximum % (output limit).
- 25 line x 80 character backlit L.C.D. display.
- Patch details can be printed out for reference on a standard serial printer.
- The current patch is maintained in battery backed up memory when power is removed.
- An additional 9 patch setups can be saved in battery backed up memory for later use.
- Mains input voltage range: 90 to 130 Volts or 200 to 260 Volts (user selectable).
- A built in mains filter is provided to offer protection from mains interference.
- Optional Floppy Disk Drive utilizing 3.5 inch double sided double density (720 K) floppy disks for external storage of 112 patches.
- Optional unit with 10 faders that may be patched to any dimmer(s).
- Optional ANALOGUE desk channel inputs (up to 30 channels).

NOTE: *The analogue inputs accept a positive 10 volt signal. If the analogue option is fitted, then only two DMX 512 inputs are available as the analogue input takes the place of one of the DMX 512 inputs. The pin connections for the analogue inputs are listed in the "REAR PANEL LAYOUT" section.*

Dimensions:	Softlink:	480mm x 225mm x 220mm, W x D x H.
	10 Fader Module:	480mm x 132mm x 100mm, W x D x H.
Weight:	Softlink:	9kg.
	Softlink with analogue output:	11kg
	10 Fader Module:	3 kg

3.0 SETTING UP THE SOFTLINK FOR THE CORRECT INPUT VOLTAGE

The SOFTLINK has been designed to operate from a variety of Mains Voltages. There are two Voltage Selections.

- The 240 Volt position enables the SOFTLINK to work on a Voltage range from 200 to 260 Volts.
- The 120 Volt position enables the SOFTLINK to work on a Voltage range from 90 to 130 Volts.

The Voltage Selector is located on the rear panel and can be changed by using a flat blade screwdriver. The two Voltage ranges are marked 240 and 120 on the selector.

Note: *Ensure that you have selected the correct voltage for local conditions before applying power or permanent damage to the unit may occur!*

A mains lead terminating in an IEC Connector is provided with each unit. An appropriate power plug may need to be wired onto the cable to suit your mains supply outlet.

3.1 THE MAINS INPUT SOCKET AND FUSE

An IEC mains input socket is provided on the rear panel. The mains fuse is located in a slide out tray in the base of the socket.

Should the fuse blow, remove the mains lead and slide out the fuse tray. Pop out the blown fuse and replace with a 0.5 Amp slow blow fuse for 220/240 Volt Mains Supply or a 1 Amp slow blow fuse for 100/120 Volt Main Supply.

A spare fuse is provided in the compartment at the back of the fuse tray.

3.2 SOFTLINK FUSE

The SOFTLINK fuse on the rear panel feeds the main electronics of the SOFTLINK. Should the fuse blow, switch off the power and replace the fuse with a 0.75Amp fast blow fuse.

3.3 AUX FUSE

The AUX fuse on the rear panel feeds the optional analogue input electronics. Should the fuse blow, switch off the power and replace the fuse with a 0.75Amp fast blow fuse.

4.0 TERMINOLOGY

4.1 KEYSTROKE TERMINOLOGY

Throughout this manual we will be using certain "Keystroke Terminology" to describe the particular operations being undertaken.

As a general rule, anything enclosed in these symbols < > refers to that particular key.

e.g. <ENT> means the ENTER key.

<CLR> means the CLEAR key

The 10 function keys across the top of the screen are described by enclosing them in a box containing the current function.

e.g.

SELECT SECOND MENU

4.2 INPUTS

There are three DMX inputs that can be fed from three separate lighting desks (consoles).

They are labeled **INPUT A**, **INPUT B**, and **INPUT C**.

These INPUTS to the SOFTLINK are referred to as **DESK CHANNELS**

The desk channels are allocated to a range of **PATCH CHANNELS**.

The **PATCH CHANNELS** are the actual inputs to the patch matrix.

NOTE: Desk channels and patch channels are effectively the same however their actual channel numbers may differ depending on the merging or stacking of the three desk inputs. See SOFTPATCH STRUCTURE later in this manual for more details about merging and stacking.

4.3 OUTPUTS

The OUTPUTS of the SOFTLINK patch matrix are referred to as **DIMMER CIRCUITS**. There are 1536 dimmer circuits available in the patch matrix (1024 on models with 2 outputs). There are three (or 2) separate outputs provided from the patch matrix. These outputs to the dimmers are labeled **OUTPUT 1**, **OUTPUT 2**, and **OUTPUT 3**. The signals on these outputs contain the **DMX CHANNELS**. Each output is a separate DMX signal that can be set to transmit up to 512 DMX CHANNELS.

4.4 CROSSPOINT

A crosspoint is the intersection (or possible connection point) of a patch channel (input) with a dimmer circuit (output).

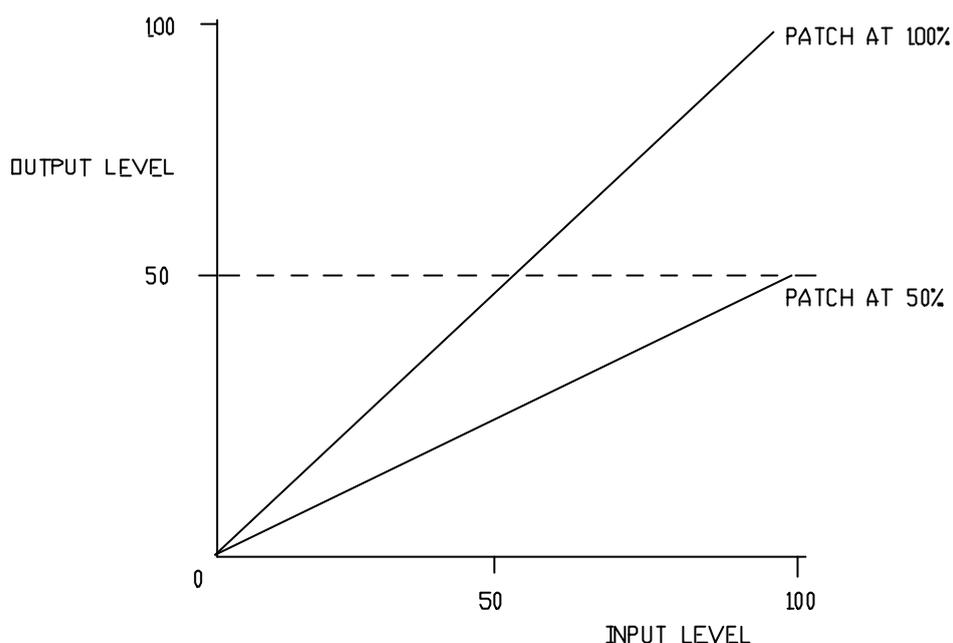
4.5 PATCH

A connection between a desk/patch channel and a dimmer circuit is known as a PATCH and is performed by setting a level (1 to 100%), at the CROSSPOINT that coincides with the intersection of the required channel INPUT and dimmer circuit OUTPUT.

A patch is deleted by setting a patch level of 0%.

4.6 PROPORTIONAL PATCHING

Every patch is fully proportional. That is, the OUTPUT level of every patch can be set to be a percentage (between 1 and 100%) of the INPUT level. For example, if channel 5 is patched to dimmer 5 at a patch level of 100%, then if channel 5 is at 100%, dimmer 5 will be at 100%. If channel 5 is set to 60%, then dimmer 5 will be at 60%. However, if channel 5 is patched to dimmer 5 at a patch level 50%, then if channel 5 is at 100%, dimmer 5 will be at 50%. If channel 5 is set to 60%, then dimmer 5 will be at 30%



This graph shows the range of output levels when the input level is varied from 0 to 100% for proportional patch levels of 100% and 50%.

HINT: use proportional patching to match the intensity of different lights that are connected to individual dimmers but are patched to the same desk channel.

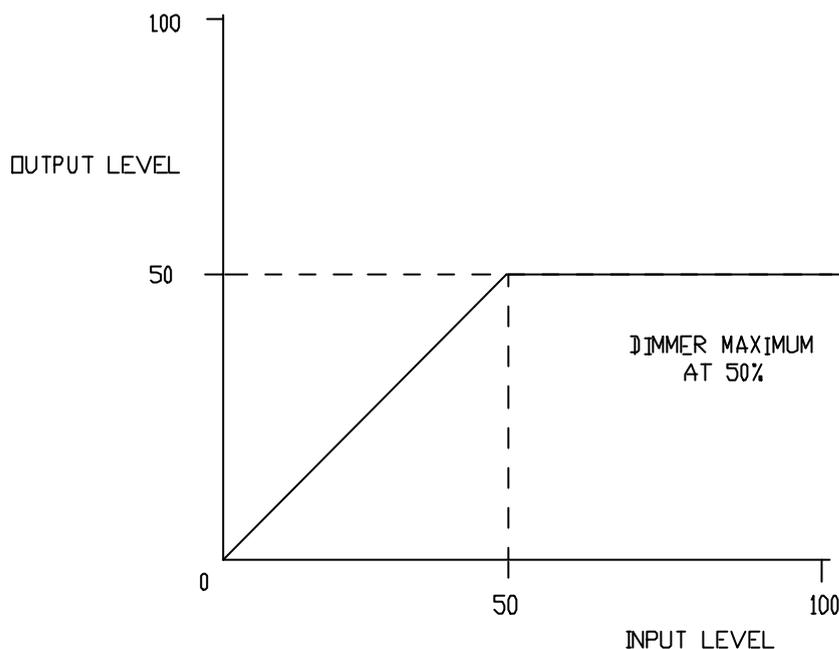
4.7 CHANNEL MAXIMUM

Channel maximum (sometimes known as CHANNEL SCALING) is similar to proportional patching (explained above) in that it allows the OUTPUT level to be set to be a percentage (between 0 and 100%) of the INPUT level. The percentage level that is set for each desk channel applies to all dimmer circuits that are patched to that desk channel, not just a single crosspoint. Thus by using channel maximum it is easy to limit ALL dimmer circuits that are patched to ONE desk channel to a maximum level.

NOTE: The effects of CHANNEL MAXIMUM and PROPORTIONAL PATCHING are additive. For example, if a channel has its maximum set to 80 % and a dimmer is patched to this channel at 50%, then the final output level to the dimmer will 50% (the patch level) of 80% (the channel maximum) of the input level.

4.8 DIMMER MAXIMUM

Dimmer maximum (sometimes known as OUTPUT LIMIT) allows a maximum or upper limit to be set for every dimmer circuit. Unlike channel maximum, which always sets the output level to a percentage of the input level, dimmer maximum allows the output level to exactly follow the input level until the output reaches the dimmer maximum setting. The output is not permitted to rise above this setting. The maximum may be set to any level between 0 and 100%. Thus EACH dimmer circuit can be limited to its own maximum level.



This graph shows the range of output levels when the input level is varied from 0 to 100% with the dimmer maximum set to 50%.

HINT: Use dimmer maximum to turn off a light that has been knocked off focus or has burnt out its colour filter by setting its dimmer maximum to 0%. The light will not come on regardless of the output of any lighting desk that contains the offending light. When the problem has been fixed, simply restore the dimmer maximum to its original setting (possibly by recalling the patch from memory).

