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For technical questions regarding setup, operation, or maintenance of this equipment, or if equipment fails to operate properly upon installation, or under normal load and temperature conditions, and basic troubleshooting procedures are not effective, please contact your nearest Strand Authorized Service Centre or Strand Lighting Field Service at the office serving your area.

For comments regarding equipment functions and possible improvements, or for comments on this manual, please write to the Strand Lighting office serving your area.



Danger

This equipment is designed to operate from the mains electricity supply and contains voltages which, if touched, may cause death or injury. It should only be operated in accordance with these instructions and for the purpose of a lighting control system.

Do not open the lighting control equipment. There are no user serviceable parts inside.

Avoid spilling liquid on the equipment. If this should happen, switch the equipment off immediately.

Dieses Gerät ist nur für den Gebrauch am 230V Netz geeignet. Im Gerät können Spannungen anliegen, die bei Berührung tödlich sein oder zu Verletzungen führen können. Das Pult darf nur nach Lesen der Bedienungsanleitung in Betrieb genommen werden und ausschließlich als Lichtstellpult Verwendung finden.

Das Pult sollte nicht geöffnet werden, da sich im Inneren keine austauschbaren Teile befinden.

Vermeiden Sie das Eindringen von Flüssigkeiten in das Pult. Sollte dieses doch geschehen, ist das Pult sofort abzuschalten.

Cet équipement est conçu pour être connecté au réseau électrique et par conséquent il contient des tensions dangereuses qui peuvent être mortelles si touchées. Il doit être utilisé en suivant ces instructions et dans l'objectif du contrôle des systèmes d'éclairage.

Ne pas ouvrir cet équipement. Il n'y a pas à l'intérieur de pièce susceptible d'être changé par l'utilisateur lui-même.

Ne jamais renverser de liquide sur cet équipement. Si cela arrive, veuillez éteindre l'équipement immédiatement.

Questo prodotto è stato progettato per funzionare collegato alla rete elettrica principale ed è dotato di selezionatore di voltaggio, se toccato, può causare il decesso o lesioni. Da usare soltanto come sistema di controllo luci in accordo alle presenti istruzioni.

Non aprire. Non ci sono elementi riparabili da parte dell'utente all'interno.

Evitare di versare liquidi sul prodotto. Nel caso dovesse accadere, spegnere immediatamente.

Este equipo ha sido proyectado para funcionar a traves de la red principal de energia electrica y contiene voltajes que, si tocan, pueden causar la muerte o graves perjuicios. Solo podra ser utilizado de acuerdo a estas instrucciones y con el proposito de un sistema de control de iluminacion.

No abrir el equipo de control de iluminacion. No hay elementos a ser utilizados por el usuario.

Evite el contacto de liquidos con el equipo. Si llegara a suceder, apague el equipo de inmediato.

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GeniusPro Lightpalette

Operator's Guide

Lighting control operating software
v2.4

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GeniusPro and Lightpalette Operators Guide

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Offices and Service Centres

Phone numbers do not include country code or other international access data.

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Foreword

This manual describes the operation of the GeniusPro/Lightpalette software for the 500 and 300 lighting control consoles and show controllers. In order to simplify the operation of the 300 Series consoles, a number of keys relating to some more advanced features have not been included in the design of the operator interface (e.g., preloading of effects and setting bump modes). If you are a 300 Series user and require to use functions mentioned in this manual for which there are no keys, you can simulate the keys using a PC keyboard and the keyboard template at the rear of the manual.

Introduction

General

GeniusPro or *Lightpalette* operating software, together with *Tracker*, *Communiq Pro* and *Networker* application software, provide complete lighting control using Strand's 500 and 300 series consoles.

Familiarization and training courses using the software described in this manual are available from Strand Lighting and authorised dealers. Service and installation training on consoles, SN10X nodes and network systems is also available. Contact Strand Lighting or authorised dealers for further information.

Operating Software

The console can run in one of two modes, each with its own default setup properties and display options. The operating mode is factory set to *GeniusPro* or *Lightpalette*. However, you can change from one mode to the other in the *User Setup Screen*.

Standard Application Software

Tracker software supports advanced facilities for control of moving light fixtures and includes fixture libraries and preset focus groups. *Networker* software provides remote video, remote DMX via ethernet and access to all SN10X node ports. *Communiq Pro* software adds SMPTE, MIDI, MIDI Show Control, DMX input and external submasters. *Reporter* software monitors and reports on the status and load information of SV series dimmers.

Optional Software

Server software provides the facility to use a PC for central storage of show files and includes user logins, allowing individual user profiles to be used.

Loading Software

A 3.5" floppy disk drive is provided to load prerecorded light shows, additional channels, new applications and operating software upgrades. To load a show from floppy disk, refer to the *Archive* section. To load additional channels, applications, or upgrade software, refer to *Installation and Registration of Software* at the back of this manual.

Additional Documentation

More detailed information concerning operation of the software is available using the console on-screen help. A complete operating manual is also available on the CD supplied and on Strand Lighting's web site at <http://www.strandlighting.com/>

Document Conventions

- **[CLR]** (key name in square brackets) shows a key on the console or the optional alphanumeric keypad.
- **{DEFLT}** (key name in braces) shows a softkey.
- **<LIVE>** (key name in arrows) shows a key from the *Display* keypad.
- **<Wheel>** shows use of the level wheel.
- **#** indicates a numeric entry of one or more digit keys.



On-Line Help

To get help for the current display, press **<HELP>**. Once in help you can use the hyperlinks to move to referenced topics and the **{BACK}** and **{FORWARD}** softkeys to move to previously displayed topics. Alternatively, you can press the **{LINKS}** softkey to display the *Help Menu*. Using the softkeys you can gain access to **{USING HELP}**, **{CONTENTS}**, **{INDEX}**, **{GLOSSARY}** or **{QUICK REF}**. Press **<HELP>** again to turn off help and return to normal console operation.

Context-sensitive help is also available when in help by pressing any of the console keys or displayed softkeys.

Connecting a Mouse/ Trackball (300 Series Consoles)

When you initially connect a mouse to a 300 Series console, the mouse will not operate until you set the *Mouse Net Node* and *Port* fields in the *User Setup Screen*. To do this, press **<SETUP>** then press **[SHIFT] [0]** to enter cursor lock mode. You can then use the cursor keys on the console keypad to highlight the *Net Node* and *Port* fields and the **[+]** or **[-]** keys to set the options.

Channel Control Mode

Consoles will respond to channel control commands entered from the keypad and displayed on the command line at the bottom of each display. Commands can be a combination of hard keys and softkeys. The console can accept commands in three different formats, as follows:

Command Line (*Lightpalette* Default): Commands are mainly only carried out after you press **[*]**, although it is sometimes not required. In general, the syntax is action first, then object (for instance, **[RECORD] [CUE] [1][*]**). Channel levels are entered as a single-digit number (e.g. 1 = 10%). This can be followed by a second digit for fractions of 10%.

Direct 1 Digit (*GeniusPro* Default): Commands are carried out as soon as they are fully entered although the **[*]** key is required for some commands. In general, the syntax is object first, then action (for instance, **[CUE] [1] [RECORD]**). Channel levels are entered as a single-digit number (e.g., 1 = 10%). This can be followed by **[.]** and a second digit for fractions of 10%.

Direct 2 Digit: Commands are carried out as soon as they are fully entered although the **[*]** key is required for some commands. In general, the syntax is object first, then action (for instance, **[CUE][1][RECORD]**). Channel levels are entered as a two digit number (e.g., 25=25%).

Intensity and Attribute Channels

The operating software is capable of controlling the intensity of up to 6000 luminaires and up to 2000 controllable features (attributes) of lighting fixtures (600 and 400 respectively on 300 Series consoles). Unused intensity channels can be used as attribute channels making the system flexible enough to adapt to any lighting control requirement. The number of channels that can be controlled by your console depends on the model number and is displayed in the **Status** window of the *System Report Display* by pressing the **<REPORT>** key. However, you can increase the number of channels, up to the maximum, by purchasing additional channels in blocks of 50 or 200. Please contact Strand Lighting or your nearest authorized agent.

Apart from intensity, many modern luminaires will have a number of other functions, typically color scrolling, movement control (pan and tilt), focus and iris control, cyan-magenta-yellow color mixing, gobo control and often more. In control terms they are referred to as attributes of the luminaire. *Tracker* Software permits simultaneous control of up to 99 different attributes of one luminaire.

GeniusPro and Lightpalette use a decimal notation to identify the intensity and associated attributes of a luminaire. The value associated with each attribute is fixed and shown in the *Fixture Library*. This page shows that intensity is always attribute 1, color is 2, pan is 3, tilt is 4, etc.

If a luminaire is controlled by channel 1 (intensity channel), the channel intensity is referred to as 1.1 (Channel 1, Attribute 1). All other attributes of the luminaire are referred to as 1.2, 1.3, 1.4, 1.5, etc.

Important Note: If the number after the decimal point is omitted, the attribute is automatically assumed to be intensity. When referring to channel intensity, it is therefore only necessary to refer to the channel number (e.g., 6). All other attributes must have a decimal number (e.g., 6.3).

System Shutdown

Press **<REPORT>{EXIT}**. An *Exit Menu* is displayed providing the opportunity to save the show and/or setup, to exit and restart or to shutdown the system. If *Server* software is installed and Logins are enabled, you can log out by pressing **{LOGOUT}**. To shutdown the system, press **{SHUTDOWN} {SHUTDOWN}**. 500 Series consoles will display a shutdown screen, telling you to switch off the console. 300 Series consoles will display a shutdown screen and automatically shutdown the system.

Time Formats

The times used for fades, delays and waits are entered in minutes and seconds, or in seconds, tenths of seconds and hundredths of seconds.

Range	Value
0.01 - 59.99	Hundredth of a second
0.1 - 59.9	Tenth of a second
1 - 59	Seconds
1:00 - 59:59	Minutes /Seconds

VGA Monitors

500 Series consoles can operate with either one or two VGA monitors connected to the VGA1 and VGA2 connectors at the back of the console. An optional dual VGA card is available to enable up to a further two monitors to be connected. You can set the *Number Screens* field in the *User Setup Screen* to either 1, 2, 3 or 4.

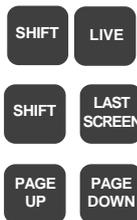
All Manual/Memory consoles and the Memory 250 console in the 300 Series have provision for one VGA monitor, as standard. Memory 400 and 600 consoles are supplied with two modular LCD displays, and the 120 Submaster console has provision for two VGA monitors. Optional video cards are available enabling expansion to two, three or four VGA monitors, or modular LCD displays.

When two monitors are used and the *Number Screens* field is set to 2, VGA2 displays the channel levels and is referred to as the *Channel Levels Screen*. VGA1 shows either one window or several windows, depending on the setting of the *Live Screen Layout* field in the *User Setup Screen*. When the <LIVE> key is pressed, the windows show the *Live* state of the *Playback*, *Submaster*, *Effects* or *Events*, or a combination of these windows, and is referred to as the *State Screen*.

If one monitor is used, and the <LIVE> key is pressed, the display area is split into a number of windows. The top window, shows the *Channel Levels* and the bottom window displays the same information as the *State Screen* described above.

When optional VGA video card(s) are fitted the extra monitors serve as extended Channel Levels Screens, enabling up to 3 pages of channel levels to be displayed.

The  Key
(300 Series Consoles Only)



The key with the Strand Logo on all 300 Series Consoles is the same as the [SHIFT] key on 500 Series consoles. The [SHIFT] key is shown in all examples throughout this manual.

Pressing [SHIFT] <LIVE> cycles through the *Live Screen* Layout options, without having to select the <SETUP> screen.

Pressing [SHIFT] [LAST SCREEN] will swap screens VGA1 and VGA2 (if applicable)

Pressing [PAGE UP] or [PAGE DOWN] serves to scroll the *Channel Level Screen(s)* to the next, or last page of channels.

Locking the Console
Faders and Keys



In order to avoid accidental changes to a show, you can lock the console faders and keys. Pressing [SHIFT] <HELP> will toggle between locked and unlocked. The display shows CONSOLE LOCKED in yellow with a red background on the title bar on the top of all screens when the console keys and faders are locked.

Output Connections

Each DMX connector can be set to control up to 512 outputs simultaneously, giving a maximum of 2048 outputs for consoles with four DMX output connectors. If enabled, AMX (192 outputs) or D54 (384 outputs) on 500 Series consoles only, will output the appropriate analogue signal.

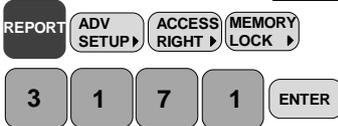
The output range and other parameters associated with the DMX/analog outputs and network DMX outputs is set in the *Output Connections* and *Network* windows of the *Console Setup Screen*.

Layout and Content of Live Screens

The layout and content of the *Channel Levels Screen* and the *Live State Screen* is dependant on the setting of the *Live Screen Layout*, *Channel Display*, *Smart Channel Display* and *Channel Formatting* fields in the *User Setup Screen*.

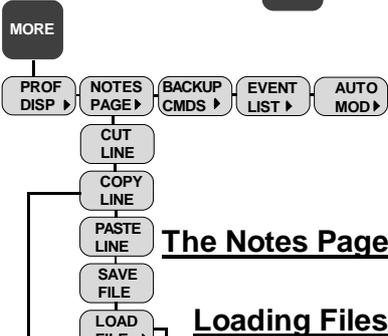
Locking the Console Memory

You can lock the console memory after a show has been recorded to prevent accidental changes being made to the show. Press **<REPORT>** **{ADV SETUP}** **{ACCESS RIGHTS}** **{MEMORY LOCK}** and type the password **[3] [1] [7] [1]** followed by **{ENTER}** to lock the console memory. Repeat this command to unlock the memory.



The MORE Key

Pressing the **<MORE>** key displays a menu, providing softkey access to the following functions:



The Notes Page

The *Notes Page* is an editable text file that allows you to leave notes for yourself or others.

Loading Files

Press **{LOAD FILES}** to load the current Notes Page or other files as shown.

Config Files

- {README FIRST}**: Non-editable information about your software.
- {ATC PAGE}**: Editable attribute control page assignment used when controlling moving light fixtures.
- {FIXT LIB}**: Editable Fixture Library containing attribute details of moving light fixtures used when patching fixtures.

Pressing **{CONF FILES}** provides access to a number if editable configuration files as follows:

- {NET CONFIG}**: Displays the network configuration file *220node.cfg* used to set up an Ethernet configuration (refer to *Networker Functions* in the *Operator's Manual* or *On-Screen Help*).
- {MAP CONFIG}**: Displays the map configuration file *220map.cfg* used during remapping of the console controls (refer to *Key, Wheel and VGA Remapping* in the *Operator's Manual* or *On-Screen Help*).
- {RACK CONFIG}**: Displays the rack configuration file *220rack.cfg* used by *Console Reporter* (refer to *Console Reporter* section. *Section 19*).

Patching Outputs to Channels

The Patch Screen

DISPLAY KEYS



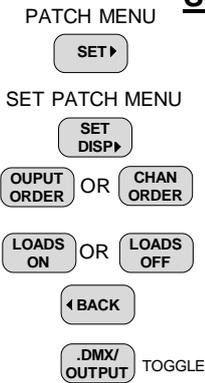
PATCH MENU



Press <PATCH> to display the *Patch Screen*. This screen enables you to patch intensity and attribute channels to specific outputs to suit the show requirements. Use the level wheel to scroll the *Patch Screen* to show each page. The current page is shown at the bottom of the *Wheel* window.

When you initially enter the patch screen, or when the patch is defaulted by pressing {DEFLT} {DEFLT}, all available intensity channels are patched to the same numbered output (e.g., 1:1 patch).

Customising the Patch Screen



You can choose to show the outputs and channels in channel order or output order using the {SET} {SET DISP} softkey combination to show the *Set Patch* LCD menu and the {OUTPUT ORDER} or {CHAN ORDER} softkeys to select the display format.

You can display learned loads on the *Patch Screen*. Only outputs patched to an intensity channels with learned loads will display a value. If a fault occurs on any dimmer, and the fault has not been filtered out, the output label will be displayed in red. If the fault is a load fault and the load fault has been learned, the value will also be displayed in red. (Refer to *Console Reporter* section. *Section 19*). To display the learned loads, press the {LOADS ON} softkey. To turn off the loads, press {LOADS OFF}. Press the {BACK} softkey to return to the previous menu.

Pressing {.DMX/OUTPUT} toggles between showing standard output numbers and output numbers in Universe.DMX Format.

Patching Intensity Channels

The default patch patches all intensity channels to the same numbered output. The following example shows how to patch a channel to a different numbered output.



Patches output 1 to intensity channel 3

Note: You can use either output numbers or Universe DMX formats in the command line to define outputs. [2] [.] [1] and [5] [1] [3] both specify output 513.

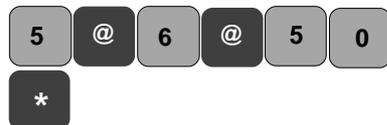
You can use a single intensity channel to control the intensity of a number of luminaires by patching a single channel number to a range of outputs as shown.



Patches outputs 1 through 6 to intensity channel 4

Scaling Factor

When you patch an intensity channel to an output, a default scaling factor of 100% is applied to the output. This means that the output will follow the level of the channel on a 1:1 basis. This default scaling factor is not displayed. You can specify a scaling factor between 0% (output disabled) and 200%. This scaling factor is shown in grey below the channel number. A scaling factor of 50% would cause an output of 50% of the current channel level. You can incorporate a scaling factor within a patch command or separately as shown below:



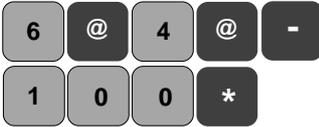
Patches output 5 to Intensity channel 6 and applies a 50% scaling factor.



Applies a 50% scaling factor to output 5

Inverting the Output Scaling

You can invert the output scaling value in relation to the % channel intensity level (e.g., for default scaling, 0% = 255 DMX and 100% = 0 DMX) as shown:

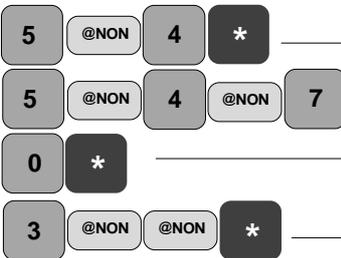


Patches output 6 to Intensity channel 4 and applies a 100% inverted scaling factor

Setting Outputs as Non-Dims

You can set an output such that it will only go to 100% when the intensity channel value reaches a preset threshold percentage, otherwise it will be at 0%. When an output is set as a non-dim the threshold value is displayed below the channel number in magenta with the letter 'N' attached.

Note: If no threshold value is entered, the default threshold is applied equal to the *Default N-Dim %* field of the *Patch* window of the *Show Setup Screen*.



Patches output 5 as a non-dim to channel 4 at default threshold.

Patches output 5 as a non-dim to channel 4 at a threshold of 70%

Changes output 3 to a non-dim set at default threshold

Patching Attribute Channels

You can patch individual attribute channels to specified outputs using the decimal notation for the attribute, or you can patch a complete moving light fixture using the `{@ FIXTURE}` command.

Patching Color Scollers

The `[@ATT]` or `[ATTRIB]` key is used as a quick method of patching the color attribute. In the example shown, `[@ATT] [1]` or `[ATTRIB] [1]` is the same as entering `[@] [1] [.] [2]`. The `[@ATT]` key can only be used to patch color attributes (attribute 2).



Patches attribute channel 1.2 (Color) to output 2 and applies a maximum frame of 8.

Note: Frame numbers start at 0. This means that a scroller with 16 frames has frames numbered from 0 to 15, and should have a maximum frame number of 15. The frame number is displayed in green below the channel number

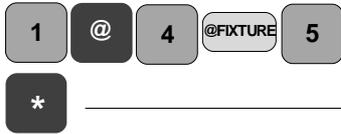
Patching Moving Light Fixtures

You can patch complete moving light fixtures using the *Fixture Library* and the `{@ FIXTURE}` softkey. The *Fixture Library*, `fixture.lib`, is a list of standard moving light fixtures manufactured by Strand Lighting and other manufacturers, and includes decimal notations for each attribute of each fixture. The file, which can be viewed and edited using the `[MORE] {NOTES DISP}{LOAD FILES} {FIXT LIB}` key combination, is produced by Strand Lighting and updated periodically as new fixtures become available on the market. If you wish to add a new fixture to the *Fixture Library* you can edit the `fixture.lib` file using the notes editor.

Note: Installing new operating software will overwrite any changes to the standard *Fixture Library*. The amended file will be saved as `fixture.old`. You can reinstate changes by renaming this file as `fixture.lib`.



When patching a moving light fixture to an output, a description of the selected fixture is shown below the command line. If you do not know the fixture number you wish to patch, you can browse through the Fixture List using the `[NEXT]` and `[LAST]` keys and press `[*]` to patch the displayed fixture. If you know the fixture number you wish to patch, you can enter it directly as shown:

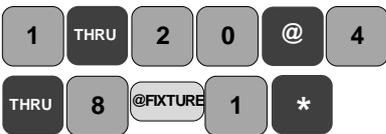


Patches channel 4 as fixture 5 starting at output 1

When a fixture is patched in this way, the channels are displayed on the *Patch Screen* in blue with the function of each attribute shown below the channel number. If the patch is in 'Output Order', the name of the fixture is shown in white above the channel number.

Range Patching of Fixtures

You can also perform multiple patching of fixtures as shown in the example:



Patches outputs 1 through 20 to channels 4 through 8 as fixture 1

Swapping and/or Inverting Pan and Tilt Output

Depending on the position of a fixture, you may need to swap and/or invert the pan and tilt outputs. This can be done while patching the fixture, or after the fixture is patched, as shown:



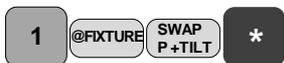
Patch fixture 3 to output 1 and swap the pan and tilt output



Patch fixture 3 to output 1 and invert the tilt output.



Patch fixture 3 to output 1 and invert the pan output.



Swap pan and tilt on output 1



Invert tilt on output 1

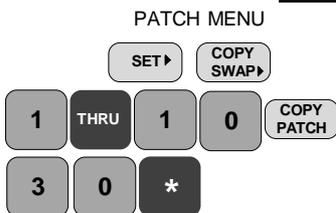


Invert pan on output 1

When the pan and tilt outputs are swapped, their direction of movement is reversed and their channel numbers are displayed in cyan to indicate the reversal. When you invert the pan or tilt outputs, a '-' symbol appears alongside the attribute to indicate the change.

Copying, Moving and Swapping Channels and Fixtures

In order to minimise the time taken to patch outputs to channels on large lighting installations, a *Copy Swap* menu is available. This menu is displayed on the LCD when the {SET} {COPY SWAP} softkeys are pressed. The *Copy Swap* menu enables you to copy, move or swap patches of outputs



Copies patch of outputs 1 through 10 to outputs 30 through 39



Assuming there are three fixtures patched to outputs 1 to 24 and you want to copy all three fixtures to start on output 62, you can copy as shown:



Copies fixtures patched on outputs 1 through 24 to start on outputs 62

You can move a patch from one output to another or from a range of outputs to another as shown:



Moves fixture starting on output 1 to start on output 18

You can also swap one patch for another as shown:



Swaps patch of output 1 with patch of output 8

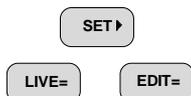


Swaps patch of outputs 1 through 8 with patch of outputs 33 to 40



Live and Edit Patches (500 Series Consoles Only)

PATCH MENU



500 Series consoles have two patch screens, 1 and 2. The *Patch Screen* always shows the *Edit Patch* and the *Live Patch* always controls the outputs. However, you can toggle the *Live* or *Edit Patch* from *Patch 1* to *Patch 2*, or vice versa, using the {EDIT} and {LIVE} softkeys on the *Set Patch Menu*. When both *Live* and *Edit* patches are the same, any changes made to the *Edit* patch are reflected directly on the console output. If the *Live* and *Edit* patches are different, changes made to the *Edit* patch have no effect on the output. The current *Live* and *Edit* patches are displayed on the LCD and *Status Window*.

Copying, Moving Swapping Patches Between Live and Edit Patch Screens



Copies patch of outputs 1 through 10 to the non-edit patch screen.

You can also copy the complete *Edit Patch* to the *Live patch* using the {COPY PATCH} softkey, as shown.



Copies the Edit Patch to the Non-Edit Patch.

Assigning Output Profiles

Any output can have a profile assigned to it. Profiles let you change the fade characteristics of the output. The assigned profile is displayed in red below the channel number. You cannot assign a profile to a non-dim output.

Since profiles are assigned to outputs rather than channels, you can use them to compensate for dimmers with different output curves, fixtures with different specifications for color frame start and stop location, gel strings that have stretched, and other output related differences. The following example shows how to assign a profile to an output. For further information on creating and editing profiles, refer to the *Profiles* section, *Section 10*.



Assigns profile 5 to output 1

Default Patching

You can set any output, range of outputs, or all outputs back to the default patch with default scaling. This command does not apply to patched fixtures.

2 1 DEFLT — Sets output 21 to default patch with default scaling

1 0 THRU 2 1 DEFLT — Sets output 10 through 21 to default patch with default scaling

DEFLT DEFLT — Sets all outputs to default patch with default scaling

Warning: This command sets the console back to the default state with only intensity channels patched. All attribute and non-default intensity channels will be deleted.

Patching Double Width Outputs

Some analog dimmer systems have double-width dimmer modules which take two consecutive output signals (for example, Strand CD80, which take single width 2.4K dimmers or double-width 6K or 12K dimmers). Refer to the Operator's Manual, or On-Screen Help for information on patching double width dimmers using the {**@6k 12k**} softkey. Double-width outputs are identified on the Patch Screen with a grey bar.

Patching DMX IN Channels

Communiq Pro provides the facility to accept DMX Input signals from an external source, e.g., an FX Desk, and to patch these signals to DMX outputs from the console. A user-selectable submaster fader is used to master the outputs. For further information on setting a submaster as a DMX Channel or Dimmer submaster. Refer to the *Submasters* section, Section 6.

1 THRU 1 0 @ + — To patch an output to a DMX input channel add [+] to the patch command as shown in the example.

5 THRU 1 4 * — Patches output 1 through 10 to DMX Input Channel 5 to 14, scaling unchanged.

All outputs patched to DMX input channels are displayed on the patch screen in magenta with a letter 'D' attached.

Channel Operations

Press the {CHAN} softkey to display the channel Menu

Deleting Unused Channels

The Status window on the Patch Screen shows the total number and the number of used and free intensity channels and attribute channels. If, during patching operations, you have used all the free attribute channels, you can either delete unused attribute channels and re-patch them to other attributes, or delete unused intensity channels and use them as attribute channels using the {DELETE CHAN} softkey available on the Channel Menu.

PATCH MENU
CHAN▶

CHANNEL MENU

1 . 5 THRU 1 . — Deletes attribute channels 1.5 through 1.12

1 2 DELETE CHAN DELETE CHAN

1 0 0 THRU 1 9 — Deletes intensity channels 100 through 199 - Intensity and all attribute channels

9 DELETE CHAN DELETE CHAN

Note: Deleted attribute channels cannot be used as intensity channels.

Unpatching a Patched Fixture

You can unpatch a patched fixture as shown. This will not delete the channel, only remove it from the patch.



Deletes fixture that starts on output 1

Renumbering Channels

PATCH MENU

CHAN▶

CHANNEL MENU

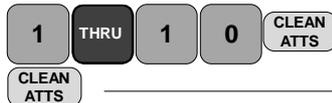


Renumbers channel 10 to 11

You may wish to renumber the channels so that they relate to known luminaire numbers. Press the {CHAN} softkey to display the *Channel Menu*. Select the channel to be renumbered, press the {RENUM CHAN} softkey and enter the new channel number, as shown:

Deleting Unpatched Attributes Channels

Unpatched attributes, resulting from unpatching a fixture can be removed using the {CHAN} softkey to display the Channel Menu, then the {CLEAN ATTS} softkey, thereby freeing the attribute channels for use elsewhere.



The {CLEAN ATTS} softkey is used to delete unpatched attribute channels. You must press the {CLEAN ATTS} softkey a second time to confirm the action.

Deletes unpatched attributes from channels 1 through 10.

Channel Levels

Setting the Channel Control Mode

Refer to *Introduction* section, *Channel Control Modes* for description. To set the Channel Control Mode, press the [SETUP] display key and set the mode, as required.

Screen Layout and Format

The layout of the *Channel Levels Screen* is determined by the setting of the *Channel Display*, *Smart Channel Display* and *Channel Formatting* fields in the *User Setup Screen*. The *Channel Display* field determines layout of the channels on the screen, whether or not attribute channels are shown and what other information is displayed. When the *Smart Channel* field is set to *Tracker* or *Tracker Preset* and only channels with attributes are selected, the *Channel Levels Screen* will automatically change to display the attribute values and place the attributes under control of the moving light controls. If a channel is selected that has no attributes, or the *Smart Channel* field is set to *Off*, the display will show the channels in the layout set in the *Channel Display* field. The *Channel Formatting* field sets the criteria governing which channels are displayed as follows:

OFF (default)	All defined channels are displayed.
AUTO	Only channels that have been used are shown.
COMPACT	Only channels that are On, or moved to zero at the last Channel Control or X Playback action, are displayed.
DISPLAY GROUP	Only channels defined in the special <i>Display Group</i> are displayed.
CHANNELS IN SHOW	Displays only channels used in cues, submasters and effects (not groups or macros) in the current show. The displayed channels are updated whenever any of the cues, submasters or effects are changed or deleted, or when a show file is loaded.

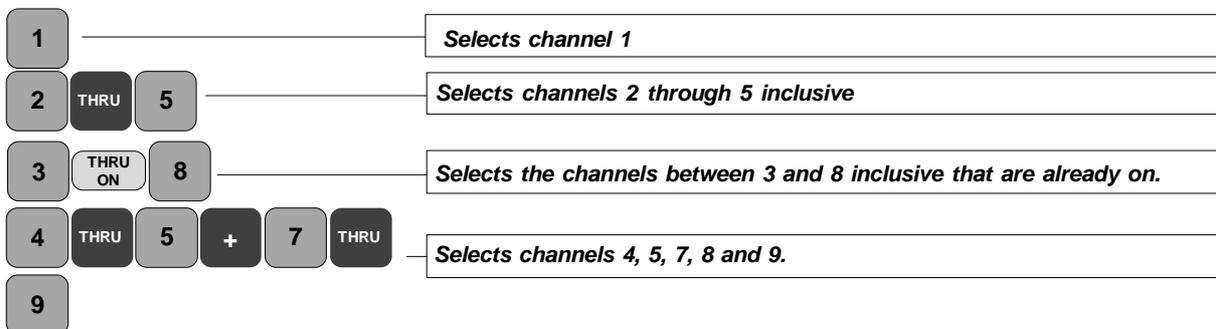
Identifying Channel Types

The color of the channel numbers on the *Channel Levels Screen* is as follows:

- **cyan** or **bright white** shows channels with intensity but no attribute.
- **magenta** shows channels with a non-dim intensity.
- **light grey** shows channels with an attribute.
- **dark grey** shows a channel not patched to an output.
- **red** shows a channel with one or more dimmers in a fault condition.

Selecting Channels

You can select an intensity channel or a range of channels using the *Channel Control* keys and set the intensity as part of the command, or by using the level wheel, as shown in the following examples. Selected channels are represented by **chans** in later examples.





Adds channel 10 to the previous selection.



Clears the current selection.

Setting Levels from the Keypad

Note: To set the levels of the current selection, omit **chans**. Always omit [*] when in Direct Action Modes.



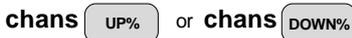
Sets the selected channels to the specified # level.



Increases the selected channels by the specified # level.



Decreases the selected channels by the specified # level.



Increases or decreases the selected channels by value of Up/Down%. To set Up/Down% value, press <SETUP> and change the value. Default is 5%.



Sets selected channels to Full (100%)



Sets selected channels to the ON level. To set the ON level, press <SETUP> and change the value. Default is 100%. To set an on level for each channel, set the channel level in the ON Level Group. This setting overrides the ON Level % setting.



Sets selected channels to zero.



Selects channels and sets all other channels to 0. If selected channels are all at 0 they are set to the ON level.

Setting DMX Levels

You can set the channel levels in DMX values, in the range 0 to 255, instead of percentage values.



Sets selected channels at DMX 51 (20%)

Using the Level Wheel

When in the Channel Levels Screen, moving the level wheel masters the intensity levels of the channels in the current selection.

To set how the wheel masters channels, press <SETUP> and set the *Wheel Mastering* field.

In SHAFT mode, each channel with a level moves up or down by the same amount.

In PROPORTION mode, each channel with a level moves up or down by an amount proportional to its level.



Sets intensity channel 1 under control of the level wheel

Levels cannot be wheeled over 100%, or below 0%, but will retain their relative proportions until you clear the selection; if you wheel them down again, the original proportions reappear. For example, two channels at 10% and 40% can both be wheeled up to 100% and then back down to 10% and 40%.

Setting Color Scrollers from the Keypad



Sets the color attribute of channel 1 (1.2) to frame 5



Sets the color attribute of channel 1 to DMX 51 (20%)

Note: The [**@ATT**] or [**ATTRIB**] key is used to set the color attribute only and is used as an alternative to **chan [.] attribute [2]**



Sets the color attribute of channel 1 under control of the level wheel

Controlling Intensity and Color Scrollers Using the Level Wheel and Rotary

Entering the channel number, followed by [*****], places the intensity channel under control of the level wheel and the color channel under control of the top (white) rotary control. A course control of the color scroller is provided by holding down the centre softkey above the trackball. (See also *Setting Attributes Using a Mouse/Trackball*, page 14)

Setting Non-Color Attributes Using the Level Wheel

You can set the levels of individual attribute channels or individual attribute channels of patched fixtures using the keypad or level wheel. Set the *Smart Channel Display* in the *User Setup Screen* to *Tracker* or *Tracker Preset*.



Sets the pan attribute of channel 1 to 50% and displays the Smart Channel Display showing intensity and the pan attribute, with the pan attribute under control of the level wheel

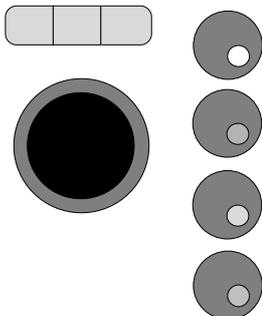


As above, but sets the pan attribute of channel 1 to DMX 51 (20%)



Note: Whenever the [*****] key is pressed in the above commands the pan attribute of channel 1 is set to the specified value and is directly under control of the level wheel.

Setting Multiple Attributes Using the Rotary Controls (500 Series Consoles only)



If the *Smart Channel Display* field in the *User Setup Screen* is set to *Tracker* or *Tracker Preset* you can select a channel with multiple attributes, or a channel with a patched fixture to be displayed in **Smart Channel** format with the attributes being controlled by the trackball and rotary controls, or intelli-trackball. All attributes in the display are numbered and named in accordance with the *Attribute Control Page Assignment (ATC Page)* and color coded as follows:

- White on Red Background:** Intensity channel under control of the level wheel.
- Black on Yellow Background:** Pan and tilt attributes under control of the trackball. Left/right movement = Pan, up/down movement = tilt.
- White on Grey Background:** Attribute under control of white rotary control.
- Blue on grey background:** Attribute under control of the blue rotary.
- Red on grey background:** Attribute under the control of red rotary.
- Magenta on grey background:** Attribute under control of magenta rotary.

Setting Attributes Using a Mouse/Trackball (Standard on 300 Series)

Note: The left and right unmarked softkeys above the trackball are used to step through the list of attributes on the ATC page, thereby assigning the colored rotary controls to the various attributes. Pan and tilt are always controlled by the trackball and intensity is always controlled by the level wheel. Pressing and holding the centre unmarked softkey above the trackball applies a coarse adjustment. Pressing the right and centre softkeys together will lock the pan and pressing the left and centre keys will lock the tilt function.

A mouse/trackball can be used to perform the functions of the trackball, rotaries and trackball softkeys as previously described. The mouse must be connected and the mouse port set in the *User Setup Screen*. The number of functions performed by the mouse depend on the type of mouse, as follows:

2-button mouse: Performs the X and Y functions of the trackball (pan and tilt). The left and right buttons are used to select the *ATC page Assignment*.

3-button mouse: As above. Pressing the centre button and moving the mouse left or right changes the value of the selected attribute. Pressing the middle button and left button together will lock the tilt function and pressing the middle button and right button together will lock the pan function.

Intellimouse and Intellitrackball (Logitech or Microsoft): The ball and left and right buttons perform the same functions as the two-button mouse. The wheel varies the highlighted attribute up or down. Turning the wheel, while holding the wheel button depressed applies the coarse adjustment mode. Pressing the middle button and left button together will lock the tilt function and pressing the middle button and right button together will lock the pan function.

Copying Channel Levels

You can copy intensity and attribute levels from one channel to one or more other channels. This is useful when setting fixture levels, where one channel can have multiple attributes.



Copies levels of intensity and all attribute channels from channel 5 to channel 9.

Flashing Channel Levels

chans {FLASH} sets the level of the selected intensity channels to the level of the Flash Supermaster while the **{FLASH}** softkey is pressed. If no Flash Supermaster is used, the flash level is defaulted to 100%. When the **[SHIFT]** key and **{FLASH}** softkey are pressed together, the selected channels go from their current level to 0% while the **{FLASH}** softkey is pressed.



Flashes intensity channel 1 to 5 from current level to 100% while {FLASH} is pressed.



Flashes intensity channel 1 to 5 from current level to 0% while {FLASH} is pressed.

Bumping Channel Levels

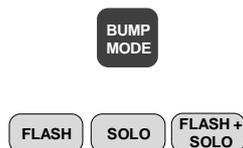
You can use the **{BUMP}** softkey to bump the current channel selection in the mode set by the **[BUMP MODE]** key and associated softkeys.

Press **[BUMP MODE]** to check the current setting. The settings are displayed on the console LCD.

Note: You can simulate the function of the **[BUMP MODE]** key on 300 Series consoles by pressing capital V on the external keyboard.

The right three softkeys determine the operation of the submaster bump buttons (refer to *Submaster* section, *Section 6*). The left three softkeys determines what happens when you press the **{BUMP}** softkey.

{FLASH} sets the **{BUMP}** softkey so that the selected intensity channels go to the level set by the Flash Supermaster (refer to *Submaster* section). If there is no Flash Supermaster, the bump level is 100%.



{SOLO} sets the {BUMP} softkey to turn off unselected intensity channels without changing the levels of the selected channels. If previously set to {KEYS LATCH}, setting the bump mode to {SOLO} will automatically set the submaster bump key mode to {KEYS ON}

{FLASH} + {SOLO} sets the {BUMP} softkey so that the selected channels go to levels set by the Flash Supermaster and all other channels are set to off. If there is no Flash Supermaster, the bump level is 100%.

1 THRU 5 BUMP ————— **Bumps selected channels as set by bump mode.**

Fading In Intensity Channel Levels

You can set a channel selection to reach the set levels over a period of time using the [TIME] key as shown.

1 THRU 3 TIME 5 @ ————— **Sets channels 1 to 3 inclusive from current level to 50% over a period of 5 seconds. (Direct Action Modes). Time must be specified as 2-digit for Direct 2 Digit Mode.**

5

1 THRU 3 @ 5 TIME ————— **Sets channels 1 to 3 inclusive from current level to 50% over a period of 5 seconds. (Command Line Mode).**

5 *

Fading In Attribute Channel Levels

You can fade in attribute channel levels in the same way as for intensity channels.

1 . 3 TIME 5 @ ————— **Moves the channel 1 luminaire pan to 60% over a period of 5 seconds. (Direct Digit Modes)**

6

1 . 3 @ 5 TIME ————— **Moves the channel 1 luminaire pan to 60% over a period of 5 seconds. (Command Line Mode)**

6 *

Fading In Intensity & Attribute Channel Levels in Default Time

You can fade in intensity or attribute channel levels without specifying a fade time. In this case, the *Undo Time* set in the *User Setup Screen* is used as the default fade time. The default value for the *Undo Time* is 2 seconds.

3 TIME @ 5 ————— **Sets channels 3 from current level to 50% over a period determined by the setting of the Undo Time. (Direct Action Modes)**

3 @ 5 TIME * ————— **Sets channels 3 from current level to 50% over a period determined by the setting of the Undo Time. (Command Line Mode).**

1 . 2 TIME @ 5 ————— **Moves the channel 1 luminaire color to frame 5 over a period determined by the setting of the Undo Time. (Direct Action Modes)**

1 . 2 @ 5 TIME ————— **Moves the channel 1 luminaire color to Frame 5 over a period determined by the setting of the Undo Time. (Command Line Mode)**

*

1 or 2-Scene Preset

All 300 and 500 series control desks can be set up to operate as a conventional single, or two scene preset lighting desk, with or without a submaster bank.

Operational Modes

PB
MODE

300 Series only

CTRL A

500 Series

300 series control desks are provided with two [PB MODE] keys, which are used to set the functions of the two X Playback faders. 500 series consoles have no PB Mode key. The keyboard equivalents are Ctrl A and Ctrl B. The options are as follows:

Pressing the appropriate [PB MODE] key (300 Series Consoles) or Ctrl A/Ctrl B (500 Series Consoles) will display the following LCD softkey menu for the playback.

Note: you must press the appropriate [PB MODE] key, or Ctrl A/Ctrl B to return to Live mode after you have selected the playback mode.

X2 Playback

{AUTO FADE} GeniusPro/Lightpalette normal operating mode (refer to X Playbacks section).

{MAN FADE} GeniusPro/Lightpalette manual operating mode (refer to X Playbacks section)

X1 Playback

{1 SCENE 24 SUB} where the maximum faders is the number of faders less 24
{2 SCENE 24 SUB} where the maximum faders per scene is the number of faders less 24 divided by 2

{1 SCENE 0 SUB} where the maximum faders is the total number of faders.

{2 SCENE 0 SUB} where the maximum faders per scene is the number of faders divided by 2.

{AUTO FADE} GeniusPro/Lightpalette normal operating mode (refer to X Playbacks section).

{MAN FADE} GeniusPro/Lightpalette manual operating mode (refer to X Playbacks section)

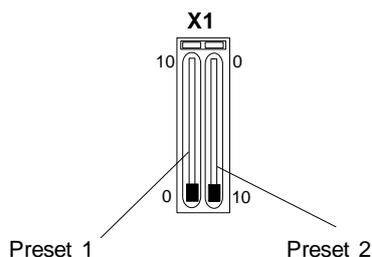
The selected preset mode for X1 Playback is shown in the submaster window of the Live Screen. Submaster faders dedicated to channel faders are shown in black.

Note: For 530 and 550 series consoles, the six supersubmaster faders are not included in the faders available for single scene or two-scene preset.

Single-Scene Preset

The single-scene presets offer a larger channel capacity using the Auto Hold feature to set up a blind scene as in a normal 2-scene preset desk. Channel faders always correspond numerically to the lowest numbered faders.

Single Scene Preset uses the Auto Hold feature of the X Playback faders, as shown in the following example:

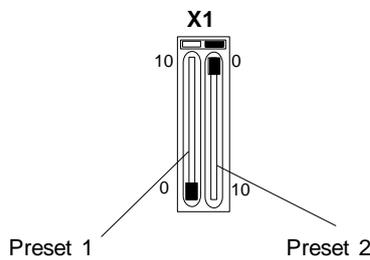


1. Ensure that the 1 and 2 Preset master faders are completely in the home position (as shown) and that all channel faders are at zero..
2. For the purposes of the example, ensure that the time faders are set to zero in order to see the instantaneous response when cross fading.
3. Set faders 1 through 4 to 8 (80%)
4. Move the Preset 1 and Preset 2 faders together to the top. Scene 1 fades in on stage.
5. Move Preset 2 down to zero to hold the scene in memory (on stage)
6. Move Preset 1 down to start to set the next scene.

7. Set faders 1 through 2 to zero, fader 3 to full, fader 4 to 5 (50%) and faders 5 through 6 to 8 (80%)
8. Move the 1 and 2 Preset faders back up to the top position. This crossfades between scene 2 and the live scene on the preset faders.

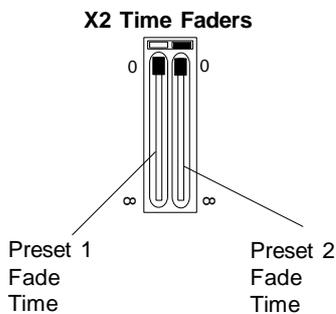
Note: The Preset Faders will only 'pick up' and gain control of the channel faders after they have been moved to the zero (fully down) position. When a scene is on stage, you can modify the scene by moving the channel faders (including adding/removing channels). When the scene is held, by moving Preset 2 to zero, you can add channels to the scene, and increase the levels of existing channels, but you cannot decrease the levels of existing channels, or remove existing channels.

Two-Scene Preset



When set to Two Scene Preset Mode, half of the channel faders are controlled by the Preset 1 fader and the other half by Preset 2 fader. Similarly, the fade times for each scene are controlled by the time faders. A dipless cross fade between scene 1 and scene 2 is achieved by moving both Preset Faders together. Scene 1 is indicated on 300 Series consoles by a red LED. Scene two is indicated by a green LED. Both scenes are indicated by green LEDs on 500 Series consoles.

Time Faders



You can set the fade time between 0 and 59min, 59 secs for Preset 1 and Preset 2 using the X2 faders on 500 Series consoles or the separate time faders on 300 Series consoles. When set to zero, the fade time is governed by the rate at which the Preset 1 and Preset 2 faders are moved manually. When set to a value greater than zero, the fade time for each Preset Fader is the individual fade times set by the time faders.

Cues & X Playbacks

What Are Cues

Cues are recorded lighting states containing intensity levels and/or attribute levels. Cues are normally run in sequence from the Cue Sheet (see below). However, you can manually select and run cues in any order, or set cues to automatically run in a preset order.