4.9 DMX INPUT SYMBOLS

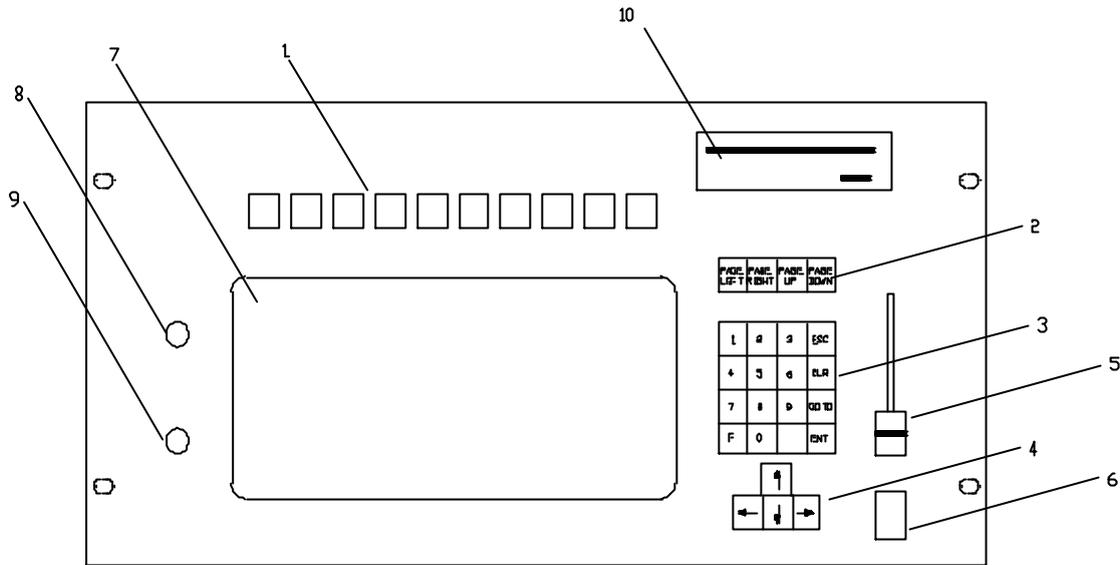
The following symbols are used on the left of the screen to indicate the condition of the DMX 512 signal for every channel of each desk input. They are arranged in three columns and each column represents one of the three desk inputs (A,B,C).

- >> Data is OK
- ? No data is being received. If no data is being received on a particular input, then a "?" will be displayed for all 512 channels, not just those desk channels that are connected to patch channels. This is to ensure that the user is made aware of this condition no matter which section of the patch is currently being displayed.
- . Patch channels are connected to these desk channels, but no DMX 512 data is being received for these channels.
- : Data has been lost but the last state is being maintained by the SOFTLINK. The last state will be maintained at the output for approximately 5 seconds after which time the input data will be cleared. ie. blacked out.
- ! A communication error has been detected. This could be a framing error (FE), parity error (PE) or overrun error (OE).
- # The count of input channels received during the last packet of DMX 512 data was different to the previous packet.

If no symbol is shown, then valid DMX 512 is being received on this input, but these patch channels are not connected to desk channels.

These DMX input symbols are described again (with an example given), at the end of the "SOFTPATCH STRUCTURE" section. When you understand the structure of the softpatch, their meanings will become clear.

5.0 FRONT PANEL LAYOUT



The main elements of the Softlink are:-

- 1) FUNCTION KEYS (F1 to F10)
- 2) PAGE KEYS
- 3) KEYPAD
- 4) CURSOR KEYS
- 5) FADER
- 6) MAINS ON/OFF SWITCH
- 7) LCD SCREEN
- 8) LCD BACKLIGHT
- 9) LCD CONTRAST
- 10) Optional FLOPPY DISC

Each of these elements will now be briefly described.

1) FUNCTION KEYS (F1 to F10)

The current function of each of the ten function keys is shown directly below each function key in the ten menu boxes across the top of the screen. The SOFTLINK is menu driven and the operation of the 10 function keys changes depending upon which menu is being displayed at the time.

The menu shown when first entering the patch from power up is called the "MAIN MENU" and pressing a function key may reveal further menus or display pop up windows. The menus are structured in a tiered arrangement and you may move up or down through the tiers by pressing the appropriate function keys or the <ESC> key.

For example: **SELECT SECOND MENU**

2) PAGE KEYS

The <PAGE LEFT>, <PAGE RIGHT>, <PAGE UP> and <PAGE DOWN> keys move the cursor on the LCD screen 16 cells in the direction indicated.

3) KEYPAD

The keypad contains 16 keys providing both numeric and special key entry facilities. The keys are:

- **DIGITS** 0,1,2,3,4,5,6,7,8,9.
- **F** Corresponding to 100% (Read as Full). As the <Full> key always denotes a level, it does not need to be followed by the <ENT> key.
- **ESC** Escape - generally takes you back one menu level, or closes a pop up window.
- **CLR** Clear - generally used to delete last entry. If a string of digits has been keyed in but not yet ENTERed, then each time <CLR> is pressed, it will delete the last digit in the string.
For example; if you intend to enter the number 135, but you incorrectly key in 136, then pressing <CLR> once will delete the 6 and you can correct the number by pressing 5.
- **GO TO** Used to move the cursor to a specific cross-point by entering the required numbers into the pop up window that appears.
- **ENT** ENTER - terminates numeric entry.

NOTE: Any patch CHANNEL number, DIMMER circuit number or PERCENTAGE LEVEL that is keyed in on the keypad may have to be completed by pressing the <ENT> key.

4) CURSOR KEYS

The <CURSOR> (arrow) keys move the cursor on the LCD screen one cell at a time in the direction indicated by the Arrow.

5) FADER

The fader may be used as a substitute for a desk input channel to set the level of a dimmer(s) or to set the patch level of a crosspoint.

6) MAINS ON/OFF SWITCH

The ON/OFF switch is used to turn the Softlink on or off. When the Softlink is on, the neon indicator inside the switch glows.

7) LCD SCREEN

EXIT SOFT PATCH	QOP1K PATCH	ALTER PATCH	USED AND UNUSED	FADER SETS X-POINT	CONNECT FADER TO DIMMER	CONNECT MASTER FADERS	PAGE MASTER FADERS	SELECT PATCH TO VIEW	SELECT SECOND MENU									
DIMMERS PATCH FOR ALL INPUTS AND ALL OUTPUTS																		
DMX ABC	CHANS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	O/P 1 CCT1
>>?	1	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	MAST A
>>?	2	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	MAST B
>>?	3	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---	MAST C
>>?	4	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---	MAST D
>>?	5	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---	MAST E
>>?	6	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	MAST F
>>?	7	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	MAST G
>>?	8	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---	MAST H
>>?	9	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---	MAST I
>>?	10	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---	MAST J
>>?	11	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---	
>>?	12	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---	
>>?	13	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---	
>>?	14	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---	
>>?	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	
>>?	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	
		CHANNEL = 1				DIMMER = 1												
		CHAN 1	CHAN 2	CHAN 3	CHAN 4	CHAN 5	CHAN 6	CHAN 7	CHAN 8	CHAN 9	CHAN 10							

The SOFTLINK is fitted with a 25 line 80 character backlit LCD display. The top section of the display provides the labels for the function keys above them. The function key labels change depending upon which feature of the SOFTLINK is being used at the time. The example above shows the main menu when the optional 10 fader module is fitted. On making a selection, further menu choices may be offered or pop up windows may appear prompting the user to enter information. The main area of the of the display shows the softpatch matrix. This is fully described in the next section, "SOFTPATCH STRUCTURE". To the right of the patch matrix, the cursors current "dimmer circuit" location is translated into its "output number" (1, 2 or 3) and "DMX channel" number. Below this information, any patch channels that are connected to the optional 10 faders are indicated. Below the patch matrix, the current location of the cursor is given as a patch channel number and dimmer circuit number. The bottom of the display shows the patch channels (if any), that are assigned to each fader of the optional 10 fader module.

8) LCD Backlight

This knob controls the intensity of the backlight for the LCD screen. Set the backlight for the clearest LCD image under the current ambient lighting conditions.

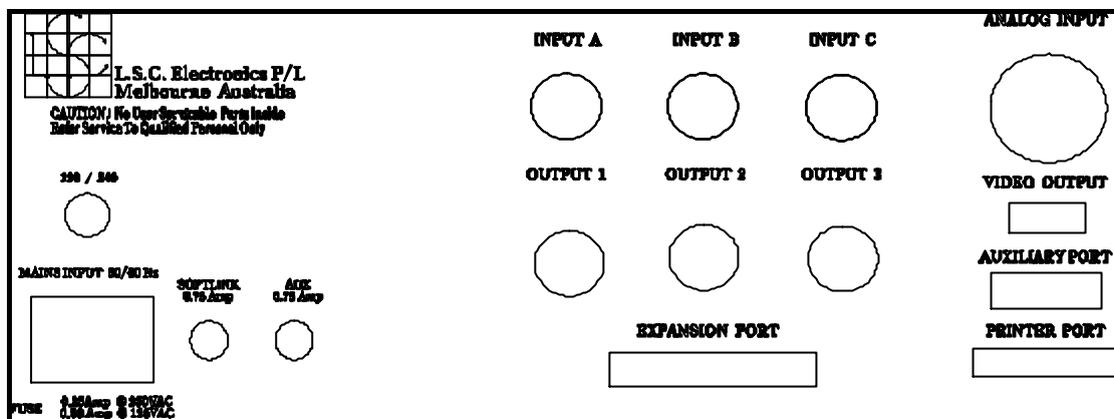
9) LCD Contrast

This knob controls the contrast of the LCD screen. Altering the contrast will enable you to get the best display from different viewing angles. If the contrast control is set to either end of its range, then the image on the LCD screen may disappear.

10) FLOPPY DISK

The optional 3 1/2 inch 720K floppy disc allows the storage and recall of up to 112 complete patches

6.0 REAR PANEL LAYOUT



6.1 CONNECTING THE SOFTLINK

All connections to the SOFTLINK are made on the rear panel shown above. The connections are:

- *Mains input*
IEC connector. Ensure that the voltage selector above the mains input socket is set to the correct position for the local voltage. See "Setting up the SOFTLINK for correct mains input voltage", earlier in this manual.
- *DMX Inputs A B and C*
5 pin male XLR connectors. Connect the DMX 512 outputs of your lighting desks to these inputs.
- *Analogue input (optional)*
Multipin Socapex male connector. Up to 30 analogue channels (0 to +10 volts) from an analogue lighting desk may be input to the SOFTLINK on this connector. The cable that connects to the analogue input should be wired as follows;

SOCAPEX 37 Pin Female SLEF337P	Connection
Pin No#	
1 - 30	Channels 1 - 30
31	not connected
32	not connected
33	not connected
34	not connected
35 - 37	Ground or 0Volts

NOTE: If the optional analogue input is fitted, then it appears as input "C" on the patch screen and **DMX** input C is disabled.

- *DMX Outputs 1 2 and 3*
5 pin female XLR connectors. Each output provides a unique DMX512 signal to feed your devices to be controlled, (dimmers, scrollers, moving fixtures etc).
- *Expansion Port*
Ribbon connector. Provided for the connection of the optional 10 Fader Module
- *Video Output*
Not currently used.
- *Auxillary Port*
Not currently used.
- *Printer Port*
Connect a standard serial printer to this port for printing patches.
- *Fuses*
For details on the fuses on the rear panel see "Setting up the SOFTLINK for correct mains input voltage", earlier in this manual.

7.0 SOFTPATCH STRUCTURE

EXIT SOFT PATCH	QUICK PATCH	ALTER PATCH	USED AND UNUSED	FADERS X- POINTS	CONNECT FADER TO DIMMER	CONNECT MASTER FADERS	PAGE MASTER FADERS	SELECT PATCH TO VIEW	SELECT SECOND MENU								
DIMMERS																	
PATCH FOR ALL INPUTS AND ALL OUTPUTS																	
DMX	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	O/P 1
ABC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	CCT 16
CHANS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
>>?	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
>>?	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
>>?	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---	
>>?	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---	
>>?	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---	
>>?	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	
>>?	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	
>>?	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---	
>>?	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---	
>>?	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---	
>>?	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---	
>>?	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---	
>>?	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---	
>>?	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---	
>>?	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	
>>?	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	
>>?	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100
CHANNEL = 16 DIMMER = 16																	

The SOFTLINK screen shows the basic structure of the patch.

At the top of the matrix a label tells the user how the patch is being viewed. This may be either the entire softpatch (patch for all inputs and all outputs) or only the patches used for selected inputs and/or outputs. See "SELECT PATCH TO VIEW" for details.

The INPUTS from the three lighting desks are shown as A B C respectively and the patch channel inputs are numbered (1 to 16) reading downwards on the left hand side of the screen. The dimmer circuit numbers (1 to 16) appear from left to right across the top of the screen. Any patch channel number or dimmer circuit number that is not patched ie. unused, is displayed in reverse text (on black background).

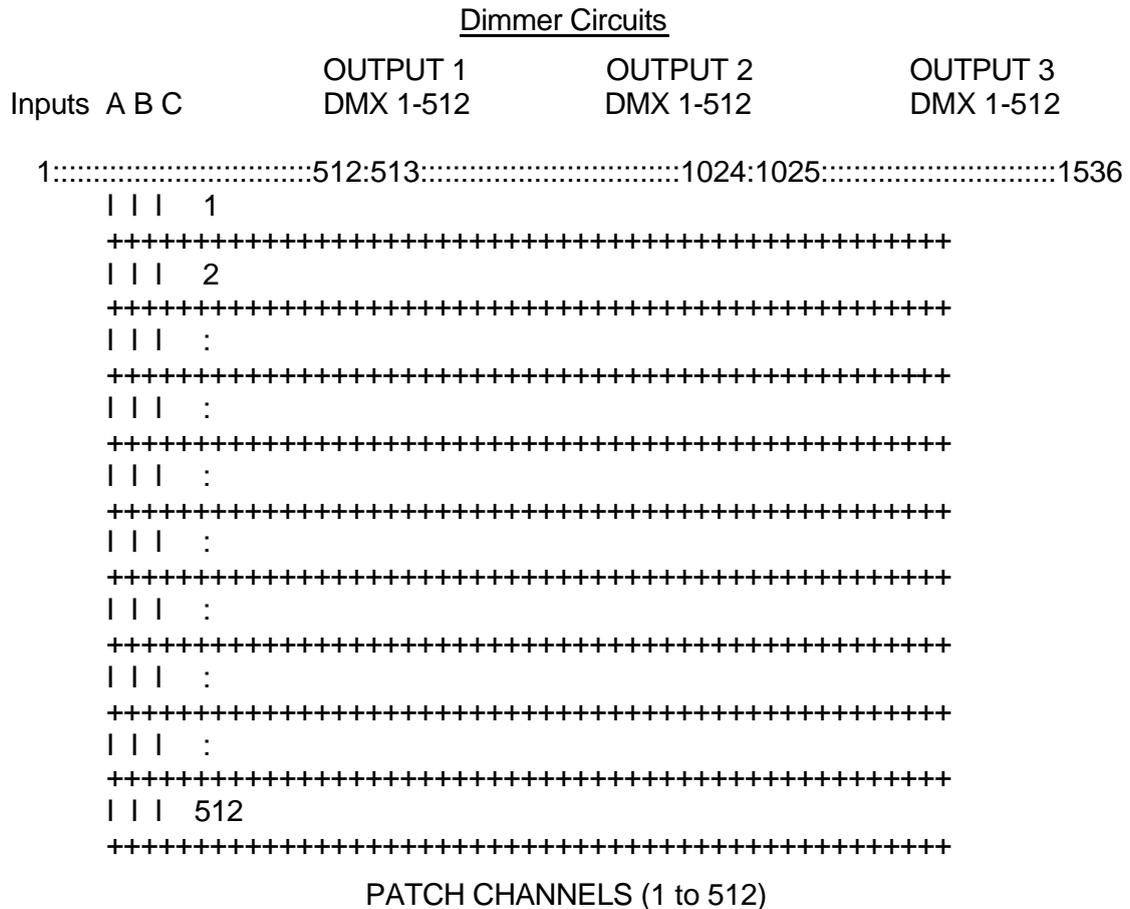
Various symbols down the left of the screen,(described in the Terminology section) are used to indicate the status of the incoming DMX512 data for every channel of each desk input.

The current location of the cursor is given (as a channel number and dimmer number) just below the patch matrix. At the top right of the patch matrix, the cursors current "dimmer circuit" location is again given but here it is translated into its "output number" (1, 2 or 3) and "DMX channel" number. You will understand the usefulness of this "output number" and "DMX channel" number information when you fully understand the softpatch structure.

A patch between a patch channel (input) and dimmer circuit (output) is shown as a percentage LEVEL at the crosspoint for the patch channel and dimmer circuit. All unpatched crosspoints are shown as "—".

The screen only shows a small portion of the patch at any one time. If the cursor is moved beyond the bottom of the screen, then further patch channels will be revealed (up to channel 512). If the cursor is moved beyond the right side of the screen, then further dimmer circuits will be revealed up to dimmer circuit 1536 (1024).

The maximum size of the patch matrix is 512 in, by 1536 (1024) out and is shown in the following diagram.



The diagram above shows the ENTIRE matrix that is available for making patches.

NOTE: This is the maximum size of the matrix. If you have set the SOFTLINK to transmit less than 512 channels on any of the three outputs, then only the available crosspoints may be seen on the screen and the three DMX outputs will not necessarily coincide with the patch dimmer circuit numbers shown above

7.1 INPUTS

The three inputs (A,B,C) are displayed side by side because the SOFTLINK allows the channel numbers of the three inputs to be either STACKED or MERGED.

7.1.1 Merged And Stacked Inputs

Each desk input (A, B or C) can be assigned to a range of patch channels. A menu function, "ALTER DMX INPUT CHANNELS", allows the user to specify a start and finish number for the patch channels that will be used for each of the three desk channel inputs.

For example:

	START	FINISH
PATCH CHANNELS USED FOR DMX INPUT A.....	1	120
PATCH CHANNELS USED FOR DMX INPUT B...	..25	100
PATCH CHANNELS USED FOR DMX INPUT C...	121	512

The DMX 512 output signal of a lighting desk will ALWAYS start at desk channel 1 but it may be set in the SOFTLINK to start at any PATCH channel number (by using the above function). When the desk channels are connected to the patch channels, an offset can be applied by the SOFTLINK to enable the desk channels to start at a particular patch channel. In the above example, desk input B has an offset of 24 applied so that desk channel 1 of input B is

connected to patch channel 25, desk channel 2 of input B is connected to patch channel 26, etc, up to desk channel 76, which is connected to patch channel 100

NOTE: The SOFTLINK will automatically remove the offset and show **actual desk channel numbers** on the left of the patch when the patch for only one input (A, B, or C) is displayed. See "SELECT PATCH TO VIEW" later in this manual.

If the DMX input channels are set so that more than one input is connected to the same patch channel, then the inputs are said to be "MERGED". If the DMX input channels are set so that each desk channel has an individual patch channel assigned to it, then the inputs are said to be "STACKED".

By setting the appropriate start and finish patch channel numbers for the three inputs, they can be merged or stacked as required for each application. These input channel settings are saved as part of the patch.

In the above example, DMX input A is used for patch channels 1 to 120 and DMX input B is used for patch channels 25 to 100. Inputs A and B will merge for patch channels 25 to 100 and input C is stacked at channel 121. This is clearly shown below:

Desk Channel Inputs			Patch Channels
A	B	C	
1	-	-	1
2	-	-	:
:	-	-	:
:	25	-	:
:	:	-	:
:	:	-	:
:	100	-	:
:	-	-	:
:	-	-	:
120	-	-	:
-	-	121	:
-	-	:	:
-	-	:	:
-	-	:	:
-	-	:	:
-	-	:	:
-	-	512	512

Example showing inputs A and B merged for channels 25 to 100. Input B is stacked at channel 121.

If the inputs are merged, then the desk channel numbers from the merged inputs will overlap. When this occurs, the output level from the SOFTLINK will be that of the highest level on any of the merged inputs (taking into account the patch level and any channel scaling or dimmer maximum). This is known as HIGHEST TAKES PRECEDENCE.

If the inputs are stacked, then each stacked desk channel will have a unique patch channel assigned to it. The following example shows ALL channels stacked. DMX input A is used for patch channels 1 to 120. DMX input B is used for patch channels 121 to 180, and DMX input C is used for patch channels 181 to 440. There is no merging (overlapping) of desk channels as shown below;

Desk Channel Inputs			Patch Channels
A	B	C	
1	-	-	1
2	-	-	:
:	-	-	:
119	-	-	:
120	-	-	:
-	121	-	:
-	122	-	:
-	:	-	:
-	179	-	:
-	180	-	:
-	-	181	:
-	-	182	:
-	-	:	:
-	-	439	:
-	-	440	:
			:
			512

Example showing stacked channels.....No merging

When all channels are to be stacked, the TOTAL number of desk channels from all three inputs may not exceed 512. If more than 512 desk channels are to be used, then some merging must occur.

The SOFTLINK does not place any restrictions as to which desk channels can be merged, except for the limit of 512 desk channels on any one input (A, B, or C) as set by the DMX 512 protocol.

The SOFTLINK allows any combination of merging AND stacking within the above rules.

7.2 DIMMER CIRCUIT OUTPUTS (1,2,3).

Each output can be set to transmit up to 512 DMX channels. A menu function, "DMX1=xxx, DMX2=xxx DMX3=xxx" allows the user to set the number of DMX channels that are transmitted on each of the three (two) outputs. DMX512 transmits a maximum of 512 channels, yet the dimmer circuits displayed sequentially from left to right across the top of the patch matrix extend up to a maximum of 1536 (1024). The dimmer circuits are allocated to outputs as follows;

On the patch matrix screen;

- Output 1 begins at dimmer circuit 1 and ends at the highest number that DMX output 1 has been set to transmit.
- Output 2 begins at the next sequential dimmer number following on from output 1's highest dimmer number and ends "x" dimmers higher, where "x" is the number of DMX channels that DMX output 2 has been set to transmit.
- Output 3 begins at the next sequential dimmer number following on from output 2's highest dimmer number and ends "x" dimmers higher, where "x" is the number of DMX channels that DMX output 3 has been set to transmit.

Each output transmits its own individual DMX signal and the DMX512 protocol requires that it starts with DMX channel 1 and ends with the highest dimmer number that has been set for that output.