The Cue Preview Displays

Pressing the **<PREVIEW>** key will display the *Preview Sheet - Cue Sheet* mode (*Lightpalette*) or the *Cue Sheet - Spread Sheet* mode (*GeniusPro*). *Lightpalette* and *GeniusPro* have both *Spread Sheet* and *Cue Sheet* modes. *Cue Sheet* is an ordered list of all recorded lighting states used during playback to monitor the progress of cues. *Spread sheet* shows the detailed setup of each cue.



When in the *Cue Sheet* mode, you can change to the *Spread Sheet* mode and vice versa by means of the **{CUE SHEET}** **{SPREAD SHEET}** softkey toggle.

5

Identifying the Current Cue

The current cue number is shown on the Cue Sheet, or Spread Sheet when the **<PREVIEW>** key is pressed. In addition, the current cue is identified on the cue list on both displays by a cursor (>). In Spread Sheet mode, the current cue number is also highlighted in white on a red background.

If the *Show Last Recorded Cue* field in the *User Setup Screen* is set to *On*, the last recorded cue is shown in red at the bottom of the screen in *Cue Sheet* mode and at the bottom of the *X Playbacks* window of the *State Screen*

Numbering Cues

Cues can have multiple parts, each part being a different lighting state. When a cue has more than one part, all parts are run simultaneously. If a part number is not specified in the command line, the cue is assumed to have only one part (Part 1). Cues are numbered with one decimal point, (whole number cues are assumed to have a decimal point of 0). Cues can be numbered from 0.1 min to 999.9 max. You can insert cues between whole numbered cues, e.g 1, 2, 2.1, 3, etc.

Recording Cue Levels

You can record the levels of intensity and attribute channels displayed on the *Live Screen* as the current cue or as a specific cue number using the **[CUE]** and **[RECORD]** keys as shown.

	_____	Records current Live Screen levels as the current cue (Direct Action Modes)
	_____	Records the current Live Screen levels as the current cue (Command Line Mode)
	_____	Records current Live Screen levels as Cue 1 (Direct Action Modes)
	_____	Records current Live Screen levels as Cue 1 (Command Line mode)

Note: Cue 0 is a blackout cue and cannot be modified or deleted, but can be played back.

Note: Changing levels in the *Cue Preview* display will automatically record the levels in the currently displayed cue.

Recording Cue Parts

You can record a cue part as shown:

	_____	Records the levels from the current Live Screen as cue 1 part 2. (Direct Action Modes). [PART] is a hard key on 300 Series consoles.
	_____	Records the levels from the current Live Screen as cue 1 part 2. (Command Line Mode). [PART] is a hard key on 300 Series consoles.

Recording Cues without Submasters and Effects



Note: Omitting the part number automatically records the levels as Part 1.

When in the *Live* screen, you can use the **[REC-SUB]** on 500 Series Consoles or **[SHIFT] [RECORD]** on 300 Series consoles to record a cue without including any channel levels from submasters and effects.

Recording Only Intensity or Attribute Levels

You can record only the intensity levels or only the attribute levels on the *Live* Screen to a cue as shown:



Records Intensity only levels from the current Live Screen as the current cue. (Direct Action Modes)



Records Attribute only levels from the current Live Screen as the current cue. (Command Line Mode)



Records Intensity only levels from the current Live Screen as Cue 1 (Direct Action Modes)



Records Attribute only levels from the current Live Screen as cue 1. (Command Line Mode)

Note: If the softkeys **{INTS ONLY}** and **{ATTS ONLY}** are not displayed (520 and 300 Series consoles), you must include the **[REC MODE]** key in the syntax, e.g.,

[CUE] [1] [REC MODE] {INTS ONLY} [RECORD] (Direct Action Modes) or **[RECORD] [CUE] [1] [REC MODE] {ATTS ONLY} [*]** (Command Line Mode)

Recording / Editing Cue Properties

Default wait, fade and delay times, as set up in the *Cue Fade Up/Down*, *Cue Delay Up/Down* and *Cue Wait* fields of the *Default Times* window of the *User Setup Screen* are applied to all new cues unless a specific value is specified as part of the record command. Recording a new cue sets it with no profile, links, loops or commands. When you record a cue, and a cue with the same number already exists, a warning is displayed, requiring you to press the last key again to over-record the cue. Over-recording does not change the previously setup properties.

Using the key commands, you can record cues and cue properties from any screen, except the *Setup*, *Archive* or *Help* screens. Alternatively, when the *Cue Spread Sheet* is displayed, you can edit the cue properties by firstly holding down the **[SHIFT]** key and moving the trackball to change the properties from yellow (non-edit mode) to green (edit mode), then using the trackball to highlight the field to be edited (white on red background). You can then edit the selected field using level wheel or **[+]** and **[-]** keys. You can enter a value from the keyboard for all time fields and for loop and link fields. To return to non-edit mode, press **[*]**.

Cue Text

You can include an on-screen name for each cue using the **[TEXT]** key and entering text from the external keypad, as shown. The same command with no text entered from the external keypad, will remove any previously recorded text.



Adds the text 'Door' to cue 1 (All Modes)

Cue Types (see also Cue Tracking)

Unless otherwise specified, the console records all cues as **Cross Fades** when in *GeniusPro* mode and as **Tracking Cues** when in *Lightpalette* mode.

Move Fade (*GeniusPro*) or **Tracking Cue** (*Lightpalette*) Changes the level only when the next cue specifies a level change for the channel, otherwise levels remain the same (see example)

Example 1 - Move Fade

Cue 1

1	2	3	4	5	6	7	8	9
		FL	FL		50	50	40	75
Chan								
1	2	3	4	5	6	7	8	9
0%	0%	FL	FL	0%	50%	50%	40%	75%

Cue 2

1	2	3	4	5	6	7	8	9
FL	FL				0			FL
Chan								
1	2	3	4	5	6	7	8	9
FL	FL	FL	FL	0%	50%	0%	40%	FL

Example 2 - Cross Fade

Cue 1

1	2	3	4	5	6	7	8	9
		FL	FL		50	50	40	75
Chan								
1	2	3	4	5	6	7	8	9
0%	0%	FL	FL	0%	50%	50%	40%	75%

Cue 2

1	2	3	4	5	6	7	8	9
FL	FL				0			FL
Chan								
1	2	3	4	5	6	7	8	9
FL	FL	0%	0%	0%	0%	0%	0%	FL

Cross Fade (*GeniusPro*) Changes all levels from one cue to the levels in the next cue so that the levels on stage are the levels of the next cue only (see example).

All Fade (*GeniusPro and Lightpalette*) is the same as Cross Fade, except that when it runs, it takes control of channels set by the other X playback. It is only used when the *Playbacks* field in the *Show Details* window of the *Show Setup Screen* is set to *Dual HTP*.

Soft Block Cue (*Lightpalette*) **Block Cue** (*Genius Pro*) records explicit levels for all channels so that changes made to previous cues do not track into the cue. To set individual channels tracking, set them off in the *Cue/Preview* display. Once set to off, channels in a **Soft Block Cue (Block Cue)** will track changes in previous cues.

Hard Block Cue (*Lightpalette*) records explicit levels for all channels so that changes made to previous cues are blocked. To set individual channels tracking, set them off in the *Cue/Preview* display. Unlike Soft Block Cues, once the selected channels are matched to the previous cue, they are once again blocked.

Track Thru Cue (*Lightpalette*) When cues are recorded, only the levels that changed in the cue are remembered. If you change a level in a cue, and that cue level wasn't changed for the rest of the show, the new level will "track" through the entire show. By default, Lightpalette records all cues as Tracking Cues.

You can record a cue as a specific type using the **[RECORD]** command or edit an existing cue as shown:



Records levels in Live Screen in current cue and sets cue type to Move Fade (Direct Action Modes)



Changes cue type of cue 3 to All Fade (All Modes)



Records levels in Live Screen in Cue 5 and sets type to Soft Block (Command Line Mode)

Cue Tracking

Since Cross Fades, All Fades and Block Cues record all channels, whether they change or not, to change levels in a series of such cues you must re-record each one of the cues.

Move Fade and Tracking Cues, on the other hand, are easy to modify. When the *Cue Tracking* field in the *Show Setup Screen* is set to ON, all level changes track through subsequent cues to wherever the channel level is next changed. If you want to avoid level tracking when you subsequently modify cues, you can set the *Cue Tracking* field to THIS CUE ONLY. In this mode, level changes are recorded into one cue and do not track through to subsequent cues. When the *Cue Tracking* field is set to OFF (*GeniusPro* option only), cues are recorded as Cross Fades unless explicitly recorded as another type.

The **[Q ONLY/TRACK]** key overrides the state of the *Cue Tracking* field from ON to THIS CUE ONLY or from THIS CUE ONLY to ON for a single cue. It can be used in record commands as shown



Records current levels to cue 5 and sets Cue Tracking to This Cue Only. (Direct Action Mode)



Records current levels to cue 5 and sets Cue Tracking to This Cue Only. (Command Line Mode)

Cue Fade Times

The fade up and fade down times are the times taken for the channels in a cue to reach their recorded level. When you press the [GO] key to run a cue, any channels in the cue that require to increase their intensity will do so in the set up time. Any channels that require to decrease their intensity will do so in the set down time.

TIME 8 RECORD — **Sets Up and Down fade time of current cue to 8 seconds (Direct Action Mode)**

CUE 2 CROSS FADE TIME 8 RECORD — **Records current levels in cue 2, sets type as Cross Fade and Up and Down Fade Time as 8 seconds. (Direct Action Mode)**

RECORD CUE 3 HARD BLOCK TIME 8 * — **Records current levels in cue 3, sets the type as Hard Block and Up/Down Fade time as 8 seconds. (Command Line Mode)**

To record separate Up and Down Fade Times, use two time values separated by [/]. You can also specify a manual fade using the {OFF/MAN} softkey.

CUE 2 TIME 3 / 6 * — **Changes the Up fade time of cue 2 to 3 seconds and the down fade time to 6 seconds (All Modes)**

You can assign an attribute fade time to a cue as shown:

CUE 2 @ATT TIME 3 * — **Assigns a fade time of 3 seconds to the attributes associated with cue 2**

Delay Times

Using the [DELAY] key, you can record a delay time into the cue. This is the time from pressing the [GO] key until the cue starts running. To enter separate Up and Down Delay Times, use two times separated by [/].

CUE 2 DELAY 5 RECORD — **Records the current levels in cue 2 and applies an Up/Down Delay time of 5 seconds. (Direct Access Mode)**

RECORD CUE 4 DELAY 3 / 6 * — **Records the current levels in cue 4 and applies an Up Delay time of 3 seconds and a Down Delay time of 6 seconds (Command Line Mode)**

CUE 8 DELAY 4 * — **Changes the Up/Down Delay Time of Cue 8 to 4 seconds (All Modes)**

Wait Time

Inserting a wait command when recording a cue assigns a wait time to the cue. This is the time from the start of the cue you are recording until the start of next cue which is started automatically. In cues with parts, the wait time applies to the whole cue and is taken from part 1.

CUE 2 WAIT 5 RECORD — **Records the current levels in cue 2 and applies a wait time of 5 seconds. (Direct Access Mode)**

RECORD CUE 4 WAIT 6 * — **Records the current levels in cue 4 and applies a wait time of 6 seconds (Command Line Mode)**

CUE 8 WAIT 4 * — **Changes the wait time of Cue 8 to 4 seconds (All Modes)**

Assigning a Fade Profile

You can assign a fade profile to a cue. Enter separate Up and Down intensity profiles by entering two profile numbers, separated by the [/] key. For information on creating a profile, refer to the *Profiles* section, *Section 10*.

CUE 2 PROFILE 6 RECORD

Records the current levels in cue 2 and applies the fade Profile 6 to the Up and Down fades. (Direct Action Mode)

RECORD CUE 3 PROFILE 6 /

8 *

Records the current levels in cue 3 and applies an Up Fade Profile of 6 and a Down Fade Profile of 8 (Command Line Mode)

CUE 4 PROFILE 3 *

Applies Profile 3 to the Up and Down Fade Time on cue 4 (All Modes)

You can assign a profile to the attributes using the [@ATT] or [ATTRIB] key as shown.

CUE 3 @ATT PROFILE 7 *

Assigns an attribute profile 7 to cue 5 (All Modes)

Assigning an Effect to a Cue

You can assign an effect to a cue using the [FX] key. You can optionally include [+] in the cue command to start the effect in one cue and [-] in a cue command in another cue to stop the effect.

CUE 1 FX + 3 *

Assigns the starting of effect 3 to cue 1 (All Modes)

CUE 2 FX - 3 *

Assigns the stopping of effect 3 to cue 2 (All Modes)

When an effect is assigned to a cue a 'F' appears in the **Cmd** field alongside the effect number to indicate starting the effect or a 'f' to indicate stopping the effect. For more information on effects, refer to the *Effects* section

Assigning a Macro to a Cue

You can assign a macro to a cue so that when the cue is run, the macro is started.

CUE 3 MACRO 8 *

Assigns macro 8 to cue 3 (All Modes)

When a macro is assigned to a cue 'M' appears in the **Cmd** field alongside the macro number.

Using Links, Subroutines and Loops

Cues normally run sequentially from the beginning of the cue sheet to the end. Links, Subroutines and Loops can be used to run cues non-sequentially. These can only be applied to the first part of a cue. Refer to the Operator's manual, or On-Screen Help for information on Links, Subroutines and Loops.

Deleting Cues

The {DELETE} softkey appears on the LCD *Cue/Preview Menu* and deletes the current cue part. Alternatively, you can enter the cue(s), or cue part number(s), followed by delete, to delete a selected cue or range of cues, or cue parts from the cue sheet.

DELETE DELETE

Deletes current cue part (All Modes)

CUE 6 DELETE DELETE

Deletes cue 6, Part 1 (All Modes)

CUE 6 PART 2 DELETE

Deletes cue 6, Part 2 (All Modes)

DELETE

Renumbering Cues

After deleting a cue, you can renumber remaining cues starting at cue 1 using the **{RENUM}** softkey on the *Cue/Preview* menu, or you can renumber cues starting **{FROM}** a specified cue number, as shown.

RENUM	RENUM	—————	Renumbers all cues starting at cue 1 (All Modes)		
CUE	9	RENUM	RENUM	—————	Renumbers all cues from cue 9 (All Modes)
CUE	4	FROM	6	—————	Renumbers all cues starting from cue 4 to new numbers starting from cue 6 (All Modes)
RENUM	RENUM				

Copying Cue Levels

You can copy the levels, parts, attributes and all settings in the current *Cue/Preview* display to another cue using the **[RECORD]** key as shown. Alternatively, you can copy the current cue levels in the *Cue/Preview* display to a submaster, group or effect step.

CUE	6	RECORD	—————	Copies cue in current Cue/Preview display to cue 6 (Direct Action Mode)	
RECORD	CUE	6	*	—————	Copies cue in current Cue/Preview display to cue 6 (Command Line Mode)
SUB	4	RECORD	—————	Copies cue in current Cue/Preview display to sub 4 (Direct Action Mode)	
RECORD	SUB	4	*	—————	Copies cue in current Cue/Preview display to sub 4 (Command Line Mode)
CUE	3	@	COPY FROM	CUE	
4	*	—————	Copies cue 4 to cue 3 (All Modes)		

You can copy the levels, parts, attributes and all settings while in any preview display using the **{COPY FROM}** softkey, as shown.

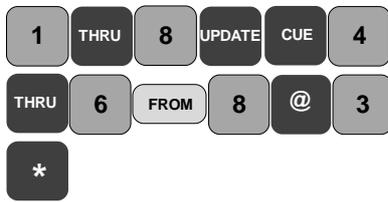
Updating and Adding to Cues

The **[UPDATE]** key can be used to update a recorded cue from the *Live Screen*, reflecting any changed levels in the specified cue, including channels not already in the cue.

UPDATE	CUE	6	*	—————	Updates cue 6 to reflect changes in cue 6, adding channels that are not already in the cue (All modes)	
1	THRU	5	UPDATE	CUE	1	
*	—————	Changes channel 1 through 5 levels in cue 1, adding channels that are not already in the cue. (All Modes)				
1	THRU	8	UPDATE	CUE	4	
THRU	6	@	8	*	—————	Sets channels 1 to 8 at 80% (requires an extra '0' for Direct Digit 2 Mode) and updates cues 4 to 6 to new levels. (* not required in Direct Digit Modes)

Note: You can use the **[+]** or **[-]** keys or the **{FULL}** or **{OFF}** softkeys instead of specifying a level, or you can specify a DMX value using the **{DMX}** softkey.

By entering a channel or range of channels in the update command you can update a recorded cue from the live display to include changes made to specified channels.



Using the **{FROM}** softkey, you can update cues to only change the levels of channels at a specified level to a new level.

Sets channels between 1 and 8 whose level is at 80% to 30% and updates cues 4 to 6. (Requires an extra '0' when specifying channel levels in Direct 2 Digit Mode. * not require in Direct action modes)

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Updates cue 6 to reflect changes only in channels already in cue (All modes)

The Cue X Ref Display



To show the *Cue X Ref* display press **<PREVIEW>** in the *Display* keypad and then the **{X REF}** softkey. This also puts the *State* screen into *Spread Sheet* mode. This display shows fewer channels at a time, but lets you easily see how channels are being used in successive cues.

To move to different channels in the same page of cues, use the **{LEFT}** and **{RIGHT}** softkeys to select the channels you want to modify. To go to a channel on a different page, press **[PAGE DOWN]** or **[PAGE UP]** or type in the channel number followed by the **{CHAN}** softkey.

To move to a new page of cues, use the trackball or the level wheel or press **[CUE]** followed by the cue number then **[*]**. If the cue does not exist, you will be warned that you are creating a new cue.

Using X Playbacks

Press **<LIVE>** to show the *Live Screen*. If the *State Screen* does not show the *X Playbacks* window, hold down the **[SHIFT]** key and press **<LIVE>** repeatedly until it appears, or press **<SETUP>** and set the *Live Screen Layout* field.

There are two X Playbacks (X1 and X2), each with their own keys and fades. Each X Playback runs cues in numerical order unless you load a cue out of order using **[LOAD]**, **[CUT]** or **[GOTO]** or use links, subroutines and loops to change the order.

Setting the X Playback(s)

The *Playbacks* field in the *Show Setup Screen* determines the layout of the playback window in the *State Screen*. To set the number of playbacks and their mode, press **<REPORT>** **{ADV SETUP}** **{SHOW SETUP}** and set the *Playbacks* field to one of the following.

- SINGLE:** There is only one cue list and only the X1 Playback is enabled.
- SPLIT SINGLE:** There is only one cue list but both playbacks are enabled. Levels from playbacks are combined in a latest takes preference basis.
- DUAL LTP:** There are two cue lists and both playbacks are enabled. Levels from playbacks are combined on a latest action takes preference basis.
- DUAL HTP:** There are two cue lists and both playbacks are enabled. Intensity levels from playbacks are combined on a highest takes preference basis. Attribute levels are combined on a latest takes precedence basis.

Inserting **[PB] #** into a cue record command assigns the cue to the specified playback. In multi-part cues, the playback set in Part 1 is used. If the console is set for a single playback, this assignment has no effect. To delete a playback assignment, omit the playback number.



Records current levels in Live Screen to Cue 1 and assigns cue to Playback 2 (Direct Action Mode)



Records current levels in Live Screen to Cue 1 and assigns cue to Playback 2 (Command Line Mode)

Customising the X Playback Window

Press <SETUP> to show the *User Setup Screen* and set the layout of the *X Playback* window as follows:

X Playback Colours: Sets the colours used in the *X Playback* window of the Live display.

X Playback Order: Sets how cues are displayed in the *X Playback* window of the *State Screen* in the order they were executed and recorded.

X Playback Format: Sets how cues are displayed in the *X Playback* window of the *State Screen*.

Show Last Recorded Cue: Shows the last recorded cue in red at the bottom of the *X Playback* window of the *State Screen*.

Running Timed Cues



At power-up, each playback is positioned on the cue which was the current cue when you shut down the console. To run the next cue, press **[GO]**. The next cue is loaded when fading is complete. To stop any forward running cues press **[STOP/BACK]**. A second press fades back to the start of the cue(s) in the time specified by the default time setting in the *X Back, Cut* field of the *User Setup Screen*. A third press cuts to the start of the previous cue(s). Pressing the **[STOP/BACK]** key after a cue fade is complete cuts to the start of the previous cue.

Cues do not have to be complete before another one is run. You can keep pressing **[GO]** and run up to 200 fades at the same time, where each cue part counts as a maximum of 4 fades.

Note: Running a Cross/All Fade or Move Fade immediately steals channels from all previous Cross/All or Move Fades (GeniusPro). Running a Block Cue immediately steals channels from all previous Move Fades (Lightpalette) .

Running Manual Cues

Manual cues are sequenced and loaded by the X Playbacks in the same way as timed cues, except that the playbacks will not run the cue automatically. To load the manual cue, press **[GO]**. Make sure that the fader is not in *Rate* mode by pressing the **{UN-RATE}** softkey (500 Series Consoles) or by pressing the **[RATE]** key until both LEDs are extinguished (300 Series Consoles). Move the playback faders all the way to the bottom to 'collect' the cue and move the faders up to fade the cue in.

Loading a Cue

You can load a cue into the playback using the **[LOAD]** key. This does not affect the output until you press the **[GO]** key to run the cue.



Loads cue 1 to the playback (Direct Action Mode)



Loads cue 1 to the playback (Command Line Mode)

Jumping Directly to a Cue

You can go directly to a cue using the **[GOTO]** key or **[CUT]** key. In this case, delay times are ignored and the fade time is taken from the *X Cut* field in the *Default Times* window of the *User Setup Screen*.

Loading a cue resets any loops to their initial loop count. Individual cue parts cannot be loaded. The cue times, links and profiles can be temporarily overridden when loading the cue using the same syntax as when recording the cue.



Cuts to cue 6



Cuts to the nearest unrun cue

[CUT] has the same effect as **[GO]** if there are any stopped or reversing cues. The stopped or reversing cues are restarted forwards. Otherwise it cuts to the next unrun cue.

Using the Rate Wheel



500 Series



300 Series

To put all fades on a playback under Rate Wheel control, press the **{RATE}** softkey above the playback. You can then use the **{UP RATE}** or **{DOWN RATE}** softkeys to control the up fade rate, down fade rate, or both. The rate wheel loses control of fades when all fades are completed, or when a new fade is started.

To move the cursor (>) up or down to select a single cue or part for rate wheel control, press the arrow buttons in the X Playback control. Run the cue and use the rate wheel (or level wheel on 520 Consoles) to adjust the up and/or down fade time. To return the fades to normal functioning, press **{UNRATE}**. Changes to the fade times made with the rate wheel still apply to any running cues or parts, but the rate wheel no longer controls any fades.

For 300 Series Consoles, Press the **[RATE]** key for the appropriate playback once to set both Up and Down Fade, twice for Up fade only and three times to set the Down fade only. Run the cue and use the level wheel to adjust the Up and/or Down fade time. Press the **[RATE]** key again to cancel rate mode.

Changing Cues Temporarily

You can change levels and properties for the next cue temporarily using the *Playback* display. These changes are not recorded in the cue, so the next time you run it, the recorded properties and levels will be used. This does not modify the current cue (the cue with > next to it). It modifies the cue currently loaded and ready for playback when you press **[GO]**.