Therefore, the actual DMX512 channel numbers as received at the dimmers must be related back to the dimmer circuit numbers on the patch screen as follows;

- For Output 1, the DMX channel numbers will be the same as the patch screen dimmer circuit numbers
- For Output 2, the DMX channel numbers are equal to patch screen dimmer circuit numbers, MINUS the number of DMX channels transmitted on output 1
- For Output 3 the DMX channel numbers are equal to patch screen dimmer circuit numbers, MINUS the SUM of the number of DMX channels transmitted on output 1 and the number of DMX channels transmitted on output 2.

For example; if the DMX outputs have been setup as follows:

NUMBER OF DIMMERS ON FIRST DMX OUTPUT	60
NUMBER OF DIMMERS ON SECOND DMX OUTPUT	120
NUMBER OF DIMMERS ON THIRD DMX OUTPUT	512

Then looking at the patch matrix:

Output one is fed from dimmer circuits	1 to 60
Output two is fed from dimmer circuits	61 to 180
Output three is fed from dimmer circuits	181 to 692

Therefore the ACTUAL DIMMERS on each output are connected to the patch in the following manner:

Patch dimmer circuits 1 to 60, connect to output 1 DMX channels 1 to 60

Patch dimmer circuits 61 to 180, connect to output 2 DMX channels 1 to 120

Patch dimmer circuits 181 to 692, connect to output 2 DMX channels 1 to 512

NOTE: The SOFTLINK will automatically perform these calculations for you and show **actual DMX channel numbers for each output** on the top of the patch screen when the patch for only one output (1, 2, or 3) is displayed. See "SELECT PATCH TO VIEW" later in this manual.

HINT: You can quickly find the output number (1, 2, or 3), and DMX channel number of any dimmer circuit by using the <GOTO> key to locate the cursor at the required dimmer number. The output number and DMX channel number for the cursors location is always displayed at the top right of the patch screen

Unlike the SOFTLINK inputs that can be stacked or merged, the three DMX outputs are always stacked. This does not restrict the operation of the patch in any way. Common DMX channels on any of the outputs can be effectively merged by simply patching them to the same patch channel input.

7.3 READING THE DMX SYMBOLS

Now that you understand the structure of the softpatch, the meaning of the various DMX input symbols will become clear.

8.0 OPERATION

8.1 TURNING THE POWER ON

Once you have ensured that the Voltage Selection is correct you may turn on the power to the desk using the ON/OFF switch on the front panel. A neon indicator in this switch shows that the desk is turned on.

On power up the following message appears:

THE SOFTLINK SOFT-PATCH

VERSION XXX/XX
COPYRIGHT 1993 BY
LSC LIGHTING SYSTEMS
7 UNIVERSITY PLACE, CLAYTON,
VICTORIA 3168 AUSTRALIA
PHONE +61 3 561 5255
FAX +61 3 561 5277

ENTER ACCESS CODE ?

NOTE: If the screen appears blank on power up, the Brightness and Contrast Settings may need to be adjusted.

8.2 ACCESS CODE

An Access Code may be used to prevent unauthorised use. The access code may be set or changed by using the setup menu described later in this manual. The Access Code may be any number up to 3 digits long. If an access code has been set, then to gain access to the softpatch, key in the code numbers in their correct order and press the <ENT> key. If no Access Code has been set then simply press the <ENT> key to gain access. The SOFTLINK is shipped with no access code set.

There is a Master Access Code that may be used if you have forgotten the Access Code that you have set. The Master Access Code number is:-

5525165316

This is LSC Lighting System's telephone number backwards and it is always displayed on the screen in the opening message.

Keying in the Master Access Code will erase the current Access code and automatically call up the Patch screen. There is no need to press the <ENT> key. You may, if you wish, set a new access code via the "SET UP "menu.

8.3 PATCH INTEGRITY CHECK

When you pass through the Access Code stage, the SOFTLINK will load the last used patch from its battery backed up memory. Any patch that is to be loaded, including a patch recalled via the load from memory function, is automatically checked by the SOFTLINK to ensure that all its parameters are within legal limits. A pop up window indicates that the integrity check is running and that you may bypass the check by pressing any key. If the patch fails the integrity check, a pop up window informs you of the problem and you may either reject, attempt to repair, or accept the patch. After the integrity check has run or is bypassed, the patch screen appears.

8.4 THE PATCH SCREEN

From this patch screen you can make patches and access the menu system to carry out all the functions of the SOFTLINK. The menu system will guide you through the various levels. A general description of all menu choices is given below.

The cursor may be moved by using the <CURSOR> keys (one cell at a time...hold for auto repeat) or the <PAGE> keys (16 cells at a time...hold for auto repeat).

The cursor may be moved directly to any crosspoint by using the <GOTO> key. When the <GOTO> key is pressed, a pop up window appears prompting the user to key in a channel number followed by a dimmer number.

The cursor may be moved directly to any crosspoint by using the <GOTO> key. When the <GOTO> key is pressed, a pop up window appears prompting the user to key in a channel number followed by a dimmer number.

NOTE: Any desk channel number, dimmer circuit number or percentage level selected on the keypad may have to be completed by pressing the <ENT> key.

HINT: Whenever the <GO TO> key is pressed, the pop up window appears with default settings of channel 1 and dimmer 1. You can utilise these settings to quickly return to the beginning of the patch by simply pressing the <ENT> key twice.

EXIT SOFT PATCH	QOPLK PATCH	ALTER PATCH	USED AND UNUSED	FADER SETS X-POINT	CONNECT FADER TO DIMMER	CONNECT MASTER FADERS	PAGE MASTER FADERS	SELECT PATCH TO VIEW	SELECT SECOND MENU								
DIMMERS PATCH FOR ALL INPUTS AND ALL OUTPUTS																	
DMX	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	O/P 1 CCT 1
ABC	CHANS																
>>?	1	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
>>?	2	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---	---
>>?	3	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---	---
>>?	4	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---	---
>>?	5	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---	---
>>?	6	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---	---
>>?	7	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---	---
>>?	8	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---	---
>>?	9	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---	---
>>?	10	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---	---
>>?	11	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---	---
>>?	12	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---	---
>>?	13	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---	---
>>?	14	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---	---
>>?	15	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100	---
>>?	16	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	100
CHANNEL = 1 DIMMER = 1																	

As mentioned earlier, the dimmer circuit numbers (1 to 16) appear from left to right across the top of the screen. The three desk channel inputs are shown as A B C respectively and the patch channels are numbered (1 to 16) reading downwards on the left hand side of the screen.

If the cursor is moved beyond the right side of the screen, then further dimmer circuits will be (revealed up to dimmer circuit 1536 (1024)). If the cursor is moved beyond the bottom of the screen, then further desk channels will be revealed (up to channel 512).

The condition of the DMX 512 signal for every channel of every input is indicated by the symbols down the left of the screen. See the "TERMINOLOGY" and "SOFTPATCH STRUCTURE" sections for details.

8.4.1 Creating A Patch

A connection between a desk/patch channel and a dimmer circuit is known as a PATCH and is performed by setting a level (1 to 100%) at the CROSSPOINT that coincides with the intersection of the required channel INPUT and dimmer circuit OUTPUT.

8.4.2 Deleting A Patch

To delete a patch, enter a level of 0% at the CROSSPOINT that coincides with the intersection of the required channel INPUT and dimmer circuit OUTPUT.

8.5 Patching

The following methods of creating patch settings may be used.

8.5.1 Direct Entry

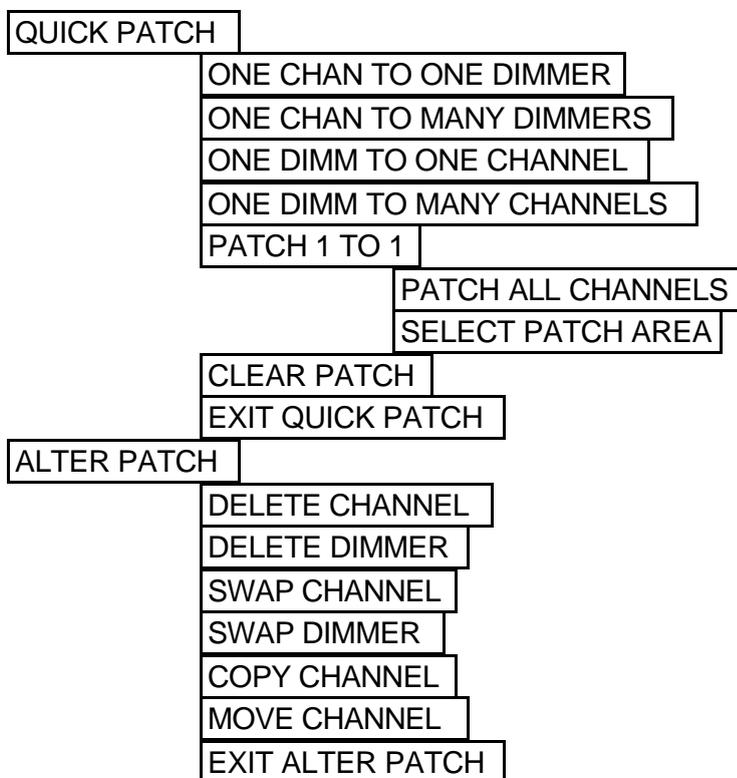
Move the cursor, (using the <CURSOR>, <PAGE> or <GOTO> keys as described above) to the desired crosspoint and key in the patch level (0 to 100%). Press <ENT> to complete the patch or if patching at 100%, simply press the <F> key..

8.5.2 Menu Patching

Menu patching provides menu functions that allows rapid patching of many channels. There are two main menu choices (QUICK PATCH and ALTER PATCH) that provide further menu choices when selected.

The SOFTLINK uses a tiered system of menu levels that allows you to easily move from level to level. For example, selecting "QUICK PATCH" reveals the next menu level offering seven choices. If the "PATCH 1 TO 1" function is selected the two further choices are offered. In this manual, all menu choices are shown in a box, and the boxes are positioned across the page according to the "level" of the menu item.

To illustrate this, some of the menu structure for patching is shown below.



NOTE: Whilst using any "MENU PATCHING" functions, you may still use the <CURSOR>, <PAGE> and <GOTO> keys to view different areas of the patch.

QUICK PATCH

Offers several alternative menu choices of entering patch information and a pop up window prompts the user to select an option.

ONE CHAN TO ONE DIMMER

Allows patching of one patch channel to one dimmer circuit at a selected level.

- On selecting this function, a pop up window appears requesting a channel number. Key in the desired channel number and press <ENT>.
- You are now prompted to enter a dimmer number. Key in the desired number and press <ENT>.
- You are now prompted to enter a level for the patch. Key in the desired number (0 to 100) and press <ENT> or if the patch is to be at full level press the "F" key (the <ENT> key is not required when entering a patch level of full).
- The patch is completed and the pop up window now prompts you to enter another patch.
- You may key in a new channel number, or if the desired number is the next sequential number simply press the <ENT> key and the channel number will be incremented and entered.
- You may then key in a new dimmer number, or if the desired number is the next sequential dimmer number simply press the <ENT> key and the dimmer number will be incremented and entered.
- You may key in a new patch level or if the patch level is to be the same as the previous simply press the <ENT> key and the previous patch level (shown in the pop up window) will be copied.

To exit from this window, press <ESC> or another menu function.

HINT: If you need to patch a sequential range of channels to a sequential range of dimmer circuits at the same patch level then use the "PATCH 1 TO 1" function below.

ONE CHAN TO MANY DIMMERS

Allows patching of one patch channel to many dimmer circuits at selected levels.

- On selecting this function, a pop up window appears requesting a channel number. Key in the desired channel number and press <ENT>.
- You are now prompted to enter a dimmer number. Key in the desired number and press <ENT>.
- You are now prompted to enter a level for the patch. Key in the desired number (0 to 100) and press <ENT> or if the patch is to be at full level press the "F" key (the <ENT> key is not required when entering a patch level of full).
- The patch is completed and the pop up window retains the original channel number and prompts you for another dimmer number.
- You may key in a new dimmer number, or if the desired number is the next sequential number simply press the <ENT> key and the dimmer number will be incremented and entered.
- You may key in a new patch level or if the patch level is to be the same as the previous simply press the <ENT> key and the previous patch level (shown in the pop up window) will be copied.
- Pressing <ESC> returns you to the entry point of this menu function allowing you to enter a new channel number that you may patch to many dimmers

To exit from this window, press <ESC> twice or another menu function.

HINT: If you need to patch a single channel to a sequential range of dimmer circuits at the same patch level then it is only necessary to enter the numbers for the first patch and then repeatedly press the <ENT> key until the last required patch is made.

ONE DIMM TO ONE CHANNEL

Allows patching of one dimmer circuit to one patch channel at a selected level.

- On selecting this function, a pop up window appears requesting a dimmer number. Key in the desired dimmer number and press <ENT>.
- You are now prompted to enter a channel number. Key in the desired number and press <ENT>.
- You are now prompted to enter a level for the patch. Key in the desired number (0 to 100) and press <ENT> or if the patch is to be at full level press the "F" key (the <ENT> key is not required when entering a patch level of full).
- The patch is completed and the pop up window now prompts you to enter another patch.
- You may key in a new dimmer number, or if the desired number is the next sequential number simply press the <ENT> key and the dimmer number will be incremented and entered.
- You may then key in a new channel number, or if the desired number is the next sequential number simply press the <ENT> key and the channel number will be incremented and entered.
- You may key in a new patch level or if the patch level is to be the same as the previous simply press the <ENT> key and the previous patch level (shown in the pop up window) will be copied.

To exit from this window, press <ESC> or another menu function.

HINT: If you need to patch a sequential range of dimmer circuits to a sequential range of channels at the same patch level then it is only necessary to enter the numbers for the first patch and then repeatedly press the <ENT> key until the last required patch is made.

ONE DIMM TO MANY CHANNELS

Allows patching of one dimmer circuit to many patch channels at selected levels.

- On selecting this function, a pop up window appears requesting a dimmer number. Key in the desired dimmer number and press <ENT>.
- You are now prompted to enter a channel number. Key in the desired number and press <ENT>.
- You are now prompted to enter a level for the patch. Key in the desired number (0 to 100) and press <ENT> or if the patch is to be at full level press the "F" key (the <ENT> key is not required when entering a patch level of full).
- The patch is completed and the pop up window retains the dimmer number and prompts you for another channel number.
- You may key in a new channel number, or if the desired number is the next sequential number simply press the <ENT> key and the channel number will be incremented and entered.
- You may key in a new patch level or if the patch level is to be the same as the previous simply press the <ENT> key and the previous patch level (shown in the pop up window) will be copied.
- Pressing <ESC> returns you to the entry point of this menu function allowing you to enter a new dimmer number that you may patch to many channels.

To exit from this window, press <ESC> twice or another menu function.

HINT: If you need to patch a sequential range of channels to a single dimmer at the same patch level then it is only necessary to enter the numbers for the first patch and then repeatedly press the <ENT> key until the last required patch is made.

PATCH 1 to 1

Selecting this function offers two options:

PATCH ALL CHANNELS

Will patch each patch channel (1 to 512) to its correspondingly numbered dimmer circuit (1 to 512) at a selected percentage level. Any dimmer circuits above 512 will not be patched. On selecting this function, a pop up window appears requesting a level for the patch. When you enter the level, the SOFTLINK will briefly display a "PLEASE WAIT" message whilst it completes the patch.

SELECT PATCH AREA

Allows you to specify the first and last desk channel to be patched on a one to one basis and also the starting dimmer circuit number, at a selected percentage level. A pop up window prompts you for each parameter to be entered. Unlike "PATCH ALL CHANNELS", above, this function allows you to patch a range of patch channels to ANY of the dimmer circuits by simply entering the starting dimmer circuit. When you enter the level, the SOFTLINK will briefly display a "PLEASE WAIT" message whilst it completes the patch.

NOTE: "PATCH ALL CHANNELS" and "SELECT PATCH AREA" do not alter any existing patches in the SOFTLINK. If the only patches that you require are the 1 to 1 patches then you should use the "CLEAR PATCH" function prior to the 1 to 1 patch.

CLEAR PATCH

Will completely erase the current patch settings. Use with caution since unless saved, the patch is lost permanently. (See "SAVE TO MEMORY" in the second menu).

EXIT QUICK PATCH

Returns to the main menu

ALTER PATCH

Offers several alternative menu choices of altering patch information and a pop up window prompts you to select an option.

DELETE CHANNEL

Allows you to delete all crosspoints from a desk channel or a block of desk channels. On selecting this function, a pop up window appears requesting a range of channel numbers.
"DELETE CHANNEL ??? TO ???"

Key in the starting channel number and press <ENT>. The SOFTLINK accepts your starting channel entry and automatically copies your entry into the finishing channel number on the assumption that you usually only want to delete a single channel. You can delete a single channel by pressing <ENT> again or delete a range of channels by keying in a finishing channel and pressing <ENT>.

DELETE DIMMER

Allows you to delete all crosspoints from a dimmer circuit or a block of dimmer circuits. On selecting this function, a pop up window appears requesting a range of dimmer numbers.

"DELETE DIMMER ??? TO ???"

Key in the starting dimmer number and press <ENT>. The SOFTLINK accepts your starting dimmer entry and automatically copies your entry into the finishing dimmer number on the assumption that you usually only want to delete a single dimmer circuit. You can delete a single dimmer by pressing <ENT> again or delete a range of dimmers by keying in a finishing dimmer and pressing <ENT>.

SWAP CHANNEL

Allows you to swap the patch settings on two desk channels. On selecting this function, a pop up window appears requesting the two channels to be swapped.
 For example:

If the following patches exist for channels 3 and 4:

CHANNELS	10	<u>DIMMERS</u>		13	14	15	16
3	100	11	12	75	80	100	
4		100				100	90

If channels 3 and 4 are now "SWAPPED", the new patches will be;

CHANNELS	10	<u>DIMMERS</u>		13	14	15	16
3		100				100	90
4	100		75	80	100		

SWAP DIMMER

Allows you to swap the patch settings on two dimmer circuits. On selecting this function, a pop up window appears requesting the two dimmer circuits to be swapped.

For example:

If the following patches exist for dimmers 125 and 150:

CHANNELS	<u>DIMMERS</u>	
	125	150
3	100	---
4	---	90
28	86	---
55	---	100

If dimmers 125 and 150 are now "SWAPPED", the new patches will be:

CHANNELS	<u>DIMMERS</u>	
	125	150
3	---	100
4	90	---
28	---	86
55	100	---

COPY CHANNEL

Allows the patch settings used on one channel to be copied to a second channel. All existing patches on the second channel will be deleted and replaced by a duplicate of the patches on the first channel. On selecting this function, a pop up window appears requesting the channel to be copied from and the channel to be copied to.

HINT: Use this function when you want to change desk channels and a large number of dimmers are patched to the current channel.

MOVE CHANNEL

Will move the patches from one channel to a second channel. All channels in between these two channels will shuffle up or down accordingly. On selecting this function, a pop up window appears requesting the channel whose patches are to be moved and the new channel number for these patches. Use this function with caution as EVERY CHANNEL in between the two selected channels will have its patch moved.

EXIT ALTER PATCH

Returns to the main menu

The main menu also provides the following functions;

USED & UNUSED

Offers several alternative menu choices of displaying information about the patch. A pop up window prompts the user to select an option.

SHOW CHANNELS USED

Provides a display of all 512 patch input channels. Channels that are used in the current patch are marked with an asterisk "**".

SHOW DIMMERS USED

Provides a display of all 1536 (1024) dimmer outputs.. As a maximum of 549 dimmers can be seen at one time, you may use the <PAGE LEFT> or <PAGE RIGHT> keys to scroll the display. Dimmers that are used in the current patch are marked with an asterisk "**". Dimmers that are not assigned are marked with a ".".

TELL ME ABOUT CHANNEL

On selecting this function, a pop up window appears requesting the channel for which patch details are to be displayed. When the required channel number is entered, a display of all 1536 (1024) dimmer circuits appears and any dimmer circuit that is patched to the requested channel number is displayed an asterisk "**". As a maximum of 549 dimmer circuits can be seen at one time, you may use the <PAGE LEFT> or <PAGE RIGHT> keys to scroll the display. The screen also indicates the level for the "CHANNEL MAXIMUM" for the requested channel.

TELL ME ABOUT DIMMER

On selecting this function, a pop up window appears requesting the dimmer for which patch details are to be displayed. When the required dimmer number is entered, a display of all 512 channel numbers appears and any channel that is patched to the requested dimmer circuit is displayed an asterisk "**". The screen also indicates the level for the "DIMMER MAXIMUM" and the DMX output port (1, 2 or 3) together with the actual DMX channel number on that output for the requested dimmer.

EXIT USED AND UNUSED

Returns to the main menu

FADER SETS X-POINT

Enables the front panel fader to be used to set the percentage level of a patch crosspoint.

- Firstly move the cursor, (using the <CURSOR>, <PAGE> or <GOTO> keys as described above) to the desired crosspoint then select the FADER SETS CROSSPOINT function. The fader now controls the level of the patch at the crosspoint indicated by the cursor.
- Adjust the patch to the required level using the fader. When the required level is reached it may be accepted by pressing the <ENT> key.
- You may move the cursor to other crosspoints, adjust the patch level, then set the level with the <ENT> key.

If the FADER SETS X-POINT function is de selected (by pressing any function key) prior to the <ENT> key being pressed, then the crosspoint reverts to its original level.

HINT: *FADER SETS X-POINT* is useful when several dimmer circuits are patched to the one desk channel. Turn on the desk channel, then use the fader to set each crosspoint so that light output from each dimmer is matched.

8.6 CONNECT FADER

The connect fader function varies depending upon whether or not the optional 10 fader module is fitted to the SOFTLINK.

CONNECT FADER, ...10 fader module option NOT fitted;

CONNECT FADER

On selecting this function, three further menu options are offered;

CONNECT TO CHANNEL

Allows the front panel fader to be used as a substitute for a desk channel input.

- On selecting this function, a pop up window appears requesting the channel number to which the fader is to be connected. Key in the required channel number and press <ENT>.
- The fader now acts like a desk channel and may be used to fade up and down any dimmers that are patched to this channel.
- The SOFTLINK shows the current channel under control and prompts you for another channel number.
- Simply pressing the <ENT> key will increment the channel number, or you may key in any number and enter it to control other channels.