Shows the Playback Display for Playback 1

Press **<LIVE>** to return to the *Live* display.

Fading Cues with the Level Wheel



Fades all channels from cue 6 On. Levels are combined on a highest takes precedence basis with cue and effect playbacks and submasters. Channel levels increase as you move the level wheel up (away from you).



Fades all channels from cue 6 Off. Channel levels decrease as you move the level wheel up (away from you)

Playback Partitioning

The channels controlled by X1 playback and X2 playback are determined by the channels assigned to groups 993.3 and 993.4. By default, both groups are set to permit control of all channels. However, when the Playback Partitioning field in the Show Setup Screen is set to ON, you can exclude channels from X1 playback, and/or X2 playback by setting their value to zero in group 993.3 and/or group 993.4. Excluded channels are not controlled by the particular playback. This could be used, for example, to have only attribute channels controlled by X2.

Submasters

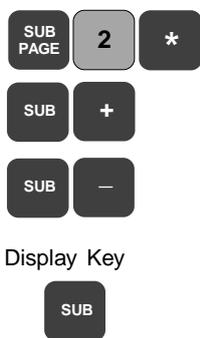
What Are Submasters?

Submasters are lighting states that can have both intensity and attribute channels with an associated fade time. Submaster faders let you manually fade in a submaster. (See also *1 & 2 Scene Preset* section)

You can assign an effect and/or a macro to a submaster fader, so that when the fader is moved from zero, it automatically runs the effect and/or macro.

Note: Although the terms are often used interchangeably, a submaster is different from a submaster fader. A submaster fader is the physical device on which you play a submaster. Since there are multiple pages of submasters, there are multiple submasters for every fader.

Submaster Pages



There are 6 submaster pages (5 on 300 Series consoles), each with their own recorded set of submaster levels. The number of submasters on each page is dependant on the number of submaster faders provided with your console.

The submaster window on the *Live* display shows the current live submaster page number. This is the page of submasters that are currently loaded on the submaster faders. Moving faders will therefore change the channel levels from minimum to maximum level, or vice versa, for each channel controlled by the submaster fader. You can change the live submaster page using the **[SUB PAGE]** key and entering the page number ([*] key not required in Direct Action Modes) or using **[SUB] [+]** or **[SUB] [-]**. However, changing the submaster page does not change the current submaster output until the submaster fader is moved to '0' (or '10' for inhibitive submasters).

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When you select the Submaster screen by pressing the **<SUB>** key, the current submaster page is shown, so any changes made to this page are reflected on the output. However, you can select a different page from the *Live* display submaster page, as described above, and set up submaster levels and properties without changing the output loaded on the submaster fader. The fade times can be set different for each submaster on each submaster page.

The Current Submaster



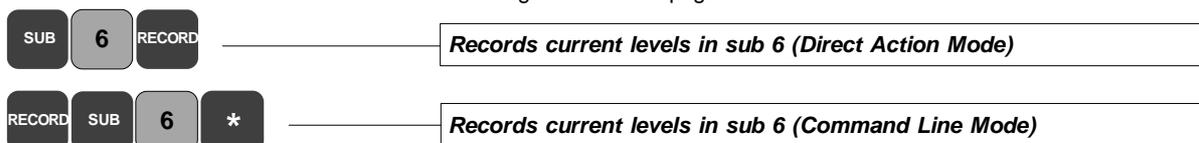
Press **<SUB>** to display the *Submaster Screen*. The current submaster number is displayed in white on a red background with a cursor (>) to the left of the submaster number. The Levels Screen shows the channel levels for the current submaster. The current submaster is also shown on the banner heading of the *Live Screen* and *State Screen*.

You can browse the levels of all submasters using the trackball, or by pressing the **[NEXT]** or **[LAST]** keys.

Recording Submaster Levels

You can record submaster levels in the *Live*, *Cue/Preview*, *Group* or *Effect Screen*. Select the page number as described above, then set the levels as described under *Setting Intensity Channel Levels* and press **[SUB] # [RECORD]** (Direct Action Mode) or **[RECORD] [SUB] # [*]** (Command Line Mode). In the Submaster Screen changes made to levels or submaster properties are automatically recorded when changed.

Note: When recording, or editing submaster levels, always make sure you are in the right submaster page.



You can record just the intensities or just the attributes as shown:



Records the current intensity levels in sub 6 (Direct Action Mode)



Records current attribute levels in sub 6 (Command Line Mode)

Recording Submaster Properties

Using the key commands, you can record submasters and submaster properties from any screen, except the *Setup*, *Archive* or *Help* screens. Alternatively, when the *Submaster Screen* is displayed, you can edit the properties by firstly holding down the [SHIFT] key and moving the trackball to change the properties from yellow (non-edit mode) to green (edit mode), then using the trackball to highlight the field to be edited (white on red background). You can then edit the selected field using level wheel or [+] or [-] keys. You can enter a value from the keyboard for all time fields. To return to non-edit mode, press [*].

Note: The only functions that can be set independently for the same submaster number on different pages is the text, the up and down fade time and the attribute fade time. All other functions apply to all pages.

Submaster Text

You can include an on-screen name for each submaster using the [TEXT] key and entering text from the external keyboard, as shown.



Adds the text 'Storm' to submaster 6 (All Modes)

Submaster Bump Mode

Setting this mode determines the operation of the specified submaster bump key. All submasters are initially set to Flash mode. The options are as follows:

- Off:** Disables the submaster bump button.
- Flash:** Sets the bump button to flash channel intensities to 100%, or to the level set by the flash supermaster, if applicable.
- Solo:** Sets the bump button to turn off all channels not in the submaster without changing the levels of channels in the submaster.
- F + S:** Sets the bump button to flash channel intensities to 100%, or to the level set by the flash supermaster, if applicable, and to set all other channels to off.
- Mac:** Disables the bump button's flash and solo operation and instead allows it to trigger the macro with the same number as the submaster (e.g., submaster bump button 4 triggers macro 4).

The bump buttons are also controlled by the {KEYS OFF}, {KEYS ON} and {KEYS LATCH} softkeys. Press [BUMP MODE] to see the current setting. Press [BUMP MODE] again to return to normal operation. Use capital V on the external keypad to simulate [BUMP MODE] for 300 Series consoles.



- Keys Off:** Disables all submaster bump buttons.
- Keys On:** Sets all submaster bump buttons to operate while the button is pressed.
- Keys Latch:** Sets all bump buttons to remain 'On' on the first press and remain off on the second press.

Note: The {FLASH}, {SOLO} and {FLASH + SOLO} softkeys determines what happens when the {BUMP} softkey is pressed. They have no effect on the submaster bump buttons (refer to *Flashing Channel Levels* in the *Channel Levels* section.)

Submaster Fade Times

Each submaster has intensity up and down fade times and a single attribute time used for attribute changes. When you move the submaster fader from 0 to 10, the levels fade in over a period set by the fade up time. Conversely, moving the fader from 10 to 0 will fade the levels out over a period set by the down fade time.

If the fader is moved through part of its travel, the fade period depends on the amount that the fader is moved. For example, with a fade time of 8 seconds, moving the fader from 2 to 7 (half of its travel), will give a fade period of 4 seconds. Then moving it to 9 (quarter of its travel) will give a fade period of 2 seconds.

Intensity fade times can range from 0 to 59 minutes, 59 seconds. These times are also used by the bump buttons. Attribute fade times can range from 0 to 59.9 seconds.

Inserting [TIME] # in a [RECORD] command records levels on the current display, together with a fade time into the specified submaster.

SUB 2 TIME 5 RECORD	Records the current levels in submaster 2 and applies an up and down fade time of 5 seconds (Direct Action Mode).
RECORD SUB 2 TIME 5 *	Records the current levels in submaster 2 and applies an up and down fade time of 5 seconds (Command Line Mode).
SUB 2 TIME 5 / 2 RECORD	Records the current levels in submaster 2 and applies an up fade time of 5 seconds and a down fade time of 2 seconds (Direct Action Mode).
RECORD SUB 2 @ATT TIME 5 *	Records the current levels in submaster 2 and applies an attribute fade time of 5 seconds (Command Line Mode)

Assigning an Effect or Macro to a Submaster

Including [FX] # and/or [MACRO] # in a record command assigns the function(s) to the specified submaster. To delete an assigned effect or macro omit the # from the command.

SUB 2 FX 5 RECORD	Records the current levels in submaster 2 and assigns effect 2 to the submaster fader (Direct Action Mode)
RECORD SUB 2 MACRO 4 *	Records the current levels in submaster 2 and assigns macro 4 to the submaster fader (Command Line Mode)
FX *	When in the Submaster Preview screen, removes the currently assigned effect from the current submaster (All Modes)
SUB 2 MACRO *	Removes the currently assigned macro from submaster 2 (All Modes)

Assigning an External Submasters

The numbered submaster fader normally controls the submaster directly. However, each submaster can be set to use one of the 12 analog inputs from the REMOTE ANL connector, in which case the fader level is combined with the analog input level on a highest takes precedence basis. Each analog input can only be used once.

SUB 2 EXT SUB 5 *	Assigns analog input 5 to submaster 2 (All Modes)
SUB 2 EXT SUB *	Removes assignment above.

Submaster Functions

You can set the function of the submaster when recording the submaster or you can change a submaster function after it has been recorded. When a submaster function is set, it applies to all submasters with the same number on all submaster pages. Options are as follows:

NORMAL (or PILEON)

Submaster intensities are combined with other level sources on a highest takes precedence basis. Attributes are combined on a latest takes precedence basis. Selecting a channel with the Channel Control 'steals' it from the submaster.

INDEP (Independent)

Submaster intensities are combined with other level sources on a highest takes precedence basis. Submaster channels cannot be 'stolen' by the Channel Control, but the Channel Control can increase the channel intensity above the submaster level.

EXCLUSIVE

Submaster controls the channel intensities regardless of what other level sources would influence the channels. If the same channels are used in two exclusive submasters, the last submaster to move off zero 'steals' the channels.

INHIBIT (Inhibitive)

Submasters act like grandmaster faders for channels that have any intensity channel recorded in the submaster. Attributes are ignored. Multiple inhibitive submasters which control the same output channels are combined on a lowest takes precedence basis.

SUB SUPER (Submaster Supermaster)

Masters the levels of all supermasters

FX SUPER (Effect Supermaster)

Masters the levels of all effects.

FLASH SPR (Flash Supermaster)

Masters the levels for bumps and flashes.

S/LIGHT (Sound to Light) - 500 Series Consoles only

Submaster intensities are combined with effects, playbacks, and other submasters on a highest takes precedence basis. Attributes are combined on a latest takes precedence basis. The local submaster controls the maximum level of sound to light, and the external Audio Input controls the level of the submaster up to that maximum. Submaster channels can be stolen by the Channel Control. Only one submaster can be a Sound To Light Submaster.

DMX CHAN (DMX Channel)

The DMX input signals become levels for channels 1-512 and are combined with effects, playbacks, and other submasters on a highest takes precedence basis. The local submaster controls the level of the DMX input. Recorded submaster levels are ignored. Submaster channels can be stolen by the Channel Control. Only one submaster can be a DMX Channel Submaster.

DMX DIMR (DMX Dimmer)

The submaster controls the level of the DMX input, and thus the levels of any dimmers patched to DMX inputs. Recorded submaster levels are ignored. Only one submaster can be a DMX Dimmer Submaster.

GM1, GM2 (Grandmaster 1 and Grandmaster 2)

Assigns submaster(s) to perform normal grandmaster function. Controls levels of all channels assigned to grandmaster groups 1 and 2. (GM1 only on 300 Series consoles)

AUDIO THR (Audio Threshold) - 500 Series consoles only
 The submaster fader controls the sensitivity of the Audio Input. The Audio Input can be used to control the stepping of an effect. Recorded submaster levels are ignored. Only one submaster can be the Audio Threshold Supermaster.

MIDI RATI (Midi Ratio)
 The submaster fader sets the number of MIDI sync pulses which the effect must count before it will move to the next step. Recorded submaster levels are ignored. Only one submaster can be the Midi Ratio Supermaster.

You can set the submaster function from the keyboard by pressing the **<SUB>** key to display the Submaster Screen, selecting the submaster using the trackball, and entering commands as shown in the following examples:

SUB 3 SUB FUNC INDEP *	—	Sets the function of submaster 3 to independent (All Modes).
SUB 3 SUB FUNC SUPER FLASH SUPER	—	Sets the function of submaster 3 to flash supermaster (All Modes)
*		
SUB 3 SUB FUNC SUPER I/P DMX IN CHAN	—	Sets the function of submaster 3 to DMX channel (All Modes)
*		

Quick Recording

Pressing **[SUB]** and then the appropriate submaster bump button is a quick way of recording a submaster. This does not actually bump the submaster.

Copying Levels from a Submaster

While you are in the Submaster Screen, you can select a submaster and copy the current levels to it using the **[RECORD]** key. Alternatively, you can record the levels to a specified cue, effect or group as shown.

CUE 3 RECORD	—	Records the current levels in the Submaster Screen to cue 3 (Direct Action Mode)
RECORD CUE 3 *	—	Records the current levels in the Submaster Screen to cue 3 (Command Line Mode)

Clearing a Submaster

To clear a submaster, press **<SUB>** to display the Submaster Screen. Select the submaster using the trackball, or enter the sub number, and press the **{CLEAR}** softkey. You are required to confirm the demand by pressing **{CLEAR}** again.

CLEAR CLEAR	—	Clears highlighted submaster (All Modes)
SUB 3 CLEAR CLEAR	—	Clears submaster 3 (All Modes)

Restoring Channels to Submaster Control

When channels controlled by a submaster have been ‘stolen’ by the Channel Control you can restore control to the submaster by moving the submaster fader to zero and then moving the fader up. However, this involves setting the intensity level of all channels in the submaster firstly to zero. You can restore control to the submaster using the **[UNDO]** key as shown. This will fade the channels under channel control to the existing level set by the submaster fader



Restores channels 'stolen' by the channel control to submaster 3 (All Modes)

Updating and Adding to Submasters

If you have changed levels of channels in a submaster using the Channel Control, you can update the submaster in the *Live Screen* using the [UPDATE] key, as shown.



Updates submaster 1 with new levels, including channel levels that are not already in the submaster (All Modes)



Updates submaster 1, excluding channel levels not already in the submaster (All Modes)

Effects

An effect comprises a series of lighting states, that consist of intensity and attribute levels. Each lighting state is called an effect step. You can run the series of effect steps using any of the effect playbacks in a variety of ways to give different chase, build, flicker and random output levels.

Note: The [FX SEL], [FX DIR] and [FX LOAD] keys are omitted from 300 Series consoles. If you are a 300 Series console user and require to use the functions controlled by these keys, use an external keyboard, in conjunction with the keyboard template at the back of this manual to simulate the keys. The [FX TIME] key is labelled [FX RATE] on 300 Series consoles.

Numbering Effects and Effect Steps

Each effect has at least one effect step, which is created automatically when you create a new effect. You can create up to 600 effects (300 on 300 Series consoles) each with up to 99 effect steps. Effects are numbered 1 to 600 (1-300) and effect steps are numbered .1 to .99

The Current Effect

Display key



Press the <FX> key to display the *Effects Screen*. The last referenced effect (or effect 1 if no effects have been used) is shown on the *Effect Screen*. The effect number is highlighted in white in a red background and is displayed on the banner heading. To change the current effect, enter the effect number, followed by [*], or use the [NEXT] or [LAST] keys.

The *Effects Screen* comprises two windows. The top window sets the way that the complete effect is run. The lower window sets the way that each effect step within the effect is run.

Setting the Effect Properties in Edit Mode

Using the key commands, you can record effects levels for each effect step and set the effect and effect step properties from any screen, except the *Setup*, *Archive* or *Help* screens. Alternatively, when the *Effect Screen* is displayed, you can edit the effect properties by firstly holding down the [SHIFT] key and moving the trackball to change the properties from yellow (non-edit mode) to green (edit mode), then using the trackball to highlight the field to be edited (white on red background). You can then edit the selected field using the level wheel or [+] or [-] keys. You can enter a value from the keyboard for all time fields. To return to the default settings, press the {DEFLT} softkey. To return to non-edit mode, press [*].



You can switch from editing the overall effect properties to editing the individual steps of the effect using the {EDIT STEPS/EDIT FX} softkey. To select a particular effect step use the trackball or the [NEXT] or [LAST] keys to highlight the step.

You can create a new effect by pressing the [FX] key followed by the next effect number and [*]



Creates FX 2 and effect step 2.1 with default settings (All Modes)

Setting the Effect Properties from the Keypad

You can set the common properties of all effect steps in an effect as follows:

Recording Effect Text

You can record a text label (entered from the external keyboard) with each effect to help identify the effect, as shown.



Adds an on-screen text label 'Storm' to effect 1 (All Modes)

Effect Type

An effect can be set to one of two types as follows:

Chase: Only one step is high at a time and steps are played sequentially according to direction. As each step runs, its levels go high and all other levels in the effect go low.

Build: One step at a time goes high, but previous steps are not sent low. Once all of the steps are high, they are all sent low and the build starts again.



Sets effect 1 type to chase (All Modes)



Sets effect 1 type to build (All Modes)

Effect Direction

The effect can be set to run in one of four directions

Forward: The effect steps are played sequentially from the lowest step number to the highest step number and then repeated from the lowest step number.

Reverse: The effect steps are played sequentially from the highest step number to the lowest step number and are then repeated from the highest step number.

Bounce: The effect steps are played sequentially from the lowest step number to the highest step number, and then from the highest step number back to the lowest step number. Steps are then repeated in the same sequence.

Random: Steps are played in a random order. All steps are played once before a new random sequence is started.

Note: To set the effect direction for 300 Series Consoles, press <FX> and use edit mode.



Sets effect 1 direction to bounce (All Modes)



Sets effect 1 direction to random (All Modes)

Mode

The Mode property controls how the effect combines with other effects and with the other playbacks and faders. This property can only be changed from the *Effects Display* using the trackball to select the field and the level wheel or [+] or [-] keys to change the option. It is initially set to indHTP (Independent Highest Takes Preference), but can be set to LTP (Latest Takes Preference)

Level

The Level property determines how the effect channel levels are interpreted, as follows:

Normal: Channels in active steps are set high and channels in inactive steps are set low.

Negative: Channels in active steps are set low and channels in inactive steps are set high.

Nrm Neg: Levels start as Normal and then alternate between Negative and Normal for each successive effect cycle.

Neg Nrm: Levels start as Negative and then alternate between Normal and Negative for each successive effect cycle.

Random: Steps are randomly set to any level between the high and low levels.

FX	1	LEVEL	NORM-NEG	*	—	Sets effect 1 level to Normal/Negative (All Modes)
FX	1	LEVEL	RANDOM	*	—	Sets effect 1 level to Random (All Modes)

Next FX

You can have a new effect automatically start at the end of any effect for which the Stop After property is set to Time or Cycles. The Next Fx property can be set to Off or to any effect number.

FX	1	NEXT FX	2	*	—	Starts effect 2 automatically after the end of effect 1 (All Modes)
----	---	---------	---	---	---	---

Fade Times

When an effect is run on an effect playback, the time taken for the effect to fade up to its full level is determined by the Fade Up time. You can set values between 0.01sec and 59 minutes, 59 seconds.

When an effect is stopped, it fades down in the Fade Down time. If you run an effect from a cue or submaster the effect Fade Up and Fade Down times are those assigned to the cue or submaster, the Fade Up and Fade Down fields in the effect are ignored.

FX	1	TIME	1	*	—	Sets FX 1 overall intensity fade in/out times to 1s (All Modes)
----	---	------	---	---	---	---

Assigning a Profile

You can assign a profile to the fade up and fade down times. (To create a profile, refer to Profiles section, Section 10)

FX	1	PROFILE	3	*	—	Sets FX 1 overall fade profile to 3 (All Modes)
----	---	---------	---	---	---	---

Stop After

Determines what happens when you press [FX STOP]. Options are:

FX Stop: The effect stops and is unloaded when you press [FX STOP] for its effect playback.

FX Load: The effect is not unloaded until another effect is loaded onto the same effect playback. The effect is only paused when you press [FX STOP]. You can then press [FX GO] to restart the effect.

Last Step: When you press [FX STOP], the effect continues to run normally until it reaches the last effect step. It then fades out and stops in the time specified by the Fade Down field (or cue or submaster time).

Cycles: The effect stops after the number of cycles specified.

Time: The effect stops after the amount of time specified.

FX	1	STOP AFTER	FX STOP	*	—	Sets effect 1 to stop after the [FX STOP] key is pressed (All Modes)
FX	1	STOP AFTER	5	*	—	Sets effect 1 to stop after 5 cycles (All Modes)

FX 1 STOP AFTER TIME 5 *
Sets effect 1 to stop after 5 seconds (All Modes)

Step Control

Determines how the console knows when to take the next effect step. Options are as follows:

Timed: The timing of the effect steps is controlled by the timer, which uses the *Step Time* setting for each step.

Manual: The timing of the effect steps is controlled from the **[FX STEP]** button.

MIDI: The timing of the effect steps is controlled from the MIDI input.

Audio: The timing of the effect steps is controlled from the bass track of the Audio input. (500 Series consoles only)

FX 1 STEP CTRL MANUAL *
Sets effect 1 step control to Manual (All Modes)

FX 1 STEP CTRL MIDI *
Sets effect 1 step control to MIDI (All Modes)

Step Default Values

These are the default values that are initially applied to all effect steps. They are set up in the *Default Times* window of the *User Setup Screen*. Defaulted step values are shown in the *Effect Step* window in black when in edit mode. You can override the default values for each step individually. When the default value has been changed, the value is shown in green when in edit mode.

Editing Effect Step Properties

Press the **{EDIT STEPS}** softkey to edit effect steps. Select the effect step using the trackball and set each effect step property as follows. To add a new step press the **{APPEND STEP}** softkey. Alternatively, set the effect step properties using the keypad as follows:

Step Time

The step time controls the time from the start of a step until the next step is activated and can be set between 0 and 5 minutes. Values below 1 second can be set in hundredths of seconds.

FX 1 . 2 TIME
STEP TIME 2 *
Sets effect 1 step 2 step time to 2 seconds (All Modes).

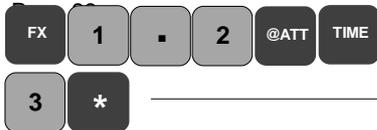
In/Dwell/Out Time

The In property is the time from when the step starts until the channel levels are at the high level. The Dwell property is the time that an activated step will remain in its high state. The Out property is the time from when the dwell time ends until the channel levels are at the low level. The total time need not be equal to, or less than the step time, allowing steps to overlap. Each time element can be set between 0 and 5 minutes.

FX 1 . 1 TIME
STEP I/D/O 1 0 5 /
4 0 / 1 *
Sets effect 1 step 1 fade times to: in = 1 min, 5 sec, dwell = 40 sec, out = 1 sec (All Modes).