HINT: Use this function together with the "Snapshot" function described later in this manual to use the SOFTLINK as a backup to your main desk(s).

CONNECT TO DIMMER

Allows the front panel fader to be used to control the output level of one dimmer circuit.

- On selecting this function, a pop up window appears requesting the dimmer number to which the fader is to be connected. Key in the required dimmer number and press <ENT>.
- The fader now acts like a desk channel that is patched to a single dimmer and may be used to fade the selected dimmer up and down .
- The SOFTLINK shows the current dimmer under control and prompts you for another dimmer number.
- Simply pressing the <ENT> key will increment the channel number, or you may key in any number and enter it to control other dimmers.

When "CONNECT TO DIMMER" is active, the following menu function is offered;

ADD TO X-POINT

Permits the dimmer connected to the fader (in CONNECT TO DIMMER above) to be patched to a selected desk channel. The level of the patch will be the same percentage that the fader was set to. When the patch is made, the SOFTLINK returns to the CONNECT TO DIMMER function.

HINT: Use *CONNECT FADER TO DIMMER* and *ADD TO X-POINT* when focusing lights. Even if the lighting desk(s) are not connected you can fade up each light for focusing using *CONNECT FADER TO DIMMER*, then patch it to the appropriate desk channel (at the level set by the fader) using *ADD TO X-POINT*. Simply pressing the <ENT> key will increment to the next dimmer to be focused and patched.

EXIT CONNECT FADER

You may choose to leave the fader connected to the selected channel or dimmer. On selecting this function a message will appear on the screen telling you to press the <ENT> key if you wish to leave the fader connected or to press any other key if you wish to disconnect the fader.

NOTE: If you choose to disconnect the fader when exiting, then when you next press "*CONNECT FADER TO CHANNEL (or DIMMER)*", the previously connected channel (or dimmer) will immediately be reconnected.

CONNECT FADER, ...10 fader module option FITTED;

As the 10 optional faders can all be used as substitutes for desk channels, the single front panel fader is not required for this purpose. Therefore the "CONNECT TO CHANNEL" function for the fader is not offered.

CONNECT FADER TO DIMMER

Allows the front panel fader to be used to control the output level of one dimmer circuit.

- On selecting this function, a pop up window appears requesting the dimmer number to which the fader is to be connected. Key in the required dimmer number and press <ENT>.
- The fader now acts like a desk channel that is patched to a single dimmer and may be used to fade the selected dimmer up and down .
- The SOFTLINK shows the current dimmer under control and prompts you for another dimmer number.
- Simply pressing the <ENT> key will increment the channel number, or you may key in any number and enter it to control other dimmers.

When "CONNECT FADER TO DIMMER" is active, the following menu function is offered:

ADD TO X-POINT

Permits the dimmer connected to the fader (in *CONNECT FADER TO DIMMER* above) to be patched to a selected desk channel. The level of the patch will be the same percentage that the fader was set to. When the patch is made, the SOFTLINK returns to the *CONNECT FADER TO DIMMER* function.

HINT: Use *CONNECT FADER TO DIMMER* and *ADD TO X-POINT* when focusing lights. Even if the lighting desk(s) are not connected you can fade up each light for focusing, using *CONNECT FADER TO DIMMER* then patch it to the appropriate desk channel (at the level set by the fader) using *ADD TO X-POINT*. Simply pressing the <ENT> key will increment to the next dimmer to be focused and patched.

EXIT CONNECT FADER

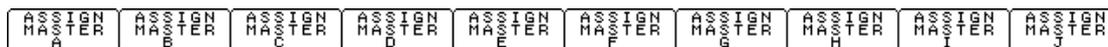
You may choose to leave the fader connected to the selected dimmer. On selecting this function a message will appear on the screen telling you to press the <ENT> key if you wish to leave the fader connected or to press any other key if you wish to disconnect the fader.

NOTE: If you choose to disconnect the fader when exiting, then when you next press "CONNECT FADER TO DIMMER", the previously connected dimmer will immediately be reconnected.

CONNECT MASTER FADERS

This function key is used with the optional 10 fader module and is only displayed if this option is fitted. The 10 faders can be individually assigned to any patch channel and each fader can be used as a substitute for a desk channel input.

- On selecting this function, the 10 function keys become assign keys for the 10 faders (A to J) respectively.



- Select the master fader to which a channel is to be assigned by pressing the function key for that fader.
- On selecting a fader, a pop up window appears requesting the channel that is to be assigned. Key in the required channel number and press <ENT>.

The bottom line of the display indicates the channel numbers that are assigned to particular faders (if any) as shown below.

CHAN125 CHAN126 CHAN130 CHAN133 CHAN134 CHAN490 CHAN491 CHAN492 CHAN493 CHAN495

Typically, the 10 fader module will be mounted directly below the SOFTLINK so the fader assignments indicated at the bottom of the display will be directly above their respective faders. When a channel is assigned to a master, then that masters name is indicated on the right of the patch display in line with the channel that it is controlling.

If the master that you select to assign is currently assigned to a channel, then a pop up window indicates the currently assigned channel and prompts you for the new channel.

- To retain the current assignment press any function key or the <ESC> key.
- To disconnect a fader simply assign it to channel 0.

When you have finished assigning channels to faders press <ESC> to return to the main menu.

PAGE MASTER FADERS

This function key is used with the optional 10 fader module and is only displayed if this option is fitted. It allows the 10 faders to be loaded with a group of sequential channels. This is called PAGING (sometimes known as gang loading). (See also "CONNECT MASTER FADERS" above.)

On selecting this function, a pop up window appears;

"PAGE MASTER FADERS FROM CHANNEL xxx"

A default channel number is offered. You may accept the default or key in your own starting number. In either case, you complete the page load by pressing <ENT>. Fader A will be loaded with the channel that you entered. Fader B will be loaded with the next sequential channel number, fader C with the next and so on through to fader J. When the PAGE MASTER FADERS function is next used, the previously entered channel number will be incremented by 10 and offered as the new default number.

By using this feature, you can easily page through a large number of channels in groups of 10.

8.6.1 Page Freeze

If any of the 10 faders are active (at a level above 0%), at the time that the master faders are paged, then the incoming channel for those faders does not replace the active channel but loads as a pending channel. When the active fader is faded to 0%, then the pending channel will replace the current channel. In this way, paging the master faders will not cause channels to "CRASH IN" on stage unexpectedly.

HINT: You can use the 10 fader module as a backup to your main desk(s). Even if your main desk(s) are not currently connected to the SOFTLINK, you can easily create backup scenes.

- Assign a master fader to a patch channel that is not used by your main desk(s).
- Set the fader to maximum, then using the <GOTO> key, position the cursor over the crosspoint for the channel that you have selected and the first dimmer that you want in the backup scene.
- Use the "FADER SETS X-POINT" function (the single fader on the SOFTLINK), to set the level of the dimmer to that required for the backup scene.
- When the level of the dimmer is correct press <ENT> to patch this dimmer to the selected channel.
- Now move the cursor to the next dimmer that is to be in the back up scene and using the same channel number, repeat the above procedure to set the level and add the crosspoint.
- Continue to add dimmers at the required levels until the backup scene on this master fader is complete.

Further backup scenes can be created on the other faders using different channel numbers and, as the faders may be paged a large number of scenes may be stored and easily recalled.

HINT: If your main desk(s) are operational, then you can use the "SNAPSHOT" function to quickly store the current output of the SOFTLINK as a backup scene. Many scenes can be stored, depending upon the number of available channels. See "SNAPSHOT" later in this manual for details.

SELECT PATCH TO VIEW

On selecting this function, a pop up window appears:

PATCH VIEWED WILL DISPLAY

INPUTS

DMX.A
DMX.B
DMX.C
ALL

OUTPUTS

DMX.1
DMX.2
DMX.3
ALL

PRESENT SELECTION

INPUTS ALL

OUTPUTS ALL

The choices are divided into two groups, the INPUT GROUP and the OUTPUT GROUP.

- Use the cursor keys to select the desired patch to view in both the input group and the output group.
- When the cursor is over your required choice in either group, press <ENT> to select it.
- When both groups have the required selections highlighted, press <ENT> a second time to save your selections and exit or press <ESC> to exit and retain the previous selections.

The actual patches shown on the screen at any time, depend upon your selections in **both** the groups. Make your choice for the patch to view from the options below;

8.6.2 Input Group

Choose one of the following:

ALL INPUTS.....Shows the patch with respect to ALL 512 INPUT CHANNELS (A, B and C), (AND the output(s) that are selected to be viewed in the "output group").

The channel numbers down the left of the screen are for the PATCH channels. If any desk channels have been stacked, then the desk channel numbers for a particular input (A, B or C) may not be the same as the patch channel numbers.

For example, if DMX input B is used for patch channels 120 to 256, then channel 1 of the desk connected to input B is the same as patch channel 120 of the SOFTLINK.

DMX A.....Shows only the patch with respect to INPUT A, (AND the output(s) that are selected to be viewed in the "output group").

The channel numbers down the left of the screen are for the ACTUAL DESK CHANNEL NUMBERS on the desk connected to input A. Only the number of channels as set in the "DMX INPUT CHANNEL SELECTION" window for input A are shown. Any stacking offsets that have been applied by the SOFTLINK are automatically removed.

DMX B.....Same as PATCH USED FOR DMXA but for INPUT B.

DMX C.....Same as above but for INPUT C.

***HINT:** If you are viewing "ALL" in the "INPUT GROUP" then you may have to calculate the desk channel number for a particular patch channel, depending on the stacking and/or merging of the three inputs. When you are setting patches for a desk connected to a particular SOFTLINK input, (A, B and C), then viewing the patch for that input simplifies the patching process as the actual desk channels will always be displayed down the left of the screen.*

8.6.3 Output Group

Choose one of the following;

ALL.....Shows the patch with respect to all THREE OUTPUTS (1536 (1024)dimmer circuits), (AND the input(s) that are selected to be viewed in the "input group").

The dimmer numbers across the top of the screen are for the patch matrix and may not be the same as the DMX channels transmitted on each output.

For example, if DMX output 1 is set to transmit 120 DMX channels, then DMX channel 1 of output 2 will be the same as dimmer circuit 121 of the SOFTLINK.

OUTPUT 1.....Shows the patch with respect to OUTPUT 1, (AND the input(s) that are selected to be viewed in the "input group").

The dimmer numbers across the top of the screen are for the actual DMX channels for output 1. Only the number of dimmers as set in the "DMX TRANSMIT SETUP" window for output1 are shown.

NOTE: In the case of output 1 only, the dimmer numbers will always be the same as the DMX channel numbers as they both always start with number 1.

OUTPUT 2.....Shows the patch with respect to OUTPUT 2 (AND the input(s) that are selected to be viewed in the "input group").

The dimmer numbers across the top of the screen are for the actual DMX channels for output 2. Any stacking offsets that have been applied by the SOFTLINK are automatically removed. Only the number of dimmers as set in the "DMX TRANSMIT SETUP" window for output 2 are shown..

Key in a number and press <ENT> to save the patch. Up to nine patches may be saved in this way.

NOTE: If you save a patch in a previously used memory, then the previous patch will be ERASED and replaced by the new patch.

LOAD FROM MEMORY

Allows you to recall a patch that has previously been saved in the internal memory. All the parameters noted in "SAVE TO MEMORY" will be recalled. On selecting this function, a pop up window appears:

"LOAD PATCH 1-9 ???"