FX 1 . 2 TIME STEP I/D/O
5 / OFF/MAN / 5 *
Sets effect 1 step 2 fade times to: in = 5 sec, dwell = Off (no dwell time), out = 5 sec (All Modes)

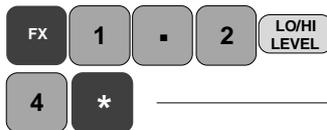
Attribute Fade Time



The attribute fade time controls the time it takes to change fixture attributes if there is a change on the same fixture between two steps of an effect. Time can be set between 0 and 5 minutes.

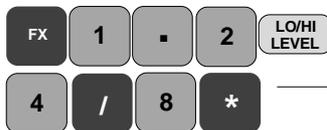
Sets effect 1, step 2 attribute fade time to 3 seconds

Low/High Scaling



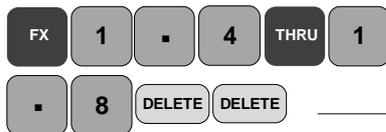
Scales all the channel levels set in each step. Can be set between 0 and 100%. High Scaling sets the percentage of channel level to use for the "on" part of the effect step. Low Scaling sets the percentage of channel level to use for the "off" part of the effect step.

Sets effect 1 low level only for step 2 to 40% ((Command Line and Direct 1 Digit Mode). Enter [4] [0] for Direct 2 Digit Mode



Sets effect 1 low and high levels for step 2 to 40% and 80% (Command Line and Direct 1 Digit Mode). Enter [4] [0] and [8] [0] for Direct 2 Digit Mode.

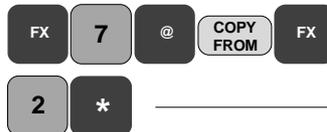
Deleting Effect Steps



When the *Effect Screen* is displayed, you can delete effect steps by highlighting the effect step using the trackball, or the [NEXT] or [LAST] key and pressing the {DELETE} softkey, or you can specify an effect step, or range to be deleted.

Deletes effect steps 1.4 through 1.8 (All Modes)

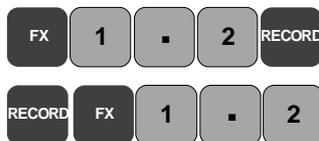
Copying an Effect



You can duplicate a complete effect using the {COPY FROM} softkey, as shown.

Copies the levels and properties of effect 2 to effect 7 (All Modes)

Recording Levels in an Effect

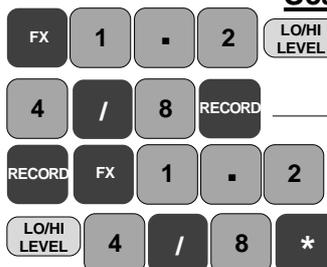


When you set up or change the levels or properties of an effect step, or the properties of a complete step while in the *Effect Screen*, they are automatically recorded in the effect. You can also record levels from the current display (*Live, Preview, Group, or Submaster* screen) into an effect step, as shown.

When in Live, Preview, Group, or Submaster screen. Records the current levels in effect 1, step 2. (Direct Action Modes)

As above for Command Line Mode.

Recording Levels with Scaling



When recording levels from the *Live, Preview, Group, or Submaster* screen into an effect step, you can combine a scaling command with the record command, as shown.

Records current levels in effect step 1.2 and applies low and high levels of 40% and 80% (Direct 1 Digit Mode) A '0' must be added to the scaling levels for Direct 2 Digit Mode)

As above for Command Line Mode

Combining Levels and Properties in the Record Command

When in the *Effect Screen*, you can set up the effect properties and record the current levels to the current, or another effect step by using the **[RECORD]** key in place of the **[*]** key when setting the effect step properties from the keypad (*Direct Action Modes*), or by pressing the **[RECORD]** key first (*Command Line Mode*)

Using Effect Playbacks

Effect playbacks are used to run repeated sets of lighting states.

Press **<LIVE>** to show the *Live Display*. The Effects window of the *Live display State Screen*, shows the current state of the effects and is used when running the effect playbacks. If the *Live display State Screen* does not show the *Effects* window, press **[SHIFT] <LIVE>** until the Effects window is displayed.

The Current Effect Playback

The current effect step is shown in white on a grey background. You can change the current effect playback using the **[FX SEL]** key to move down the list of playbacks, or **[SHIFT] [FX SEL]** to move up the list.



An effect can be loaded into one or more of the playbacks. After loading, the playback is stopped and set to step 0. Previous effects on that playback are unloaded.



Loads effect 1 into the current effect playback (Direct Action)



As above (Command Line)

You can load an effect into the current playback, or to a specified playback using the **[PB]** key as shown.



Loads effect 1 into effect playback 8 (Direct Action Modes)



As above (Command Line Mode)

Running an Effect

To run a playback on which you have loaded an effect, select the playback and press **[FX GO]**.



Pausing an Effect

You can pause an effect when it is running by pressing the **[FX PAUSE]** key. This stops any more effect steps running, but it does not stop any fade in or fade out times, nor does it unload the effect. Paused effect playbacks are indicated by the effect step field flashing yellow. To resume running a paused effect, press **[FX PAUSE]** again.



Stepping an Effect Manually

You can step through an effect manually by setting the Step Control field in the *Effects Screen* to Manual and then loading the effect on a playback. Pressing **[FX STEP]** will advance to the next FX step.



Changing Effect Properties While Running an Effect

You can increase or decrease the fade time, or step time of an effect while it is running using the **[FX TIME]** key, **[FX RATE]** key on 300 Series consoles, and **{FADE RATE}** or **{STEP RATE}** softkey and the rate wheel on consoles with two wheels, or the level wheel on consoles with one wheel. Moving the rate wheel (or level wheel) adjusts the fade rate, or step rate proportionally.



Changes the fade rate of the effect on the current effect playback (All Modes)



Changes the step rate of the effect running on the current effect playback (All Modes)

You can also change the effect type and direction of an effect while it is running as shown.

FX TYPE CHASE	Changes the type of the effect running on the current effect playback to chase (All Modes)
FX TYPE BUILD	Changes the type of the effect running on the current effect playback to build (All Modes)
FX DIR BOUNCE	Changes the direction of the effect running on the current effect playback to bounce (All Modes)
FX DIR REV	Changes the direction of the effect running on the current effect playback to reverse (All Modes)

Updating Effects

You can update an effect step time and in/dwell out times, as scaled by the rate wheel (or level wheel) and update the effect direction and type from the playback currently running the effect using the [UPDATE] key, as shown.

UPDATE FX 8 *	Updates effect 8 (All Modes)
---------------	------------------------------

Stopping and Unloading an Effect

Loading a different effect into a playback will unload the current playback. You can stop and unload an effect from any playback using the [FX STOP] key as shown: If the Stop After field for the effect is set to FX STOP, pressing the [FX STOP] key will stop and unload the effect. Refer to Stop After for other settings.

FX 1 PB 5 FX STOP	Unloads effect 1 from effect playback 5. (Direct Entry Modes)
FX Stop FX 1 PB 5 *	As Above for Command Line Mode
FX 0 FX GO	Unloads all effect playbacks (Direct Entry Modes)
FX GO FX 0 *	As above for Command Line Mode
FX 0 PB 2 FX LOAD	Selects playback 2 and unloads the effect from it. (Direct Entry Modes)
FX LOAD FX 0 PB 2 *	As above for Command Line Mode
FX 0 FX LOAD	Unloads all effects from all playbacks. (Direct Action Modes)
FX LOAD FX 0	As above for Command Line Mode

Using Effects in Cues and Submasters

You can control effects with cues by assigning the effect to one cue for starting and one cue for stopping. Refer to Assigning an Effect to a Cue (Section 5).

You can control effects with submasters by assigning the effect to a submaster. Moving the submaster away from the zero starts the effect and moving it back to zero stops the effect. Refer to Assigning an Effect or Macro to a Submaster (Section 6)

Groups

Groups are used to store levels which can be used later as building blocks, but which do not show up on the cue sheet. The only way to get group information to the console output is to call up group levels as part of a channel command and show them in the *Live* display, or record them in a submaster, cue or effect step.

Predefined Groups

A number of predefined groups provide levels for console components, as shown below. To restore a predefined group to its default state, delete it.

ON console, ON 2...5 (remote consoles) and **ON Hand-held** set the ON levels for channels. Values are channel levels and override the *ON Level %* field in the *User Setup Screen*.

Display console, Display 2....5 (remote consoles) set the channels to show on the Levels Screen if the *Channel Formatting* field in the *User Setup Screen* is set to *Display Groups*. Value of FL indicates that the channel will be displayed. A value of 0 indicates that the channel will not be displayed.

Partition Console, Partition 2....5 (remote consoles) set the channels controlled by each console if the *Channel Partitioning* field in the *Show Setup Screen* is set to ON. A value of FL indicates that the channel is controllable. A value of 0 indicates that the channel is not controllable.

Note: A channel can only be controlled by one user so will only appear in one of the Partition Groups.

Grandmaster 1 & Grandmaster 2 set the channels controlled by each grandmaster (if applicable). A value of FL indicates channel is controlled by the Grandmaster. A value of 0 indicates that the channel is not controlled by the Grandmaster. You can only set one Grandmaster group on Series 300 consoles.

X Playback 1 & X Playback 2 set the channels controlled by each X playback. Value of FL indicates that the channel is controlled by the X Playback. A value of 0 indicates that the channel is not controlled by the X Playback.

Preheat sets the preheat level for channels if the *Auto Preheat* field in the *Show Setup Screen* is set to ON. Values are the channel levels.

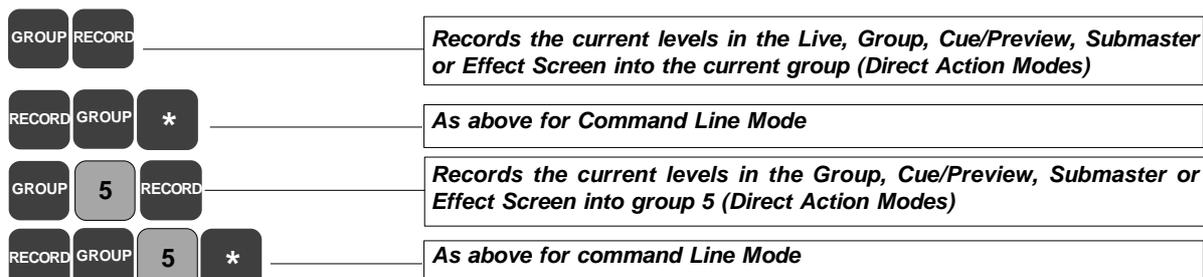
The Current Group

The current group is the last group referenced in the *Group Screen* or recorded from another display. The current group is shown on the LCD display.

All group recording commands act on a single group. If you do not enter a group number, the current group is used. In the *Group Screen*, you can use the trackball, or the **[NEXT]** or **[LAST]** keys to browse through the levels of currently recorded groups.

Recording Group Levels

Use the **[RECORD]** key to record the levels currently set into the current group or a specified group, as shown.



Recording a Group Text Label

You can record a group text label using the external keyboard to help identify the group on screen.



Adds text label 'Front' to group 8 (All Modes)

Deleting Groups

The {DELETE} softkey appears on the LCD *Group Menu* and deletes the current group. Alternatively, you can enter the group number, followed by delete, to delete a selected group.



Deletes the current group (All Modes)



Deletes group 4 (All Modes)

Copying Levels from a Group

In the *Group Screen*, select the required group levels and use the appropriate record commands to record the levels to other groups, cues, submasters and effects.



Records levels in current group to group 5 (Direct Action Mode)



As above for Command Line Mode



Records levels in current group to cue 8 (Direct Action Mode)



As above for Command Line Mode



Copies levels in group 6 to group 3

Referenced Groups and Preset Focus

The first 750 groups can be used as *Referenced Groups*. On playback, the values of intensities and/or attributes from referenced groups are obtained from the groups to which they are linked. This is done each time the cue, submaster or effect step is replayed. If the value of an intensity or attribute in a referenced group is changed, every cue, effect step or submaster that uses the group will play back the linked channels with the new values.

When used to record focus positions (pan and tilt) this facility is referred to as *Preset Focus*. To reference only the intensities or attributes of a group, insert {INTS ONLY} or {ATTS ONLY} into the group assignment command.

You can set a channel or group of channels to the levels specified in a particular group by using [@] [GROUP] in the command. The cue, effect step or submaster takes levels for the selected channels from the referenced group. If you change the group, the recorded item will change accordingly.



Sets channels 1 to 10 to the levels set in group 8 (All Modes)



You can identify the referenced group by means of the text label, instead of the group number. In this case, you would use [@] [TEXT] label to identify the group.



Sets only the attribute channels associated with channel 1 through 10 to the levels set in the group labelled 'front'. (All Modes)

Macros

Macros let you record and then playback a regularly used sequence of commands. They can be recorded from any display and then played back using a macro playback key, a macro playback command, by assigning the macro to a cue or submaster, or using the optional macro tablet. Once recorded, macros can be viewed and edited in the *Macro Screen*.

Most keys can be recorded into a macro. Trackball or mouse movements can also be recorded, but you cannot use the wheel(s), faders and rotaries with a macro. You must use the numeric keypad to enter numbers. A macro cannot call another macro.

Macro Numbering

There are 3000 macros numbered 0 to 2999. Macros 951 to 964 are reserved as macros P1 to P14. You can access these macros using **[P1]** to **[P14]** or through the numeric keypad as macros 951 to 964.

Macros 971 to 984 are reserved as macros SP1 to SP14. You can access these macros directly using **[SHIFT] [P1]** to **[SHIFT] [P14]**.

Note: Keys **[P1]** to **[P14]** and **[SHIFT] [P1]** to **[SHIFT] [P14]** are available on 300 series and on 520 and 510i consoles. Keys **[P1]** through **[P7]** and **[SHIFT] [P1]** through **[SHIFT] [P7]** only, are available on 530 and 550 consoles. The other associated macros are available through the numeric keypad on all other consoles.

Macros 891 to 894 are reserved for HHM1 to HHM4 which are the four macros which can be fired from the F1 to F4 keys on the optional hand-held remote(s). Refer to the Operator's Manual or On-Screen Help for further details. Only HHM1 to HHM3 can be fired from a Designer's Remote.

Macros 991 to 996 are reserved as macros LCD1 to LCD6. You can access these macros directly by means of the centre LCD softkeys on 530 and 550 consoles (or the first four macros using the centre unlabelled keys on 520 consoles). Macros 991 to 996 can be accessed via the numeric keypad on all other consoles.

Macro 997 is reserved for the STOP macro. This macro can be accessed using the **[STOP]** key on 310, 510i, 530 and 550 consoles, or from the numeric keypad on all other consoles.

Macro 998 is reserved for the USER macro. You can fire this macro using the **[USER]** key.

The twelve keys on the front of a 300 Series LCD Monitor are used to fire preset macros. The number of LCD monitors fitted is detected by the software and the preset macros reserved as follows:

1 LCD Monitor - 12 macros numbered 901 - 912	V1 - V12
2 LCD Monitors - 24 macros numbered 901 - 924	V1 - V24
3 LCD Monitors - 36 macros numbered 901 - 936	V1 - V36
4 LCD Monitors - 48 macros numbered 901- 948	V1 - V48

Note: When using a macro tablet, the first macro is always numbered 1001. Refer to *Using a Macro Tablet*.

When the console is first switched on, or when macros are cleared, all reserved macros have no recorded keys entered, with the exception of SP1, which is preset with the Print Screen command.

Learning a Macro

You can learn a macro from any display by using the [MACRO] {LEARN} key combination.



Enter keys, etc you want to learn in the macro.



Before you learn a macro, make sure that you are in the display from which you want to play back the macro, or make sure that the keystrokes you are learning take you into the correct display.

Learns the keystrokes or trackball movements in Macro 1 (All Modes)

Replace [MACRO] [1] with macro key, e.g. [MACRO] [P1], to learn reserved macros. While the macro is being learned, MACRO LEARN is displayed on the bottom right of the display in flashing white on a red background.

Note: Macro actions are carried out while learning. Up to 120 keys can be recorded in a macro. Learning automatically finishes if this limit is reached.

Recording a Macro Text Label

You can record a text label to help identify each macro on screen. Text is entered from the external keyboard.



Records text label 'Flash' for macro 1 (All Modes)

Deleting a Macro

Macros can be deleted from any display using the {DELETE} softkey.



Deletes macro 1 (All Modes)



Deletes macros 1 to 4 (All Modes)

To confirm the deletion command press the {DELETE} softkey again.

Running Macros

Recorded macros can be started manually, linked to a submaster or cue, run at console power up, run at a preset time, or set to run when a certain audio, MIDI, Aux or Com port input is received. Macros can also be activated using the optional macro tablet. You can also set a macro to output an ASCII string when the macro is triggered.

Macros can be run from all displays except the *Macro Screen*.

Running a Macro Manually

When a macro is run, the contents of the macro act as if they were key presses, or trackball movements.



Runs macro 1 (All Modes)



Runs macro P1 (macro 951)

Running a Macro from a Cue or Submaster

A macro can be linked to a cue or submaster and run automatically when the cue is run or when the submaster fader is raised off zero.



Assigns macro 8 to run when cue 3 is run (All Modes)



Assigns macro 4 to submaster 2 (All Modes)

Running a Macro at Console Power Up

You can also assign any or all of the 12 external submaster as a macro trigger by entering the Macro number in the *Mac* field of the *Submaster Screen*.

You can set one macro to run when the console is powered up. Press <REPORT> {ADV SETUP} {SHOW SETUP} to display the *Show Setup Screen* and select the *Power-up Macro* field in the *Show Setup* window. Enter the macro number to run at power up. The recorded power up macro will run automatically the next time the console is powered up.

Running At Time Macros

You can set up to four macros to start and stop at specific times, or to run for a specific time interval on specific days. Press <REPORT> {ADV SETUP} {SHOW SETUP} to display the *Show Setup Screen*. At time macros are set up in the *At Time Macros* window. The date format in all modes is dd/mm/yy.

Days of the week are set using the [+] tick (run on that day) or [-] dash, (do not run on that day). You can then enter the start time and date, the interval time (if applicable) and the stop time and date, together with the macro number to be triggered.

Using a Macro Tablet

The software supports a number of graphic tablets, including a range of Intuos tablets and the Concept 2012 A4 tablet.

Press <SETUP> to display the *User Setup Screen*. When the *Macro Tablet* field is set to *Intuos A4*, *Intuos A4 OS*, *Intuos A3*, or *2010 A4* and the *Net Node and Port* fields set to the appropriate setting, you can define macros and activate them from the macro tablet. The number of macros that can be triggered from the macro tablet depends on the tablet and setting of the *Mode* field in the *User Setup Screen*

- A4 Tablet, Mode Low = 200 macros
- A4 Tablet, Mode Med = 400 macros
- A4 Tablet, Mode High = 800 macros
- A3 Tablet, Mode Low = 400 macros
- A3 Tablet, Mode Med = 800 macros
- A3 Tablet, Mode High = 1600 macros
- A4 OS Tablet, Mode Low = 320 macros
- A4 OS Tablet, Mode Med = 640 macros
- A4 OS Tablet, Mode High = 1280 macros

The top left macro button on all macro tablet overlays is predefined as Macro number 1001. All other macro tablet buttons are predefined in rows from left to right. For example, the bottom right macro button on an 800 macro overlay is Macro 1800.

You can activate each macro simply by touching the macro button using the macro tablet pen, or pointing device. This is the same as pressing one of the 'P' keys on the console.

MIDI Triggered Macro

Press <REPORT> {ADV SETUP} {SHOW SETUP} to display the *Show Setup Screen*. Set the *Trigger Macro* field in the MIDI window to a macro number. The macro is automatically triggered when a message equal to the trigger bytes specified in the *Trigger Bytes* field is received.

The Macro Screen

To display the *Macro Screen*, press **<MACRO>**. The current macro is shown in white on a red background. Macros are listed in sequence with the macro text and key sequence alongside each macro. You can browse through the current list of macros using the trackball, or go directly to a macro by entering **[MACRO] # [*]**. To create a new macro, use the same command where **#** is an unused macro number.

Editing a Macro

When you are in the *Macro Screen*, selecting any of the reserved macros by pressing the appropriate key will select the macro and put it in edit mode. Similarly, when you select a macro using **[MACRO] # [*]**, the macro is selected and put in edit mode. When a macro is selected using the trackball, you need to press **[MACRO] [MACRO]** to put it in edit mode.

Once in edit mode you can add keys or trackball/mouse movements to the end of the current key sequence. Pressing **[CLR]** removes the last key in the sequence while in edit mode. You cannot add the **[CLR]** key to the key sequence while editing, although it may be recorded during Macro Learn.

Note: when the number of keys in a sequence exceeds the display capability, the keys at the beginning of the sequence are not displayed. The last key on the right of the key sequence is always the last key entered. Pressing **[CLR]** always deletes the last key entered. When keys at the front of the sequence are not displayed, a white cursor is shown to the left of the sequence to indicate that there are other keys in the sequence.

Key actions are not carried out during editing. To end editing, press **[MACRO] [MACRO]**

Profiles

Profiles let you change the fade time characteristics of cues and effects and the mapping of levels between channels and outputs. For cues, you can assign separate fade profiles to the up and down fade times and assign a profile to the attribute fade time. For effects, you can add one profile to the up and down fade time of the effect (not the effect step). You can modify the fade characteristics of an intensity by attaching a profile to the intensity output for the fixture and modify the movement characteristics by attaching profiles to the appropriate attribute output.

You can modify profiles in 1% or 5% increments graphically or through the command line. You can also use DMX values (0 - 255) in the command line to modify profiles.

Profiles can be recorded, viewed and edited only in the *Profiles Screen*. Once recorded, they can be attached to cues, effects or outputs.

Alternatively, you can learn a profile using one of the two X Playbacks to manually create a fade profile. The characteristics of the fader movements are calculated and assigned to the specified profiles for up fade, down fade or attribute fade, as specified. A profile created in this way can be edited, if required, using End Editing and assigned to one or more cues. (Refer to *Learning a Profile*).

Predefined Profiles

There are two predefined profiles. These profiles cannot be edited or deleted.

Profile 98 - S Curve
Profile 99 - Square

The Profile Screen

To show the *Profile Screen*, press **<MORE> {PROF DISP}**. To view a specific profile in the *Profile Screen*, use **[NEXT]** or **[LAST]** or use the trackball to browse through the list of profiles. You can also go directly to a profile by entering **[PROFILE] # [*]**.

The *Levels Screen* still shows the *Live* display when the *State Screen* is showing the *Profile* display. You cannot change channel levels with any of the channel control commands. However, you can use the submaster faders, X playbacks and effect playbacks to change channel levels and record the results into submasters, cues, groups or effect steps.

The profile graph is scaled in percentage, shows profile input levels in the X axis and output levels in the Y axis.

Creating a New Profile Graph

Profiles are numbered from 1 to 99.. To create a new profile, enter **[PROFILE] # [*]**, where # is an unused profile number.

When you create a new profile, it starts as a linear curve (0% in = 0% out, 50% in = 50% out, etc.), which you can then edit using either *end editing* or *graph editing*, or a combination of both.

Using End Editing

End editing is primarily designed for setting the ends of the profile curve, but you can also use it to specify the value of any point in the curve.

Each end point and any point you add, is an anchor point for a section of the curve and is shown in white, rather than in green. When you add a point, the curve is redrawn so that there is a straight line between the new point and the nearest anchor point(s).

input [@] output [*] creates a new anchor point on the graph where **input** is the input percentage and **output** is the desired output percentage for the input value.

Note: Input must be divisible by 5.

5	@	1		Sets an anchor point at 10% for an input of 5% (Direct 1 Digit Mode)
5	@	1	2	Sets an anchor point of 12% for an input of 5% (Direct 2 Digit Mode)
5	@	1	*	Sets an anchor point at 10% for an input of 5% (Command Line Mode)

Using DMX Values for Points

You can use DMX values rather than percentage values when setting anchor points during end editing. This lets you specify more precise curves than is possible with percentage values.

5	0	@	DMX	
1	5	6	*	Sets an anchor point at 156 DMX (approx 61%) for an input of 50% (All Modes)
DMX	1	5	0	DMX
1	6	0	*	Sets an anchor point at 160 DMX for an input of 150 DMX (All Modes)

When you use values in DMX, the graph is replaced with a point list and the graph editing function is no longer available for that profile.

Using Graph Editing

Graph editing lets you use the trackball or mouse to highlight where you want to place an anchor point. You can change between end editing and graph editing by means of the {END EDIT} {GRAPH EDIT} softkey toggle.



When in the graph edit mode, each end point and any points you add is an anchor point for a section of the curve and is shown in white rather than green. When you add a point the curve is redrawn so that there is a straight line between the new point and the nearest anchor point(s).



To add or move a point, use the trackball to move the highlight to where you want the point and press {INSERT POINT} {INSERT POINT}. Once you have positioned an anchor point, you can make fine adjustments to its value by using the [+] and [-] keys. To delete a point, press the {DELETE POINT} softkey.

Deleting a Profile

To delete a profile, you must be in the *Profile Screen*. If you are in graph editing mode, press the {END EDIT} softkey and then press the {DELETE PROF} softkey to delete the current profile, or select a profile, then press {DELETE PROF}. Confirmation is required before a profile is deleted. Press {DELETE PROF} again to confirm.

DELETE PROF	DELETE PROF		Deletes the current profile (All Modes)
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Learning a Profile

You can create fade profiles for up, down and attribute fades by selecting one of the two X Playbacks, selecting a profile number and pressing the {LEARN} softkey on the *Profile LCD Menu*, followed by [*]. Running the next cue by pressing [GO X1] or [GO X2] or moving the appropriate X Playback fader off zero will start the profile learn process.

Note: A profile 'learned' in this way is not permanently assigned to the cue. It is only used once, when the [GO X1] or [GO X2] key is pressed.

Movement of the X Playback fader, including the Up and Down Fade Time and all movements of the fader when not on zero or 100% are used to calculate the fade profiles.



Note: During learning, the *Status Window* will show PROFILE LEARN in flashing white text on a red background. The Playback LCD on 500 Series consoles will show the profile numbers being learned and the VGA title bar in the Profile Screen will show PROFILE PP LEARNING.

Learns intensity and attribute profiles on X Playback 1 (All Modes) . Where 5 is the Upfade profile and attribute fade, and 5 + 1 is the Downfade profile.



Learns intensity profiles on X Playback 2 (All Modes). Where 6 is the Upfade profile, 7 is the Downfade and the attribute fade is not affected.



Note: If the Playbacks field in the *Show Setup Screen* is set to *Single*, or *Split Single* and *Playback 2* is selected. An error message is generated.

Learns intensity profile on X Playback 1 (All Modes). Where 3 is the Downfade profile and the Upfade and attribute profiles are unaffected.

Viewing and Editing Learned Profiles

When you have created the profile(s), you can view and edit them in the *Profile Display* using *End Editing* only, as previously described.

Stopping the Learn Process

You can stop an active learn on either playback as shown:



Assigning Profiles

You can assign the same profile, or different profiles to the up fade and attribute fades and to down fades, as follows:



Assigns the following profiles to Cue 8. Profile 6 to the Upfade, profile 7 to the down fade and uses any attribute fades, if already assigned. Loads to X1 or X2 Playback as selected. (Direct Action Modes)



As above for Command Line Mode



Assigns profile 4 to the attribute fade profile of cue 6 and loads to X1 or X2 Playback as selected. (Direct Action Modes)



As above for Command Line Mode

Undoing a Profile Learn

You can undo the learn action using the [UNDO] key. This will restore the profile field in the cue to the state before the learn took place.



Undoes the last profile learn action

Direct Output Control

Output levels can be set directly from the command line by temporarily unpatching the output, then setting the output level using the command line or level wheel. When unpatched, the initial level of the output is set to the level of the channel that the output has been unpatched from. The following examples do not take into account differences in command modes, e.g., when setting levels, the [*] key is not required for direct entry modes and the second level digit is not required in direct 1 digit mode.

DIMMER 4 *	Unpatches output 4
DIMMER 4 UNPATCH	Unpatches output 4
DIMMER 4 @ FULL	Sets output 4 at full
DIMMER 4 ON	Sets output 4 at ON level (default 100%)
DIMMER 4 @ 2 0 *	Sets output 4 to 20%
DIMMER 4 @ DMX	Sets output 4 to DMX 25 (=10%)
2 5 *	
DIMMER 4 THRU 8 <Wheel>	Wheels levels of outputs 4 to 8
DIMMER @CHAN 4 <Wheel>	Unpatches all outputs for channel 4 and wheels output levels
DIMMER 4 REPATCH	Repatches output 4
DIMMER DIMMER OR DIMMER REPATCH	Repatches any unpatched outputs

When any outputs are unpatched, a warning label 'DIMMERS UNPATCHED' appears in white on a red background on all screens, except setup screens. The percentage level of unpatched outputs is shown in white on a red background in the *Status* window

Direct output control is also used with *Console Reporter* to unpatch and repatch dimmers as the result of a dimmer fault condition. The softkeys {BACKUP} and {FILTER} are used by *Console Reporter* to set a backup scene and to filter out reporting of specific fault conditions (refer to *Console Reporter* section). These softkeys are disabled unless *Reporter* is selected ON in the *Console Setup Screen*.

AutoMod

What is AutoMod

If a lamp blows during a show you can set AutoMod to temporarily transfer control of the blown lamp (source) to drive another channel, or channels (destination). AutoMod allows you to apply a scaling factor to compensate for the difference in light intensity between the source and destination luminaires.

The AutoMod facility allows you to permanently update the show to incorporate any temporary settings made in Automod.

You can enter a maximum of 87 AutoMod pairs (Destination and Source) and include a scaling factor for each pairing of 10% to 90% (1-digit mode) 1 to 99% (2-digit mode)

When you set one or more channels to be replaced by another, the channels are replaced in all cues, subs, groups and effects during playback mode.

Using AutoMod

The *AutoMod Screen* is displayed when you press **<MORE> {AUTOMOD}**. If there are no Automod instructions, the body of the screen will be blank.

The following examples show how to set up an AutoMod instruction:



Sets channel 8 to the current level of channel 3 on an htp basis and sets channel 3 to zero (All Modes)



Sets channel 3 to be replaced by channel 8 at 80% of its current level on an htp basis (Direct 1 Digit Mode)
Note: For Direct 2 Digit mode, 80% must be entered as 80.



Sets channels 3 to 5 to be replaced by channel 8 (All Modes)



Sets channel 5 to be replaced by channels 6 to 8 (All Modes)

Note: When a fixture is paired in automod, all associated attribute channels are automatically paired. You can also Automod individual intensity or attribute channels using the decimal notation, (e.g., [3] [.] [1] {A-MOD FROM} [6] [.] [1] [*]).



You can Automod a channel to itself. This would provide the opportunity to apply a scaling factor to the channel



Sets the intensity of channel 6 up 30% **Note:** For Direct 2 Digit mode, 30% must be entered as 30.



When you have set up the Automod pairing, press **{A-MOD ON}**. A warning will appear (white on a magenta box) USING AUTOMOD while Automod is active. To reset the channels to normal operation, press **{A-MOD OFF}** to cancel Automod and clear the warning box.

Customising the Auto-Mod Screen

The *Automod Screen* can order the display in Destination order (default) or Source order. Press the **{SOURCE ORDER}** softkey to display the paired channels in source order. Press the **{DEST ORDER}** softkey to return the display to destination order.

Note: where more than one destination channel is paired to a source channel and the display is in destination order, duplicate destination channels are shown in black. Similarly, if more than one source channel is paired to a destination channel and the display is in source order, the duplicate source channels are shown in black.

Deleting Auto-Mod Channels

You can delete specified destination channels from the Automod Screen or delete all Automod pairing using the **{DELETE}** softkey, as shown:



Deletes the destination channel 3 (All Modes)

Note: Where only one destination channel is paired to one source channel, deleting the destination channel will clear the source channel from the display (source channel no longer paired in Automod). Where more than one destination channel is paired to a source channel and one of the destination channels is deleted, the remaining destination channel(s) will remain paired to the source channel. To delete source channels from the *Automod Screen*, proceed as follows:



Deletes source channel 3



Deletes all auto-mod entries from the Auto-Mod Screen

Updating the Show from the Auto-Mod Screen

Automod channels shown on the Automod Screen will remain paired while in the USE AUTOMOD mode. Pressing the **{A-MOD OFF}** key will remove the Automod pairing from the show. You can permanently update cues, subs, groups or effects from the *Live* screen to incorporate the pairing set in the *AutoMod Screen* as shown:



Updates cues 1 to 8 from the AutoMod Screen



Updates submaster 2 to 4 from AutoMod Screen



Updates group 3 from the AutoMod Screen



Updates effect 5 from the AutoMod Screen

Using Auto-Mod with Moving Lights

Since all associated attribute channels and channels in all cues, subs, groups and effects are automatically paired, Auto-Mod can be used to considerable advantage when setting up moving lights. For instance, when the characteristics of a moving light have been set up for one light, you can pair its intensity and attribute values to other moving lights, and to itself. In this way, cues, subs, groups and effects using the same moving lights can be set with the minimum number of keystrokes. You can then decide to apply the settings to individual or ranges of cues, subs, groups and effects using the syntax described above.

Time Code Events

This function is primarily designed to meet the lighting control needs of 'themed environments', where the requirement is for the playback of shows synchronised to SMPTE audio or video time codes. The purpose is to create a light show comprising SMPTE time-stamped events for use with a Strand Lighting 510i, or 310 lighting control panel. The sequence of events is based on previously defined cues, effects, macros and submasters.

Up to 3000 events (1000 on 300 Series consoles) can be recorded against one light show, enabling triggering of cues, effects and macros.

Events Playback Window

The *Event Playback* window is displayed on the *State Screen* when the *Live Screen Layout* field in the *User Setup Screen* is set to *Event, PB + Event* or *PB + Event + FX*. This window shows the current state of the timecode playbacks. The last actioned event is shown highlighted in yellow. The screen will automatically scroll to continuously display at least the current and next event.

Note: It is recommended that when setting up and editing timecode events, the *Event Playback Preview* window is accessed using the key combination **<MORE> {EVENT LIST} {PLAYBACK}**. Although both windows are identical, the *Event Playback Preview Screen* gives access to the *Event Playback Menu* providing control of the SMPTE internal and external clock and to the event stepping facilities.

Both show the current time, source and status of the selected clock as follows:

INTERNAL: Internal SMPTE clock controlling events.

EXTERNAL: The external SMPTE clock is controlling events.

OVERRIDE: The internal clock has taken over control due to a failure of the external clock (only if the *Clock Override* field in the *Timecode Options* window of the *Show Setup Screen* is set to ON)

NO CLOCK: Internal clock unable to take control due to *Clock Override* being set to OFF.

CLOCK: The current SMPTE time (internal or external)

PAUSED: Clock paused when **{PAUSE CLOCK}** softkey has been pressed (see *Event Playback Menu*).

nrf: Frames per second 24f, 25f, 30f (drop) or 30f (non-drop)

SMPTE Clock type (SMPTE or OFF)

START: Timecode that the clock must reach before playback is started.

STOP: Timecode after which the clock ceases to play events.

Note: The *Source* field in the *Timecode Options* window of the *Show Setup Screen* must be set to SMPTE before the internal or external clock can be used. In addition, the *Frame Rate* field must be set to the appropriate setting and the *SMPTE Net Node* field must be set to LOCAL or the appropriate net node name.

The Event List

The event list, which is displayed when you press **<MORE> {EVENT LIST}** enables you to set up and edit the event playbacks. The *Event List LCD Menu* gives access to the *Event Playback Preview* window which is identical to the *Event Playback* window above.

Timecode Format

The format of the external and internal SMPTE clock is as follows:

HH:MM:SS:FF where

HH = Hours (0-23)

MM = Minutes (0-59)

SS = Seconds (0-59)

FF = Frames (0-23, 0-24, 0-29 drop or 0-29 non drop)

When the external SMPTE time clock is running, the internal clock is automatically synchronised to it.

The Current Event

The current event is shown on the Event List in white on a red background. You can select a particular event for editing using the trackball.

Event List Editing

You can edit the *Cue* and *Command* Field of the *Event List* using the commands described below, or you can edit the fields by firstly pressing the **[SHIFT]** key and moving the trackball to change the fields from non-edit mode (yellow) to edit mode (green), then selecting the field to edit using the trackball. In the *Cue* field, you can either enter a cue number from the keypad, or use the level wheel to insert a number in the field. In the *command* fields, you can use the level wheel to set the start command (F, S or M) or stop command (f, or s) and the keyboard or wheel to set the effect, submaster or macro number. When editing is complete you can return to the non-edit mode by pressing **[*]**

Note: To edit timecodes refer to *Editing Timecodes*.

The Event List Menu

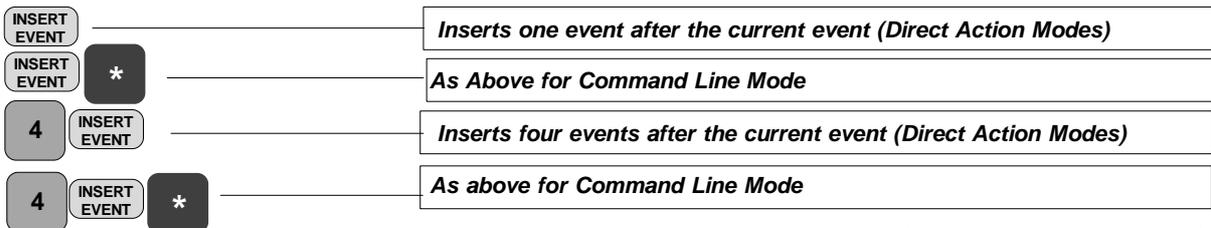
The *Event List LCD Menu* shows the range of events selected for time editing in the *Event List*.

Note: If only one event is selected in the *Event List*, the FIRST and LAST event numbers are the same. If no selection has been made, FIRST and LAST are shown as 0 with the time code shown as 00:00:00:00. Duplicate event times are shown with a trailing letter, e.g., 11:22:33:44a and 11:22:33:44b. A maximum of 9 duplicate events are permitted.

Inserting and Deleting Timecode Events

You can insert or delete events from the Event List using the **{INSERT EVENT}** and **{DELETE EVENT}** softkeys.

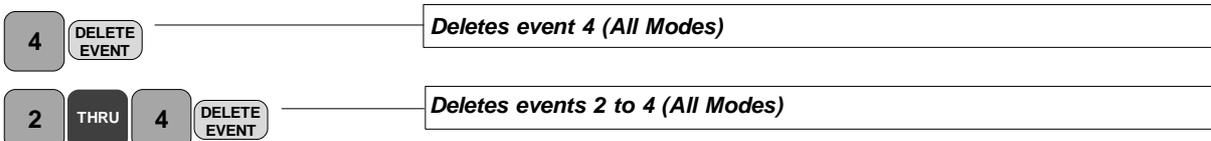
When you insert an event, the new event is added after the current (highlighted) event on the *Event List* at the same timecode as the current event. All the following events are renumbered. You can insert up to nine new events simultaneously by adding a number before the **{INSERT EVENT}** command.



If no timecode event is selected for editing (refer to *Editing Timecodes*), pressing the **{RECORD CLOCK}** softkey will create a new event set to the current SMPTE time.



Pressing **{DELETE EVENT}** deletes the current (highlighted) event on the *Event List*. You can also specify a particular event, or range of events for deletion by prefixing the **{DELETE EVENT}** command by an event number or a range of event numbers. When one, or more events are deleted, all subsequent events are automatically renumbered.



Adding and Removing Timecode Event Text Labels

You can add a text label to identify particular events, or you can edit existing text labels as shown. The text label that appears on screen is added from the external keypad.



Adds the text label 'Ghost Scene' to the current event. (All Modes)



Removes the text label from the current event (All Modes)

You can add or remove a text label from a specific event by prefixing the above commands with an event number.

Assigning a Cue to an Event

You can assign a cue to an event or delete a cue assignment from an event as shown:



Assigns cue 444 to the current event (all Modes)



Deletes cue assignment from the current event (All Modes)

You can assign a cue to, or delete an assignment from a specified event by prefixing the above commands with the event number.

Assigning an Effect, Submaster or Macro to an Event

You can use the two command fields on the *Event List* to assign the starting and stopping of effects, or the bumping up and bumping down of a submaster, or the running of a macro to particular events, as shown. A command is automatically assigned to the first non-assigned command (CMD1 or CMD2), or will overwrite if already assigned.



Assigns the starting of effect 3 to the current event (All Modes)



Assigns the stopping of effect 3 to the current event (All Modes)



Assigns submaster 8 bump up to the current event (All Modes)



Assigns submaster 8 bump down to the current event (All Modes)



Assigns macro 9 to the current event (All Modes)

You can assign effects, submasters and macros to particular events by prefixing the above commands by the event number. To remove a assignment omit the effect, submaster or macro number.

Recording Events in Real Time

With the SMPTE clock set and running and all cues and commands assigned, you can set the timecodes for each cue and/or command in real time by highlighting each event and pressing the **{RECORD CLOCK}** softkey at the instant that you want the event to start.

You can edit timecodes using the *Edit Times Menu* softkeys or using the command line. In either case, you must select the timecodes to be edited.

Selecting Timecodes for Editing

You can select an event in the *Event List* for timecode editing as shown. Selected timecodes are highlighted white on a purple background.



Selects event 3 for timecode editing (All Modes)

Where more than one event has to occur at the same time, or has to be adjusted by the same amount of time, you can select the events using the [THRU] key as shown.



Selects events 1 to 3 for time editing (All Modes)

Using the Edit Times LCD Menu

To edit the selected event timecodes, press the {EDIT TIMES} softkey to display the *Edit Times LCD Menu*. This menu provides softkeys enabling you to set and edit timecodes, as shown. Press {BACK} to return to the *Event List Menu*.



Adds one hour to all selected timecodes



Adds one minute to all selected timecodes



Adds one second to all selected timecodes



Adds one frame to all selected timecodes



Adds five frames to all selected timecodes

When you press [SHIFT] the menu keys change to decrement keys.

Editing Timecode Events Using the Command Line

Pressing the [TIME] key when events are selected for time editing displays a different *Edit Times LCD Menu* and enters the word TIMECODE on the command line. You can then enter timecodes from the keypad, set start and stop times and copy or move the starting times of selected events as shown.



Sets the timecode for the selected events to 01:02:03:04 (All Modes)



Changes hours to 2 for the selected events (All Modes)



Changes the frames to 8 for the selected events (All Modes)



Moving or Copying Events with Time Edit Commands

This facility enables a block of events to be moved to a new start time or repeated at a specific point in the show.

Note: If other events are timed to occur within the time range of the moved or copied events, they are merged together. If the events occur at exactly the same time, they are set as duplicate times (trailing letter a, b, c, etc)



Moves events 2 to 5 to a new starting time of 01:02:03:04 (All Modes)



Copies events 2 to 5 and repeats the events at the starting time of 01:02:03:04 (All Modes)



Searching for Events Using Timecode Commands

You can use the time edit command to search for the occurrence of an event at a specified time using the [GOTO] and [TIME] keys as shown:

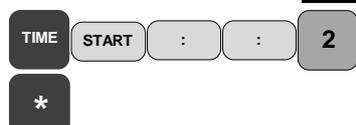


Select the event(s) timed to occur at exactly 02:03:04:05. A marker (>) is positioned on the first event to occur at that time.

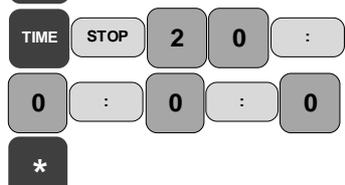
Note: If no event is timed to occur at the selected time, the next highest timed event is selected. If no events are timed to occur at or after the selected time, the last event is displayed.

Setting the Event Playback Start and Stop Times

The following examples show how to set the event playback start and stop times. Playback start and stop times can be entered for the complete show, or can be set to the times of specific events, or a range of events as shown.



Sets Playback start time to 00:00:02:00 (All Modes)



Sets event playback stop time to 20:00:00:00 (All Modes)



Sets event playback start time to event 1 time (All Modes)



Sets the event playback start and stop times to events 1 to 3 (All Modes) {START} and {STOP} keys have the same effect in this instance.



Sets the event playback stop time to 23:59:59:29 (All Modes)

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Setting /Resetting the Internal Clock

Press the {PLAYBACK} softkey to display the *Event Playback* window. When the clock is INTERNAL or *PAUSED*, the {SET CLOCK} softkey can be used to display the *Set Clock LCD Menu* showing softkeys used to increment or decrement the clock time, as shown.



Adds one hour to the internal clock time



Adds one minute to the internal clock time



Adds one second to the internal clock time



Adds one frame to the internal clock time



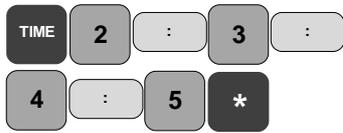
Adds five frames to the internal clock time

When you press [SHIFT] the menu keys change to decrement keys.



Resets internal clock to 00:00:00:00

With the Set Clock Menu displayed, you can also set the clock from the command line using the [TIME] key. Pressing the [TIME] key enters CLOCKTIME on the command line.



Sets the clock time to 02:03:04:05 (All Modes)

Manually Stepping Through Events

PAUSE
CLOCK

STEP

SHIFT

and



Selecting **{PAUSE CLOCK}** stops the internal or external clock at the time of the last triggered event. Pressing the **{STEP}** softkey will manually trigger the next event and select the following event ready for triggering using the **{STEP}** softkey. Alternatively, with the clock **PAUSED** you can highlight a particular event using the **[SHIFT]** key and the **{LAST}**, **{NEXT}**, **{BEGIN LIST}** or **{END LIST}** softkeys to move the highlight up and down the list of events.

You can use the **{UNBUMP ALL}** softkey to unbump all submasters, or the **{STOP FX}** softkey to stop any running effects.

The 510i and 310 Show Controller/Backup

Introduction

The 510i and 310 are designed to match the lighting needs of the themed environment market, where the requirement is for a repetitive playback of shows controlled by one of the following:

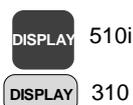
1. SMPTE Audio or Video Timecodes
2. MIDI Show Controller
3. Contact Closure Inputs
4. Internal Clock
5. Manual Playback

The 510i and 310 also support playback of shows recorded on GSX and LBX. The creation of a light show based on SMPTE time-stamped events using a 500, or 300 series console is described under *Time Code Events*.