Key in the number of the patch to be recalled and press <ENT>. Up to nine patches may be recalled in this way.

WARNING: Loading a patch from memory will replace the current patch and if the current patch is not saved to either memory or disk, then it will be lost!

PRINT SOFT PATCH

Allows you to print the current patch settings on a Serial Interface printer. The printer configuration of the SOFTLINK may be altered to suit various types of serial printers via the "ALTER PRINTER CONFIG" function in the "SETUP MENU".

SET CHANNEL MAXIMUM

Channel maximum (also known as CHANNEL SCALING) is similar to proportional patching in that it allows the OUTPUT level to be set to be between 0 and 100% of the INPUT level. The percentage level that is set for each desk channel applies to all dimmer circuits that are patched to that desk channel, not just a single crosspoint. Thus ALL dimmer circuits that are patched to ONE desk channel can be limited to a maximum level. See the "TERMINOLOGY" section for more details.

EXIT SET MAXIMUM		CHANNEL MAXIMUM									
MAX	CHANNEL LEVEL	0	1	2	3	4	5	6	7	8	9
10		---	---	---	---	---	---	---	---	---	---
20		---	---	---	---	---	---	---	---	---	---
30		---	---	---	---	---	---	---	---	---	---
40		---	---	---	---	---	---	---	---	---	---
50		---	---	---	---	---	80	85	90	---	---
60		---	---	---	---	---	---	---	---	---	---
70		---	---	---	---	---	---	---	---	---	---
80		---	---	---	---	---	---	---	---	---	---
90		---	---	---	---	---	---	---	---	---	---
100		---	---	---	---	---	---	---	---	---	---
110		---	0	---	50	---	---	---	---	---	---
120		---	---	---	---	---	50	---	---	50	---
130		---	---	---	---	---	---	---	---	---	---
140		---	---	---	---	90	---	---	---	---	---
150		---	---	---	---	---	---	---	---	---	---

CHANNEL = 1
 CHAN 1 CHAN 2 CHAN 3 CHAN 4 CHAN 5 CHAN 6 CHAN 7 CHAN 8 CHAN 9 CHAN 10

On selecting this function, a display of all channels appears showing the maximum level (if any) for every channel. If no maximum has been set (e., the maximum is FULL), then the channel is marked "---". As a maximum of 159 channels can be seen at one time, you may use the <CURSOR>, <PAGE> or <GOTO> keys to scroll the display and position the cursor at the channel for which a maximum is to be set. The current location of the cursor is shown at the bottom of the screen. Key in the required maximum (0 to 99%) and press <ENT>. If no maximum is required (ie. full), simply press the <Full> key.

EXIT SET MAXIMUM

Allows you to return to the main menu and patch screen. Any channels that have a maximum level set and are associated with the patch being viewed will be marked with an asterix "*"beside their patch channel numbers.

SET DIMMER MAXIMUM

Dimmer maximum (also known as OUTPUT LIMIT) allows a maximum or upper limit to be set for every dimmer circuit. Unlike channel maximum, which always sets the output level to a percentage of the input level, dimmer maximum allows the output level to exactly follow the input level until the output reaches the dimmer maximum setting. The output is not permitted to rise above this setting. The maximum may be set to any level between 0 and full. Thus EACH dimmer circuit can be limited to its own maximum level. See the "TERMINOLOGY" section for more details.

EXIT SET MAXIMUM		DIMMER MAXIMUM									
DIMMER	OUTPUT	0	1	2	3	4	5	6	7	8	9
10	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---
32	---	---	---	---	---	---	---	---	---	---	---
33	---	---	---	---	---	---	---	---	---	---	---
34	---	---	---	---	---	---	---	---	---	---	---
35	---	---	---	---	---	---	---	---	---	---	---
36	---	---	---	---	---	---	---	---	---	---	---
37	---	---	---	---	---	---	---	---	---	---	---
38	---	---	---	---	---	---	---	---	---	---	---
39	---	---	---	---	---	---	---	---	---	---	---
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41	---	---	---	---	---	---	---	---	---	---	---
42	---	---	---	---	---	---	---	---	---	---	---
43	---	---	---	---	---	---	---	---	---	---	---
44	---	---	---	---	---	---	---	---	---	---	---
45	---	---	---	---	---	---	---	---	---	---	---
46	---	---	---	---	---	---	---	---	---	---	---
47	---	---	---	---	---	---	---	---	---	---	---
48	---	---	---	---	---	---	---	---	---	---	---
49	---	---	---	---	---	---	---	---	---	---	---
50	---	---	---	---	---	---	---	---	---	---	---
51	---	---	---	---	---	---	---	---	---	---	---
52	---	---	---	---	---	---	---	---	---	---	---
53	---	---	---	---	---	---	---	---	---	---	---
54	---	---	---	---	---	---	---	---	---	---	---
55	---	---	---	---	---	---	---	---	---	---	---
56	---	---	---	---	---	---	---	---	---	---	---
57	---	---	---	---	---	---	---	---	---	---	---
58	---	---	---	---	---	---	---	---	---	---	---
59	---	---	---	---	---	---	---	---	---	---	---
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61	---	---	---	---	---	---	---	---	---	---	---
62	---	---	---	---	---	---	---	---	---	---	---
63	---	---	---	---	---	---	---	---	---	---	---
64	---	---	---	---	---	---	---	---	---	---	---
65	---	---	---	---	---	---	---	---	---	---	---
66	---	---	---	---	---	---	---	---	---	---	---
67	---	---	---	---	---	---	---	---	---	---	---
68	---	---	---	---	---	---	---	---	---	---	---
69	---	---	---	---	---	---	---	---	---	---	---
70	---	---	---	---	---	---	---	---	---	---	---
71	---	---	---	---	---	---	---	---	---	---	---
72	---	---	---	---	---	---	---	---	---	---	---
73	---	---	---	---	---	---	---	---	---	---	---
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75	---	---	---	---	---	---	---	---	---	---	---
76	---	---	---	---	---	---	---	---	---	---	---
77	---	---	---	---	---	---	---	---	---	---	---
78	---	---	---	---	---	---	---	---	---	---	---
79	---	---	---	---	---	---	---	---	---	---	---
80	---	---	---	---	---	---	---	---	---	---	---
81	---	---	---	---	---	---	---	---	---	---	---
82	---	---	---	---	---	---	---	---	---	---	---
83	---	---	---	---	---	---	---	---	---	---	---
84	---	---	---	---	---	---	---	---	---	---	---
85	---	---	---	---	---	---	---	---	---	---	---
86	---	---	---	---	---	---	---	---	---	---	---
87	---	---	---	---	---	---	---	---	---	---	---
88	---	---	---	---	---	---	---	---	---	---	---
89	---	---	---	---	---	---	---	---	---	---	---
90	---	---	---	---	---	---	---	---	---	---	---
91	---	---	---	---	---	---	---	---	---	---	---
92	---	---	---	---	---	---	---	---	---	---	---
93	---	---	---	---	---	---	---	---	---	---	---
94	---	---	---	---	---	---	---	---	---	---	---
95	---	---	---	---	---	---	---	---	---	---	---
96	---	---	---	---	---	---	---	---	---	---	---
97	---	---	---	---	---	---	---	---	---	---	---
98	---	---	---	---	---	---	---	---	---	---	---
99	---	---	---	---	---	---	---	---	---	---	---
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101	---	---	---	---	---	---	---	---	---	---	---
102	---	---	---	---	---	---	---	---	---	---	---
103	---	---	---	---	---	---	---	---	---	---	---
104	---	---	---	---	---	---	---	---	---	---	---
105	---	---	---	---	---	---	---	---	---	---	---
106	---	---	---	---	---	---	---	---	---	---	---
107	---	---	---	---	---	---	---	---	---	---	---
108	---	---	---	---	---	---	---	---	---	---	---
109	---	---	---	---	---	---	---	---	---	---	---
110	---	---	---	---	---	---	---	---	---	---	---
111	---	---	---	---	---	---	---	---	---	---	---
112	---	---	---	---	---	---	---	---	---	---	---
DIMMER = 121											
CHAN 1	CHAN 2	CHAN 3	CHAN 4	CHAN 5	CHAN 6	CHAN 7	CHAN 8	CHAN 9	CHAN 10	CHAN 11	CHAN 12

On selecting this function, a display of all dimmers appears showing the maximum level (if any) for every dimmer. If no maximum has been set (e., the maximum is FULL), then the dimmer is marked "---". As a maximum of 159 dimmer circuits can be seen at one time, you may use the <CURSOR>, <PAGE> or <GOTO> keys to scroll the display and position the cursor at the dimmer for which a maximum is to be set. The current location of the cursor is shown at the bottom of the screen. Key in the required maximum (0 to 99%) and press <ENT>. If no maximum is required (ie. full), simply press the <Full> key.

EXIT SET MAXIMUM

Allows you to return to the main menu and patch screen. Any dimmers that have a maximum level set will be marked with an asterix "*"beside their dimmer circuit numbers.

DISK MENU

If your SOFTLINK has an optional Floppy Disk Drive this allows up to 112 patches to be saved to or loaded from one 3.5 inch double sided double density (720 K) floppy disk. Shows saved on one SOFTLINK with Floppy Disk Drive may be loaded into a second SOFTLINK with Floppy Disk Drive. You may copy or format disks for the SOFTLINK on any IBM compatible computer.

Note: patches saved in the Softlink's internal memory using the SAVE PATCH function are not saved to disk. Instead only the current operational patch is saved. To transfer patches from internal memory to disk you must recall each patch from internal memory, then save it to disk.

On selecting this function the following menu choices are offered:

SAVE PATCH TO DISK

Allows the current patch to be stored on the floppy disk. On selecting this function a pop up window prompts you to give the patch a reference number. You may use any number of up to 3 digits. After you enter this number, you may then, if you wish, enter a date and time to record when the patch was saved. Press <ENT> to save the patch.

LOAD UP PATCH FROM DISK

Allows you to load a patch by entering its reference number into the pop up window. When the number is entered, another message asks:

"LOAD PATCH xxx * ARE YOU SURE? * ENT FOR YES"

WARNING

Loading a patch from disk will replace the current patch and if the current patch is not saved to either memory or disk, then it will be lost!

DISPLAY DISK FILES

Will call up all disk files on screen showing their reference number and date (if any).

```

EXIT   SAVE   LOAD   PAGE   PAGE   DELETE   FORMAT
THIS   PATCH  UP     UP     DOWN   FILE     DISK
MENU   TO     FROM  FILE  DSK    DSK      DSK
-----
                                DISK DIRECTORY
PATCH--1.PCH 05-AUG-93 12:35      15 16  O/P1
PATCH--2.PCH 29-JUL-93 15:15      --- --- MAST A
PATCH--3.PCH 29-JUL-93 15:17      --- --- MAST B
PATCH--5.PCH 29-JUL-93 15:20      --- --- MAST C
PATCH--6.PCH 04-AUG-93 08:20      --- --- MAST D
PATCH--7.PCH 06-AUG-93 14:37      --- --- MAST E
PATCH275.PCH 12-AUG-93 21:00      --- --- MAST F
                                           MAST G
                                           MAST H
                                           MAST I
                                           MAST J
???) 1  --- --- --- --- --- --- --- --- --- --- --- ---
???) 14 --- --- --- --- --- --- --- --- --- --- --- ---
???) 15 --- --- --- --- --- --- --- --- --- --- --- ---
???) 16 --- --- --- --- --- --- --- --- --- --- --- ---
                                CHANNEL = 1 DIMMER = 1
CHAN 1 CHAN 2 CHAN 3 CHAN 4 CHAN 5 CHAN 6 CHAN 7 CHAN 8 CHAN 9 CHAN 10
    
```

All other DISK MENU options - such as SAVE PATCH TO DISK and LOAD UP PATCH FROM DISK are still available. Up to 112 patches may be saved on one disk and 24 patches are displayed on the screen at one time so two additional menu functions are made available:

PAGE UP

and

PAGE DOWN

Enable you to page through the patches saved on the disk. The cursor may also be used to move to the desired patch. This will then appear as a default number in the SAVE, LOAD and DELETE options.