In addition, since the software configuration of applications and channel capacity of the 510i and 310 is identical to the other 500 series and 300 series consoles, both can serve as compact and cost effective tracking backup units for a main 500 or 300 series console. (Refer to *Tracking Backup* Section)

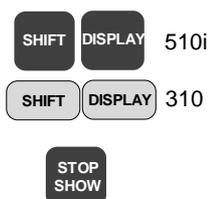
User Interface

The front panel controls of the Show Controllers provide the minimum user interface required to operate all the *GeniusPro*, *Lightpalette*, *Tracker*, *CommuniquéPro* and *Networker* playback functions. Access to the full software functionality (in particular, show setup, editing and saving) is only possible using an external keyboard and VGA or a remote control unit.



An LCD display on the front panel and a touch screen display on the 310, provides all the displays and associated softkeys necessary to control the playback functions of the system. The Macro display is shown on start-up. However, you can select other displays using the **[DISPLAY]** key (510i), or touch button on the 310, to cycle through the various softkey menus, as follows:

MACRO, SUBS, BROWSE, EVENT, PLAYBACK, BACKUP, SETUP, back to MACRO, etc.



Entry to the Macro LCD menu from any other menu is achieved using the key combination **[SHIFT] [DISPLAY]** keys (510i) or touch keys (310)

A **[STOP SHOW]** pushbutton is provided to enable you to stop the show and apply a preprogrammed lighting state. This panel key is protected from accidental operation and flashes when selected. The operation of the key is mapped to macro 997 and to the 500 series **[STOP]** key. The LED in the **[STOP SHOW]** key will flash if any **[STOP]** key mode is selected, e.g., BLACKOUT, STOP ATTS or ST ATTS+BO.

During playback, you can prevent any unauthorised use of the panel keys (except **[STOP SHOW]** and the external keyboard, if connected) by means of a keyswitch with removable key. When locked, the condition is displayed on the panel LCD, the keyswitch LED is illuminated and the LCD dims.

Fourteen macro panel keys, [P1] to [P14] (510i), or touch screen keys (310), when operated with, and without the [SHIFT] key depressed, will apply one of twenty eight preset macro conditions. The [USER] key/touch screen key is mapped to macro 998.

The [CLR] key is used to clear the last command.

Macro Display

The LCD *Macro Menu* enables viewing and playback of sequences of commands previously recorded using a series 500 or 300 console (refer to *Recording and Using Macros - Section 9*). Up to eight macros can be displayed at one time on the LCD display, the currently selected macro identified with the marker > after the macro number. Pressing [SHIFT] [DISPLAY] from any other display will show the LCD *Macro Display*.

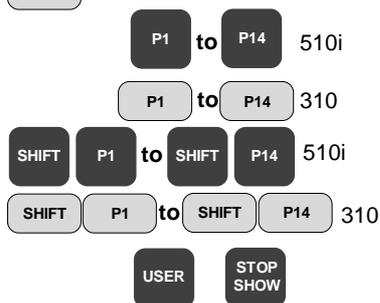


Individual macros can be selected from the *Macro Display* and run using the softkeys, as follows:

LAST	Selects the previous macro in the macro list.
NEXT	Selects the next macro in the macro list.
MACRO -100	Subtracts 100 from the current macro (if applicable) and displays as the current macro.
MACRO +100	Adds 100 to the current macro and displays as the current macro (if applicable)
FIRST MACRO	Selects the first macro as current.
RUN	Runs the currently selected macro.

While the [SHIFT] key is depressed, an alternative set of LCD softkeys is displayed, as follows:

LAST 8	Displays the previous eight macros.
NEXT 8	Displays the next eight macros.



Note: Pressing [P1] to [P14] selects and runs macros 951 to 964 respectively. Pressing [SHIFT] [P1] to [SHIFT] [P14] selects SP1 to SP14 and runs macros 971 to 984 respectively. All 28 macros can be selected and run from the macro display as described above. Pressing the [USER] key on the panel runs macro 998. Pressing the [STOP SHOW] key runs macro 997.

Submaster Display

The *Submaster Menu* enables viewing and playback of submasters previously recorded using a series 500 or 300 console. (Refer to *Recording Submasters - Section 6*).

The display shows eight submasters at a time from the currently selected submaster page and displays the submaster number, level, text and associated macro against each submaster. The currently selected submaster is identified by a > marker after the submaster number.

Using the LCD softkeys, you can scan through the pages of submasters, select a submaster from the displayed page and increment, decrement or bump the submaster, as follows:

LAST	Moves the > marker to the previous submaster on the page.
NEXT	Moves the > marker to the next submaster on the page.
PAGE +	Increments the submaster pages, e.g., 1>2>3>4>etc.
DOWN %	Decrements or increments the level of the currently selected submaster by % level set in the Up Down % field of the User Setup Screen (default = 5%)
BUMP SUB	Bumps the currently selected submaster.

While the [SHIFT] key is depressed, an alternative set of softkeys is available, as shown.

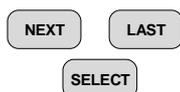
LAST 8	Displays the previous eight submasters on the selected page.
NEXT 8	Displays the next eight submasters on the selected page.
PAGE -	Decrements the sub pages, e.g., 6>5>4>3>2>1>6, etc.
TO 0%	Sets the level of the currently selected submaster to 0%.
TO 100%	Sets the level of the currently selected submaster to 100%.

Disk Browse Menu

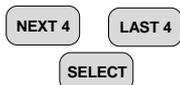
The LCD *Disk Browse Menu* lets you browse through the list of shows stored either on the internal disk or floppy disk, load a show for playback, or copy a show between disks and/or directories, or to and from a file server.

This display is also used in conjunction with the floppy disk drive, to load new operating software.

Loading a Show



To load a show from floppy disk or internal disk, use the {LAST} and {NEXT} softkeys to position the > marker alongside the floppy disk field (A:), or the internal drive field (C:) and press the {SELECT} softkey until the required directory is displayed.



The drive and directory is shown on the top line of the display and the shows contained in the selected drive/directory are listed below. To load a show from the show list, use the {LAST} or {NEXT} softkeys to position the > marker to the required show and press the {SELECT} softkey. A show load prompt and confirm message will appear. Pressing {SELECT} again will load the show.

The show files on the disk browser are identified by their show name, date and time of recording.

When browsing a long list of shows, you can hold down the {SHIFT} key and use the {LAST 4} or {NEXT 4} softkeys to display shows 4 at a time.

Copying a Show



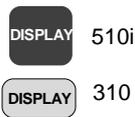
To copy a show, firstly move the > marker, as described above using the {NEXT} {LAST} and {SELECT} softkeys. When the marker is on the show to be copied, press the {COPY SHOW} softkey. The menu title will change to *Copy Menu*. The copy function is active while this menu is displayed. In response to a prompt message, use the {NEXT}, {LAST} and {SELECT} softkeys to select the destination disk and directory. The destination path is shown on the LCD display. If the path displayed is correct, press the {COPY SHOW} softkey again to copy the show to the desired destination. Pressing the [CLR] key at any time during the copy process will return to the LCD *Disk Browse Display*.

Loading Operating Software



To load new operating software, insert the floppy disk in the disk drive and press the **{SOFT LOAD}** softkey. A software load prompt and confirm message is displayed. Pressing the **{SOFT LOAD}** softkey again will load the operating software from the floppy disk. (refer to *Installation & Registration of Software* at the back of this manual.

Time Code Events Display



The Show Controller is designed to operate in conjunction with an externally applied SMPTE time code, however, in the absence of a SMPTE time code, you can enable an internal clock to control the show events. When the external SMPTE clock is selected and running, the internal SMPTE clock is synchronised to it.

The LCD *Events Menu* is displayed by pressing the **{DISPLAY}** key. This display lets you select the source of timing of show events and displays each event and programmed event time in sequence as the light show progresses. A < marker indicates the next event to trigger, and a * marker indicates the last event triggered.



Select the **{EXT CLK}** softkey to apply an external SMPTE time code input via the 3-pin Audio XLR connector.

Select the **{INT CLK}** softkey to apply the internal time code clock.

The status of the timing source and SMPTE time is displayed on the LCD (EXTERNAL, OVERRIDE (internal clock taken over), NO CLOCK (external clock absent), INTERNAL or PAUSE.

Note: The *Source* field in the *Show Setup Screen* must be set to SMPTE and the *Frame Rate* and *SMPTE Net Node* must be set correctly before you can use the external clock. You can also set the clock override status in the *Clock Override* field in the *Show Setup Screen*.

Time Format

Please refer to *Timecode Format* in *Timecode Events* Section.

Setting/Resetting the Internal Clock

Please refer to *Setting/Resetting the Internal Clock* in *Timecode Events* Section (*Section 13*).

Manually Stepping Light Show events

Please refer to *Manually Stepping Light Show Events* in *Timecode Events* Section (*Section 13*)

Cues and X Playbacks Display

The layout and content of the *Cues and X Playbacks* LCD Display is determined by the options selected in the *User Setup Screen* and the individual cue levels and properties attributed to each cue when first recorded.

The Show Controller is designed as a show playback unit and does not provide direct editing facilities for cues without the aid of an external video display and keyboard, or remote control.

The *Cues and X Playbacks* display is intended to provide you with the facility to view the cue list, to select and load individual cues and to run the cue, or cue sequence on demand.

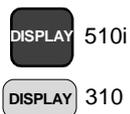
The display shows the cue list for Playback X1 or X2. A > marker, shown to the left of the cue number identifies the current cue. The percentage completion of the last run cue is also displayed. The next cue to run is indicated with a < marker after the cue number. The last cue is identified with a * marker.

The softkeys on the Cues and X Playbacks display allows you to select and run cues , as follows:

Note: Pressing the **[SHIFT]** key will toggle between X1 playback and X2 Playback (if a dual playback mode is selected in the *Show Setup Screen*). All key actions apply to the playback displayed on the LCD, i.e., X1 or X2.

LAST	Selects the previous cue on the displayed cue sheet as the current cue.
NEXT	Selects the next cue on the displayed cue sheet as the current cue.
LOAD	Loads a selected cue into the X playback and resets any loops to their original loop count. This action has no effect on the output until you press the {GO} softkey.
STOP BACK	Press once to stop the current cue. Press again to move to the previous cue.
GOTO CUE 0	Selects cue 0 (blackout)
GO	Runs the current cue.

Backup Display



This display is applicable when the Show Controller is used to provide tracking backup to a 500 or 300 series control console using an Ethernet network. (Refer to *Tracking Backup* section - *Section 15*).

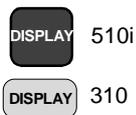
Press the **[DISPLAY]** key until the *Backup Menu* is displayed.

The *Backup Menu* displays the following network information.

Networker Options: On or Off
 Mode (Backup): As specified by 220node.cfg
 This Node: Net Name, Node Address
 Main Node: Net Name, Node Address or, if Node = Main,
 Backup Node: Net Name, Node Address
 Status Options: As current network status.

For further information on backup commands, refer to *Tracking Backup* section - *Section 15*.

LCD Panel Setup



Press the **[DISPLAY]** key until the Setup Menu is displayed. This display shows the software version number, the software applications loaded and the number of submasters detected. The display also shows the brightness and contrast settings for the LCD backlight.

The following softkeys are displayed:

CONTR DOWN	Decreases the LCD contrast.
CONTR UP	Increases the LCD contrast.
BACKLT DOWN	Decreases the LCD backlight brightness.
BACKLT UP	Increases the LCD backlight brightness.
SHUT-DOWN	Displays warning/confirm message. Press {SHUTDOWN} to shut down the system or the [CLR] key to cancel.



Text that would be displayed on the error line of a 500 or 300 series video monitor is displayed on the LCD display. Pressing the **[CLR]** key cancels the error message.

Submaster Macro Inputs

Forty-eight submaster macro inputs are provided via four 25-pin female D type sockets on the back of the 510i , twenty four via two sockets on the 310 Panel. These outputs provide simple On/Off logic switching and are designed to act functionally as individual submaster bump buttons. Each input can be used to trigger a macro or an effect.

To use these inputs to trigger macros, their corresponding submasters must either have bump mode set to macro (recommended), or have an external submaster assigned.

For pin connections, refer to the *Console Connectors* section of the *Operator's Manual* or *On-Screen Help*.

Tracking Backup/Remote Consoles

Tracking Backup allows 2 consoles, or a console and 510i, or 310 Show Controller, or console and PC running *identical configurations* of *GeniusPro* or *Lightpalette* to work together as main and backup consoles/PCs for added security of operation.

'Identical configurations' means that main and backup should be registered with the same applications and number of channels. If the backup is a PC, this requires that it should have a serial numbered dongle (available since version 2.0 software) which enables the PC to be registered with a password just like a console.

It is recommended that a main console should be backed up by either another console of the same type, or a 510i, or 310 Show Controller, or by a PC, although other combinations are possible.

The compact nature of the 510i and 310 and the comprehensive user interface makes it a highly effective backup unit to a main console. (Refer to *510i* and *310Show Controller /Backup* section - *Section 14*).

If the number of submasters on the backup does not match the main, e.g., if the main is a 550i and the backup is a 520i, create the file USERINIT.BAT within DOS in the backup console's C:\220OS directory using the DOS edit program. To create the file, type USERINIT.BAT and enter **set 220NUMSUMS=xx**, where xx is the number of submasters in the main console.

Backup commands

Unless otherwise noted, backup commands are available only if both main and backup are powered up with the state 'Main Active No Sync'. displayed. Backup commands are accessed by pressing **<MORE> {BACKUP CMDS}**.

{M GIVE SYNC}, Main Give Sync, transfers the current show to the backup console/PC and enables main console output.

{M TAKE SYNC}, Main Take Sync, transfers the current show from the backup console/PC and enables main console output.

{M GIVE CTRL}, Main Give Control, disables main console output and enables backup console/PC output.

{M TAKE CTRL}, Main take Control, enables main console output and disables backup console/PC output.

{BREAK SYNC} Breaks the tracking connection between the main console and backup console/PC, and leaves the currently active outputs unchanged. This is necessary in order to shut down either console.

{RESET DESK} Resets many console parameters to power-up defaults. It is run automatically at the end of the Give/Take Sync commands, but is available manually here.

[SHIFT] {M GIVE SYNC} Connects main and backup without transferring show data.

[SHIFT] {M TAKE SYNC} Connects main and backup without transferring show data. Only available in the Backup Active No Sync state (when the backup has taken control automatically, and the main has now restarted).

For more detail on backup handshaking between the main and backup units, please see the *Operator's Manual* or *On-Screen Help*

Normally the backup console controls are active when in sync. Commands entered on the backup are echoed back to the main so both consoles stay in sync.

Console lock

To prevent the controls on the backup console being accidentally pressed they can be locked out by pressing the keys **[SHIFT] [HELP]** together. Use **[SHIFT] [HELP]** again to toggle the console lock off. This lock works on all consoles.

Remote consoles

Remote Console/PC allows one main and several remote consoles to work together on the same show file at the same time. The main and remote need not have the same configuration of software or hardware. Each console/PC user has their own command line and screen but shares the same show (cues, groups, effects, etc.). To configure main and remote consoles, refer to the *On-Line Help*

At main or remote consoles, you can view the current display of the other console by pressing **[SHIFT] <MORE>** together. To return to your local display, press **[SHIFT] <MORE>** again.

Using remote console submasters

A 500 Series console, or a 510i Show Controller can be used as a main console with 500 or 300 series desks used as remote consoles.

When a remote console logs in, its submaster faders control the same submasters as the faders on the main console. For a fader to take control of a submaster, it must be moved to match the position of the fader on the other console which currently controls the submaster.

The faders on a remote console can also be used to control submasters 25 - 48 on a 510i/520/530 main console. To do this, add the line

```
set 220numsubs=54
```

in the file USERINIT.BAT on the main, and set the *Submaster Layout* setup field to "25-36 & 37-48" on the remote console. If the USERINIT>BAT file does not exist you will need to create it as previously described.

Off-Line Editor and PC Software

GeniusPro and *Lightpalette* Off-line Editor and *PC Software* provide full emulation of the console Operating Software on an a standard PC.

The Off-Line Editor lets you read and write show files, generate printouts, edit cues, groups, patch, effects and submasters, and preview all recorded show elements on screen.

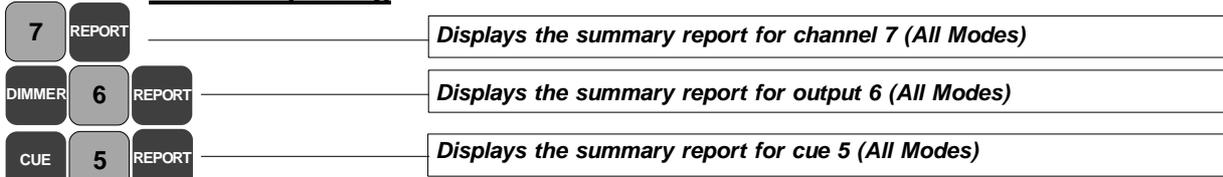
PC Software lets you link to your Ethernet network using supplied Network Card and the Networker Tracking Backup facility, in conjunction with an SN series node to connect a PC as a backup unit to the main console. See the *Operator's Manual* or *On-Line Help* for more details.

Templates are provided at the back of this manual to simulate the operation of 500 series and 300 series consoles using a standard PC keyboard in conjunction with the PC software or with the console software.

Report Displays

The report displays, available using the <REPORT> key provide status reports on individual outputs, channels and cues and information on the console and network configuration. The report displays also include a number of system diagnostic displays, primarily designed for use by service engineers.

Output, Channel and Cue Status Reporting



Individual summary reports are provided for each console output, channel and recorded cue. View the reports as shown.

System Report



Pressing <REPORT> shows the System Report. This report has four windows. The *System Status* window shows the number of cue parts, groups, effect steps, macros, profiles, events and print jobs currently being handled. The *Ports/Panels Detected* window shows number of DMX, AUX, VGA and D54/AMX ports detected, together with the number of submasters, faders and channel controls detected by the system. The *Network Configuration* window shows the *Node Name*, *Node Type*, *Node Address*, and the *Sub-Net Mask* and *File Server Address* for the console. The *Configuration* window displays the *Security Number*, the *Operating Software Version Number*, the *number of channels*, and the *application software installed*.

Dimmer Log

Refer to *Console Reporter* section

Diagnostic Displays

A number of diagnostic displays are available when you select the {DIAG} softkey, as follows:

Status Log

The *Status Log* is displayed when the {STATUS LOG} softkey is pressed. The contents of this display and the associated softkeys are designed for use by a technician. To print the Status Log, press <ARCHIVE> {PRINT} {PRINT LOG}

Network Diagnostics

The *Network Diagnostic* screen is displayed when you press the {NET DIAG} softkey. For information on the contents of the *Network Diagnostic* display, refer to the *On-Line Help*.

Internal Diagnostics

The *Internal Diagnostic* screen is displayed when you press the {INT DIAG} softkey. The contents of this display and the associated softkeys are designed for use by a technician.

Setup

There are three *Setup Screens* used to set up the user functions, show characteristics and console output, network, communication and external submaster details.

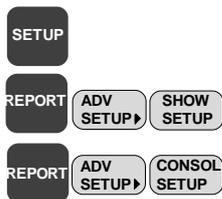
Selecting the Setup Screens

You can select the *User Setup Screen* by pressing the **<SETUP>** key.

All three Setup Screens can be selected via softkeys by pressing the **{ADV SETUP}** softkey when the **<REPORT>** key has been pressed.

Changing Setup Screen Values

Use the trackball, or the cursor keys on the PC keyboard to move between fields. Change values by using **[+]** and **[-]** or the level wheel, or by typing in numbers where appropriate. Choices available for the currently selected field appear at the bottom of the display, with the currently selected choice highlighted as white on a red background. To clear a number, or character from a field, press the **[CLR]** key.



When a field is selected, you can apply the default value for the field by pressing the **{DEFLT}** softkey. The default value in some fields is dependent on the setting of the GENIUSPRO/PALETTE field in the *Console Window* of the *User Setup Screen*.

To move the highlight to the first field (top left), press **[*]**

Note: On 300 Consoles, you can press **[SHIFT] [0]** to enter cursor lock mode and use the cursor keys to highlight the fields.

Pressing the **{BACK}** softkey, when you have selected the *User Setup Screen* using the **<SETUP>** key, will return to the previously displayed screen. Pressing **{BACK}** when you have selected a Setup Screen after pressing **<REPORT>**, will return to the *System Report Screen*.

User Setup Screen

The *User Setup Screen* determines the way that the console operates and displays information.

Show Setup Screen

The *Show Setup Screen* lets you control how values relating to show control (such as cue tracking and channel partitioning) are handled.

Console Setup Screen

The *Console Setup Screen* lets you control how the console communicates with other devices to which it is connected.

Further Information

For detailed information concerning the individual fields in each of the three *Setup Screens*, refer to the console *On-Screen Help* or *Operator's Manual*.

The Archive Screen

The *Archive Screen* is displayed when the **<ARCHIVE>** key is pressed. The screen provides the facilities to carry out all operations involving the console internal disk, floppy disk and external printer, including loading, copying, saving, deleting, backing up, restoring, clearing and printing shows, or parts of shows. In the *Archive Screen*, you can load operating and application software, save shows to, and load shows from floppy disk.

The Archive Selection Window



Each of the Archive Displays has an *Archive Selection Window*, which controls the parts of the show that are loaded, printed, cleared, etc.

To select a field, use the trackball to move the red cursor to the field and use the level wheel, or the **[+]**, or **[-]** keys to enable it (put a tick mark next to it) or disable it (clear the tick mark). Type the desired numbers in the **FIRST**, **LAST**, and **NUMBER FROM** fields.

The Show List Window



The show list appears at the bottom of the Archive display. To move the highlight to the show list, press **{BROWSE FILES}**. Use the trackball to scan through the list of show files held in the current directory. If a show is currently loaded, its file name is shown at the bottom of the show list window, under the heading of '*Current Show (Show to Save)*'. As you scan through the list of shows, the highlighted show name appears at the bottom of the show list window, under the heading of '*Show to Load/Copy/Delete/Restore*'.

Disk Operations

Naming a Show

Before you save a show, you should name it so that you can identify it when you need to load it back into the console.

Ensure that the required disk (internal or floppy) is highlighted in red and that the correct directory is shown to the right of the highlighted disk. If you require to change directories or create a new directory, refer to *Selecting a Drive or Directory* before naming the show.



Type **[TEXT]** show name **[*]** entering the show name from the external keyboard. To clear a name, type **[TEXT]** **[*]**. Once you have named the show, you can then save it to local disk or floppy disk.

Selecting a Drive and Directory



When you save a show it is saved in the current drive and directory. All data, including the setup, is saved. To save a show in a different directory, or drive, press **{BROWSE FILES}**, then use the trackball to highlight a drive or directory. To change to the parent directory of the current directory, highlight **[..]**. Press **[*]** to select the drive or directory. The drive is displayed in yellow on a red background and the directory is shown alongside.