DELETE FILE

Enables you to delete an unwanted file by entering its reference number. When Disk Files are displayed (see above) you may move the cursor to the file you wish to delete and it will be offered as a default number when DELETE FILE is selected.

FORMAT DISK

Enables you to format a disk for use with the SOFTLINK. Please note that all contents of the disk will be **deleted** during formatting.

SETUP MENU

Offers several menu choices:

SET ACCESS CODE

Allows you to set your own Access Code. This will prevent unauthorised persons from being able to change your patch settings as it will prevent access to the main Patch Menu. If there is already an Access Code set you may not change it unless you know the current Access Code. Pop up windows guide you through the process.

The current access code may be cancelled, ie. no access code set, by returning to the opening screen using the "EXIT SOFTPATCH" function on the main menu. When you have returned to the screen with the opening message, key in the master access code. The Master Access Code number is:-

1119638316

This is LSC Lighting System's telephone number backwards and it is always displayed on the screen in the opening message. Entering the master access code will cancel the current access code.

ALTER PRINTER CONFIG.

Allows you to alter the printer configuration to suit different Serial Interface printers. Alterable options in the pop up window are:-

BAUD RATE

A choice may be made from the following:- 9600, 4800, 2400, 1200, 600, 300, 150

TRANSMITTED BITS

Either 7 or 8 may be selected.

PARITY

None, Even or Odd may be selected.

STOP BITS

1 or 2 may be selected.

Place the cursor over the value to be changed and press the <ENT> key to step through the available options. Press the <ESC> key to store the settings and exit.

SET HELP LEVEL

Some basic information concerning operation of the SOFTLINK is offered when various Menu Choices are made. This is particularly useful on first becoming acquainted with the unit. In particular you will be reminded of any changes that may permanently change the current patch settings and be asked to confirm your selection.

Once you have mastered the SOFTLINK you may wish to turn these help messages off. This will reduce the number of keys that you have to press to achieve the desired result but will remove the protection.

- On selecting this function, a pop up window describes the function and shows whether help is currently ON or OFF.

- Pressing the <ENT> key will toggle "HELP" on or off. Press the <ESC> key to store the setting and return to the SETUP menu..

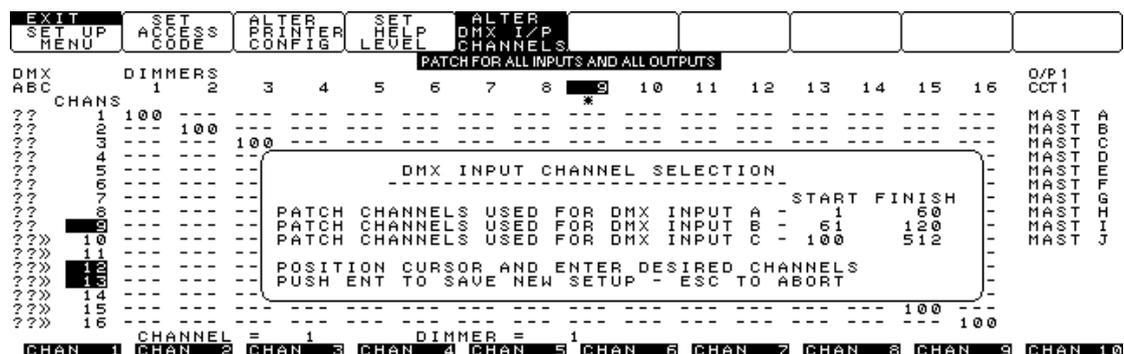
ALTER DMX I/P CHANNELS

Each DMX input (A, B or C) can be assigned to a range of patch channels. This menu function, allows the user to specify a start and finish number for the patch channels that will be used for each of the three desk channel inputs. This allows the three inputs to be STACKED or MERGED as required.

For example: START FINISH
 PATCH CHANNELS USED FOR DMX INPUT A.....1 120
 PATCH CHANNELS USED FOR DMX INPUT B.....25 100
 PATCH CHANNELS USED FOR DMX INPUT C...121 512

The DMX 512 output signal of a lighting desk will ALWAYS start at desk channel 1 but it may be connected in the SOFTLINK to start at any patch channel number. When the desk channels are connected to the patch channels, an offset can be applied by the SOFTLINK to enable the DESK channels to start at a particular PATCH channel. In the above example, desk input B has an offset of 24 applied so that desk channel 1 of input B is connected to patch channel 25, desk channel 2 of input B is connected to patch channel 26, etc, up to desk channel 76, which is connected to patch channel 100
 For more information, see "SOFTPATCH STRUCTURE", earlier in this manual.

On selecting this function, the following pop up window appears;



Position the cursor over each parameter (start and finish number) and key in the required number. Press <ENT> to save the new settings and exit, or press <ESC> to retain the original settings and exit.
 Any input, (A, B or C) may be TURNED OFF by selecting a start and finish number of 0 for that input.

SELECT SNAPSHOT MENU

NOTE: This menu function is an OPTION and may not be fitted to some models.

The snapshot function enables you to record the current output of the SOFTLINK and store it as a patch to a single channel. The SOFTLINK reads the output level for every dimmer circuit on its three (two) outputs. It then patches each dimmer circuit whose OUTPUT LEVEL is greater than zero, to a SINGLE patch channel that you specify. The PATCH LEVEL that the SOFTLINK uses for each dimmer circuit crosspoint is the same value as the OUTPUT LEVEL that each dimmer circuit had when the snapshot was taken.
 If you fade down the lighting state that you have just "SNAPSHOT" and now set the input level of the channel that you specified in the snapshot to full, then the lighting state on stage will be identical.

You can use the SOFTLINK, together with the optional 10 MASTER FADER module, as a back up to your main desk(s), by taking snapshots of the desk(s) output that can be recalled by the 10 master faders in the event of a desk(s) failure. Each snapshot is stored as a patch to a different patch channel number and these patch channel numbers can be assigned to individual faders of the 10 master fader module. It is preferable to choose patch channel numbers that are not connected to your main desk(s) channel numbers so that the desk channels will not recall the snapshots.

To recall a SNAPSHOT, simply assign the patch channel specified in the snapshot to any of the 10 faders and fade it up. The 10 faders allow you to perform crossfades or to fade up several snapshots at once. The 10 faders may also be paged, so it is simple to run an entire show from the SOFTLINK and the 10 faders. See "CONNECT MASTER FADERS" and "PAGE MASTER FADERS" earlier in this manual

HINT: You can effectively add memory to a non memory lighting desk or add EXTRA memory to a memory desk by using SNAPSHOT to store scenes and assign them to desk channels. These desk channels will now recall snapshots and so act as SCENE MASTERS.

On selecting "SELECT SNAPSHOT MENU", the following menu choices are offered:

ENABLE SNAPSHOT

Activates the snapshot function in preparation for taking a snapshot. On selecting this function, "SNAPSHOT ACTIVE" is displayed in inverse text at the top right of the screen.

RECORD SNAPSHOT

On selecting this function, a pop up window appears. If snapshot is not active, then the window will read;

"SNAPSHOT INACTIVE - ANY KEY TO CONTINUE"

If snapshot is active, then the window will read;

"RECORD PRESENT OUTPUT LEVELS AS PATCH FOR CHANNEL ?"

Choose a channel and key in the number. Press <ENT> to take the snapshot. All existing patches to the selected channel are CLEARED and then the "snapshot" patch is made to this patch channel as described above.

ADD SNAPSHOT

This function is similar to "RECORD SNAPSHOT" above, but it differs in that any existing patches to the selected channel are NOT CLEARED prior to the "snapshot patch" being made. Any dimmer circuit that has both an existing patch to the selected channel and a new patch from the snapshot will be patched at the higher of the two patch levels (highest takes precedence).

- On selecting this function, a pop up window appears. If snapshot is not active, then the window will read:

"SNAPSHOT INACTIVE - ANY KEY TO CONTINUE"

If snapshot is active, then the window will read:

"ADD PRESENT OUTPUT LEVELS TO PATCH FOR CHANNEL ?"

- Choose a channel and key in the number. Press <ENT> to take the snapshot and ADD the patches to the existing patches for the selected channel.

DISABLE SNAPSHOT

Deactivates the snapshot function.

EXIT SNAPSHOT

Returns to the second menu.

DMX1=? DMX2=? DMX3=?

This function sets the number of dimmer circuits being transmitted on each of the three outputs. DMX 512 uses a high speed data circuit to transmit the data for each dimmer circuit, one channel at a time. This is known as "time division multiplexing". With the maximum of 512 dimmer circuits being transmitted, the data for each dimmer is updated 44 times per second. If all 512 dimmers are not required, then it is possible to improve the response time by transmitting data for less than 512 dimmers. The number of dimmer circuits that each output has been set to transmit is displayed in the menu selection window.

- On selecting this function, the following pop up window appears:

DMX TRANSMIT SETUP

```

NUMBER OF DIMMERS ON FIRST DMX OUTPUT    -xxx
NUMBER OF DIMMERS ON SECOND DMX OUTPUT   -xxx
NUMBER OF DIMMERS ON THIRD DMX OUTPUT    -xxx

```

```

TOTAL NUMBER OF DIMMERS BEING OUTPUT    -- xxxx

```

- Position the cursor over each parameter and key in the required number of DMX DIMMERS for that output.
- Press <ENT> to save the new settings and exit, or press <ESC> to retain the original settings and exit.

The settings in the **DMX TRANSMIT SETUP** influence the way that the dimmer circuit numbers across the top of the patch matrix screen relate to the three (two) outputs.

On the patch matrix screen, the dimmer circuits are displayed sequentially from left to right.

- Output 1 begins at dimmer circuit 1 and ends at the highest number that DMX output 1 has been set to transmit.
- Output 2 begins at the next sequential dimmer number following on from output 1's highest dimmer number and ends "x" dimmers higher, where "x" is the number of DMX channels that DMX output 2 has been set to transmit.
- Output 3 begins at the next sequential dimmer number following on from output 2's highest dimmer number and ends "x" dimmers higher, where "x" is the number of DMX channels that DMX output 3 has been set to transmit.

It is not possible to get the cursor to move beyond the total number of dimmers being transmitted and no dimmers above the total number will be displayed on the screen.

NOTE: Some SOFTLINK models are only fitted with two outputs. The only differences in the two output models are that the display in the menu box shows the TOTAL number of circuits instead of the third output and the third output is omitted from the pop up window.