Creating a Local Disk Directory



You can create a sub-directory within the current directory by using the **{MAKE DIR}** softkey. You may want to do this to help organize your show database and save similar shows in separate directories.

If you want to create a sub-directory in a directory other than the current directory, change to the desired directory as described above.

1. Press the **{MAKE DIR}** softkey.
2. Type the new directory name from the external keyboard. The directory name can use up to 8 alphanumeric characters and **_** (underscore), e.g., **show_12** (Do not use spaces, dots or the following characters **(* ? - \ /)**)
3. Press **ENTER** on the keyboard. You will be asked to confirm this action.
4. Press **ENTER** on the keyboard to create the new directory or **[CLR]** or **[UNDO]** to cancel the operation.

Saving a Show



When you save a show, all data, including the setup is saved. You do not have to tick fields in the *Archive Selection* window. To save the named current show to the current drive and directory, press **{SAVE SHOW} {SAVE SHOW}**. Once you have established the show name, drive and directory for saving, you should save your show frequently, especially if you are creating or editing a show.

Loading All or Part of a Show



You can load a show from floppy disk, or from the console hard disk. When you are loading a show, you must first select the parts of the show that you wish to load.

1. If you want to load the whole show, check the *Whole Show* field in the *Archive Selection* window using the **[+]** key.
2. If you want to load only part of the show use **[-]** to remove the check mark from the *Whole Show* field, then use the trackball to highlight each item you want to load and use the **[+]** key to turn its select field on.
3. Type the desired numbers in the FIRST, LAST and NUMBERS FROM fields.
4. Press **{BROWSE FILES}** to get to the *Show List* window.
5. Use the trackball to highlight the show.
6. Press **[*]** to load the show
7. Press **[*]** again to confirm, or **[CLR]** or **[UNDO]** to cancel the operation.

Note: If you do not change the current drive and directory, you can use **<ARCHIVE> {SAVE SHOW}{SAVE SHOW}** to periodically save the show.

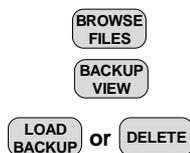
Note: Shows that have been saved using a previous software version can be loaded successfully, however, show files created using a later version of software may not load correctly if you are running an older software version.

Restoring or Deleting a Backup Copy of the Show

Each time you save the show to the local disk it makes a backup copy of the existing show on disk. You can restore, or delete a particular backup copy of a show as follows:

1. If you want to restore a copy of the whole show, check the *Whole Show* field in the *Archive Selection* window.
2. If you don't want to restore the whole show, use **[-]** to turn the **WHOLE SHOW** field off. Then use the trackball to highlight each item you want to load and use **[+]** to turn its **SELECT** field on. Type the desired numbers in the FIRST, LAST, and NUMBER FROM fields.

Note: You cannot delete part of a show.



3. Press **{BROWSE FILES}** to get to the *Show List* window.
4. Switch to the drive and directory containing the show you want to restore, or delete, as described under *Selecting a Drive and Directory*.
5. Use the trackball to highlight the show name.
6. Press **{BACKUP VIEW}** to see a list of backup copies for the selected show.
7. Use the trackball to highlight the backup version you want to load or delete.
8. Press **{LOAD BACKUP}** to restore the show, or **{DELETE}** to delete the backup version. You will be asked to confirm this action.
9. Press **{LOAD BACKUP}** again to load the backup or **{DELETE}** again to delete the backup copy, or **[CLR]** or **[UNDO]** to cancel the operation.
10. The selected backup copy of the show will be loaded/deleted.
Depending on the size of the show, restoring the show may take some time.

Copying a Show

You can copy a show from any drive or directory to any other drive or directory. This feature lets you copy files directly between two locations without the need to load them as the current show.

COPY
SHOW

1. Switch to the drive and directory containing the show you want to copy as described under *Selecting a Drive and Directory*.
2. Use the trackball to highlight the show.
3. Press **{COPY SHOW}** to request the copy. You will be asked to select a destination directory.
4. Select the destination drive and directory
5. Ensure that the name of the target disk and directory is displayed alongside the highlighted field LOCAL DISK or FLOPPY DISK.
6. Press **{COPY SHOW}** You will be asked to confirm this action. Press **{COPY SHOW}** again to copy the show to the selected directory or **[CLR]** or **[UNDO]** to cancel the operation.

Deleting a Show

You can delete a show by using the **{DELETE}** softkey. This deletes the show and all of its backups. You may wish to copy the show to a floppy disk before you delete it from the local disk.

DELETE DELETE

1. Switch to the drive and directory containing the show you want to delete, as described under *Selecting a Drive and Directory*.
2. Use the trackball to highlight the show.
3. Press **{DELETE}** to delete the show. You will be asked to confirm this action.
4. Press **{DELETE}** to delete the show or **[CLR]** or **[UNDO]** to cancel the operation.

Note: Before the show is deleted, it is copied to .bk0. The show, and all other backups are then deleted. This allows the show to be easily recovered in case of accidental show deletion.

Delete a Directory

You can delete a directory by using the **{DELETE}** softkey. The directory must be empty before you can delete it.

DELETE DELETE

1. Switch to the directory you want to delete and make sure all shows, and backups in it are deleted. You may wish to copy the shows to floppy disk before deleting them.
2. Switch to the parent directory of the directory you want to delete, as described under *Selecting a Drive and Directory*.
3. Use the trackball, to highlight the directory you want to delete.
4. Press **{DELETE}** to request the delete. You will be asked to confirm this action.
5. Press **{DELETE}** to delete the directory or **[CLR]** or **[UNDO]** to cancel the operation.

Note: If a message is displayed saying that the directory is not empty, there may be backup copies of the show that have not been deleted. Refer to *Restoring or Deleting a Backup Copy of the Show* to delete all backup copies, then reselect the directory and press **{DELETE} {DELETE}**

Formatting a Floppy Disk

Before using a floppy disk, it must be formatted. To save time you can use preformatted floppy disks compatible with PC/MS-DOS. If you need to format your own floppy disks, follow the procedure below, which formats a 1.44Mb disk. This procedure will erase any data already on the floppy disk.

FORMAT
FLOPPY

1. Insert the floppy disk.
2. Press **{FORMAT FLOPPY}**. You will be asked to confirm this action.
3. Press **{FORMAT FLOPPY}** to start the format operation or **[CLR]** or **[UNDO]** to cancel the operation.

A progress indicator appears while the console is formatting the disk.

Note: Console DMX output and network output stops during formatting.

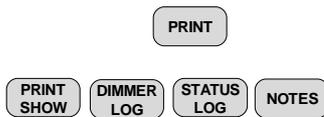
Write Protecting a Floppy Disk

After saving, the floppy disk can be write protected by moving the write protect tab so that the hole is open. This stops it being accidentally formatted or overwritten by another save.

Software Operations

Software operations, including upgrading operating software, adding additional channels, entering and saving your password, are described in the section entitled *Installation and Registration of Software* at the rear of this manual.

Print Operations



Press **<ARCHIVE> {PRINT}** to show the Archive *Print Screen*. This display lets you configure your printer and print show information. Although you can use the *Print Screen* macro **[SHIFT] [P1]** to print the current contents of all screens (1 screen per page), the archive print functions are provided for printing whole cues and shows.

The *Print LCD Menu* provides the following print options available by means of softkeys. **{PRINT SHOW}**, **{DIMMER LOG}**, **{STATUS LOG}** and **{NOTES}**. You can also stop printing using the **{STOP}** softkey, or return to the Archive Screen using the **{BACK}** softkey.

Before you undertake any print operation, ensure that the printer setup fields are set correctly for your printer by highlighting the field using the trackball and setting the field to the correct value using the level wheel or **[+]** or **[-]** keys.

Printing All or Part of a Show



Before selecting **{PRINT SHOW}**, you must select the parts of the show that you want to print in the *Archive Selection* window and the print options in the *Print Options Setup* window, using the trackball, to highlight the field and the **[+]** or **[-]** keys to place or remove the tick mark from the field.

1. If you want to print the whole show, check the *Whole Show* field in the *Archive Selection* window using the **[+]** key.
2. If you want to print only part of the show use **[-]** to remove the check mark from the *Whole Show* field, then use the trackball, to highlight each item you want to print and use the **[+]** key to turn its select field on.
3. Type the desired numbers in the FIRST and LAST fields.
4. Press **{PRINT SHOW}** to print your selection.

Printing the Dimmer Log



Pressing **{DIMMER LOG}** softkey will print the contents of the *Dimmer Log* (refer to *Console Reporter* section, *Section 19*).

Printing the Status Log



Pressing **{STATUS LOG}** softkey will print the contents of the *Status Log* (refer to *Report Displays* section, *Section 16*).

Printing Notes Pages

You can print the current contents of the Notes Pages using the **{NOTES}** softkey. The current contents of the notes pages is the last file displayed. To check the current contents of the Notes Pages, press **<MORE> {NOTES DISP}**

Clear Operations



Press **<ARCHIVE> {CLEAR}** to display the *Clear Screen*.

Note: You cannot undo a clear operation. If the show needs to be used again, make sure that it is saved onto disk or floppy disk before clearing.

From the *Archive Selection* window, select the parts of the show to clear, or select *Whole Show*. To fully reset the console and recreate all working files on the disk, select *Whole Show*, *ATC Pages* and *Setup*. Use the trackball to move the red highlight to the appropriate field and **[+]** or **[-]** to turn its select field On or Off. Type the desired numbers in the FIRST and LAST fields. Press **{CLEAR}** to clear the selection and **{CLEAR}** again to confirm, or **{BACK}** to cancel the operation. This operation may take a few minutes.

Console Reporter

Console Reporter is used to monitor and report temperature, system status and load information for up to 99 Strand fault-reporting dimmer racks, e.g., EC90SV/CD80SV, connected to the console AUX or COM ports, or using SN series nodes on the Shownet network. This facility allows the user to know the status of all lamps on a rig and to record rack-based backup scenes simply and easily.

Setting Up the Rack Configuration

The configuration of each dimmer rack is set up in a file called 220RACK.CFG. This file can be viewed and edited using the console Notes Editor.

Before editing the file, you should read the information in the Reporter Rack Configuration file. It contains important information concerning setting up and editing the rack configuration file.

At start up, *Reporter* will automatically interrogate all configured racks to determine the mapping between rack and dimmer id to console output, which is used in all subsequent analysis of dimmer faults.

Dimmer Fault Reporting

Set the *Reporter* field in the *Communications* window of the *Console Setup Screen* to ON using the [+] or [-] keys.

Note: *Reporter* may be used in conjunction with *Networker* software by setting the *Networker* field in the *Networker* window to ON.

If one or more faults occur in a patched dimmer, a one or two line message will be displayed on all screens, as shown in the example below.

Fault on Output 1234: Load Error, 200W, expected 500W

In addition, in order to draw the user's attention to the fault condition, the word **Dimmer!** is displayed in red at the top of the *Status Screen*.

The error message is removed from the current display on the next key press, however the Dimmer! warning remains on the Status Screen until the Dimmer Log is viewed

When one or more faults exist, the channel number(s) to which the faulty dimmer is patched is highlighted in red.

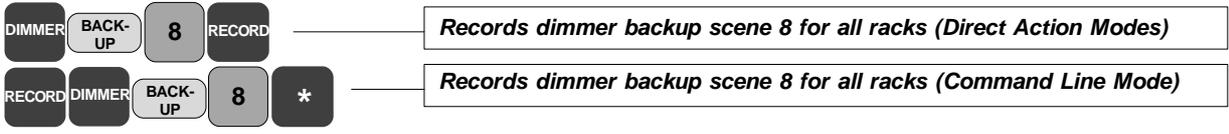
The Dimmer Log

In order to view the *Dimmer Log* screen press <REPORT> {DIMMER LOG}. This screen comprises a scrolling display showing a maximum of 200 date-stamped fault reports in chronological order. The log is automatically updated when a new fault occurs. The log shows the date and time that the fault occurred, the rack and dimmer number and a description of the fault.

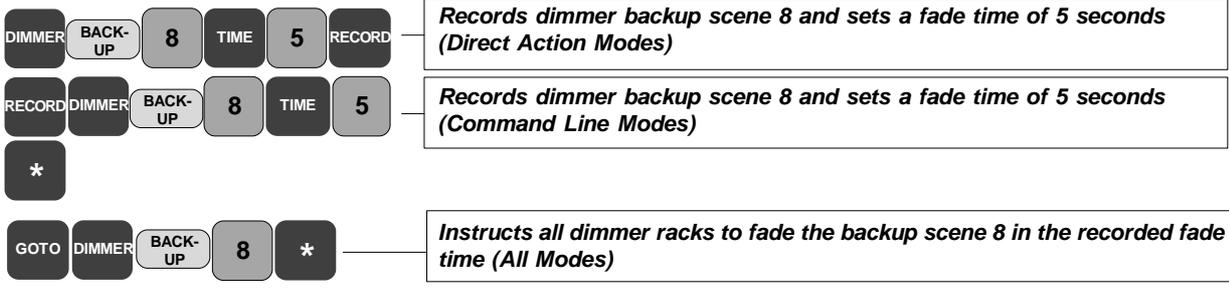
The lower portion of the screen shows a map of all configured racks (max 99), color-coded as follows to show their status:

Green: On-Line
Red: Fault on rack, or on one, or more of its dimmers.
Grey: Off-Line
(blank): Not configured
Yellow: Console is trying to find rack.
Flashing: At least one of the dimmers in the rack is Load Learning.

The following softkeys on the *Dimmer Log* screen have the functions shown.



You can incorporate a fade time within a backup command, as shown.



Advanced Features

The following advanced features are described in detail in the Operator's Manual and in the On-Screen Help.

Additional Networker Features

Apart from Tracking Backup and Remote Consoles, described in Section 15, Networker also provides the following advanced features:-

Pressing **<MORE>** display key and the **{NOTES DISP}{LOAD FILES}{CONF FILES}** and **{NET CONFIG}** softkeys allows you to edit the network configuration file 220node.cfg on the console to change many aspects of the network operation. The 220node.cfg file is also present on all nodes, consoles and PCs

Remote Video: - Distributes console video information over the network to SN network nodes. Remote Video is set up in the *Network* window of the *Console Setup Screen*.

Remote DMX: - Distributes DMX data over the network to SN network nodes. The network DMX ports are set up in the *Network* window of the *Console Setup Screen*.

Remote Handhelds: - Uses remote port on SN100 and SN102 network nodes to connect handheld remotes. Remote handhelds are set up in the *Communications* window of the *Console Setup Screen*. Handheld remotes may be one of the following:

- Designer's Remote
- R120 Wired Remote
- R130 Wired Remote
- R120 Radio Remote
- R130 Radio Remote

Remote Faders: - Uses analogue port on SN100 and SN102 network nodes to connect remote faders or to use the faders fitted to the SN100.

Remote MIDI: - Use MIDI ports on SN100 and SN102 to extend the range of your MIDI connections.

Remote Macro Tablet: Uses remote COM port on SN100 and SN102 network nodes to connect a Macro Tablet. The Node and COM port are set up in the *Console* window of the *User Setup Screen*.

Remote Mouse: Uses remote COM port on SN100 and SN102 network nodes to connect a mouse. The node and COM port are set up in the *Console* window of the *User Setup Screen*.

Remote Printer: Uses remote printer port on SN100 and SN102 network nodes to connect a printer. The Net Node and printer port are set up in the *Printer Setup* window of the *Print Screen*, which is accessed by pressing **<ARCHIVE> {PRINT}**

File Server Functions

The file server provides a central place on the ShowNet network to store show files, user login configuration files, Networker configuration files and archive copies of operating software. You can use any console or PC on the network as the file server, although many people use a PC (DOS, Win95 or NT) which can be fitted with a tape drive or other backup device for added security.

Controlling user access to the file server is another issue in some sites, and using a PC running NT means that the security features of NT can be used to prevent unauthorised users from making unwanted changes to the file server. The optional *Server* software also provides user login facilities.

Shownet Functions

ShowNet configuration software runs on a PC running Windows NT or 95 and compatible network software. ShowNet manages the patching of DMX information across a ShowNet network between SN series nodes and/or 300 or 500 series consoles running Networker software. Multiple patches can be edited off-line, stored on the PC hard disk, printed and downloaded to the nodes as required.

Showport File Conversion

The Showport file conversion tool runs on a PC running Windows NT or 95. Showport converts show files between ASCII Light Cues, Strand Show Files and Comma Separated Values.

Channel Partitioning

When channel partitioning is on in the *Show Details* window of the *Show Setup Screen*, only one of the logged in consoles can control each channel in the system. Channels controlled by each console are determined by groups 998.1 (console channels), 998.2 (console 2 channels), 998.3 (console 3 channels), etc. These groups are mutually exclusive. Setting a channel in one group removes it from the other groups.

Playback Partitioning

When playback partitioning is on in the *Show Details* window of the *Show Setup Screen*, channels controlled by each X Playback are determined by groups 999.3 and 999.4. By default, both groups are set to permit control of all channels by both groups. However, when the *Group Screen* is selected, the user can set a channel, or range of channels for either or both groups to 0, such that the deselected channels are not controlled by the particular X Playback.

Additional Tracker Features

Apart from the control of moving lights described in Section 3 and *Referenced Groups and Preset Focus*, described in Section 8, *Tracker* provides the following advanced features:

Auto Move While Dark: Removes the need to record Mark cues and enables consoles to automatically reposition lights while dark ready for next cue. This feature is set up in the *Show Details* window of the *Show Setup Screen*.

Auto Preheat: Allows you to set an automatic preheat fade time and delay for large luminaires. Preheat is setup in the *Show Details* window of the *Console Setup Screen*.

Attribute Filters: Allows you to set particular functions of a fixture within a referenced group to the recorded referenced group value. By default, the attribute filter softkeys are set to Position (F1), Colour (F2), Beam (F3), Focus (F4), Shutter (F5) and User (F6). Pressing **<MORE>** display key and the **{NOTES DISP}{LOAD FILES}** and **{ATC PAGES}** softkeys. You can then edit the softkey assignment as required.

Additional CommuniquéPro Features

Apart from *DMX IN Channels* described in Section 2, *SMPTE Time Code Events*, described in Section 13 and *External Submasters*, described in Section 6, *CommuniquéPro* provides the following advanced features:

MIDI Control: Enables show playback from a MIDI show controller. You can also control the speed of a running effect by controlling the *Effect Step Control* using MIDI. The number of timing signals received before the effect steps are advanced can be adjusted on the effect playback by adjusting the MIDI RATIO supermaster fader. (Refer to Section 6). MIDI can also be used for tracking backup and slaving and MIDI notes commands can be used to flash submasters and channels. Experienced MIDI users can also use MIDI messaging in conjunction with the control console. All of the above MIDI features are set up in the *MIDI* window of the *Show Setup Screen*.

MIDI Trigger Macro: A user definable MIDI trigger facility can be programmed to run a macro when a user specified message of up to three bytes is received. The MIDI trigger macro is set up in the *MIDI* window of the *Show Setup Screen*.

ASCII Remote Control Output: Permits an ASCII string of 24 characters to be output whenever a selected macro is executed. This feature is set up in the *Communications* window of the *Console Setup Screen*.

ASCII Remote GO Output: Permits a ASCII Go command to be sent to control other vendors consoles or to control projectors or other AV equipment. This feature is set up in the *Communications* window of the *Console Setup Screen*.

ASCII Remote Control Input: Allows most facilities of the console to be controlled using a serial, RS232 or RS485, communications protocol. This feature is set up in the *Communications* window of the *Console Setup Screen*.

Audio Input Macro: Enables triggering of a predefined macro number when the amplitude of the audio input exceeds a preset threshold value. (500 Series consoles only). This feature is set up in the *Communications* window of the *Console Setup Screen*.

Cue Sheet Macros

Cue Sheet Macros is the general term given to all macros that are not fired by a macro key, or a direct command from the keypad. You can set up these macros in the Show Details window of the Show Setup Screen to determine whether the macros are fired from the Last Handheld Remote, or from the Main Console

Key, Wheel and VGA Remapping

Enables remapping of the console controls to perform alternative functions. Coupled with remapping of the console VDUs, provides the facility to create an additional 'virtual remote' console within a single console. Pressing <MORE> display key and the {NOTES DISP} {LOAD FILES} {CONF FILES} and {MAP CONFIG} softkeys allows you to edit the configuration file 220map.cfg and to assign alternative functions to the console keys and controls.

Installation and Registration of Software

Your new Strand Lighting Control System is software-based to allow you to upgrade and add capabilities as new, or enhanced programs are introduced. Some software products include a security registration feature that ensures that you have received a reliable, supported and legal copy of the software.

New console purchase

If you have purchased a new lighting control console, the operating software is pre-installed and configured so that you can use your system immediately. In order that we can provide you with an efficient software support service, it is important that you register the software. Please complete the Software Registration Form supplied and return it to Strand Lighting. Your completed registration will also enable us to keep you informed of all the latest advances in the software you have purchased.

Upgrading/Restoring your Console Software

If you are upgrading your console software, please proceed as follows:

1. If you are using SN10X nodes, install the 'Networker for SN10X' software. If not, proceed to step 3.
2. Wait for software to install and for the SN10X nodes to initialize.
3. Turn on your console and wait for it to initialize.
4. Insert disk entitled 'Console Operating Software' and press **<ARCHIVE>{SOFT}{LOAD SOFT}{LOAD}{LOAD}**
5. Wait for software to install and for console to initialize.
6. Insert disk entitled 'Console Networker & Utilities' and press **<ARCHIVE>{SOFT}{LOAD SOFT}{LOAD}{LOAD}**
7. Insert disk entitled 'Console Help Files' and press **<ARCHIVE> {SOFT} {LOAD SOFT}{LOAD}{LOAD}**
8. Wait for software to install and for console to initialize.
9. Complete the Software Registration Form and fax it to Strand

For further information, refer to the Readme.txt on the CD

Adding Additional Channels or Applications to a Console Using an Upgrade Disk

1. Turn on your console and wait for it to initialize.
2. Insert upgrade disk and press **<ARCHIVE>{SOFT}{LOAD SOFT}{LOAD}{LOAD}**
3. Write the date and the serial number of the console on the disk. This disk now contains a record of your console's new configuration and password in electronic form and should be stored in a safe place.
4. To make a further backup, insert a new formatted disk in the floppy drive and press **<ARCHIVE>{SOFT}{SAVE PASSW}{SAVE}{SAVE}** to save the password.
5. Complete the Software Registration Form and return a copy to Strand Lighting.

Note: Some software products, which include a security device (dongle), do not require a unique security number, however, the software should be registered to ensure that details of upgrades are received.

Adding Additional Channels or Applications to a Console by Entering a Password from the Keypad

1. Complete the Software Registration Form supplied and return it to Strand Lighting. Your registration will be verified and a password issued to you.
2. Turn on your console and wait for it to initialize.
3. Press **<ARCHIVE>{SOFT}{PASSW}** and enter your password number with no spaces or other keys. Press **[*]**. This process will enable the software upgrade.
4. Insert a blank formatted disk in the floppy drive and press **<ARCHIVE>{SOFT}{SAVE PASSW}{SAVE}{SAVE}**. This process will save the new password to floppy disk, thereby enabling the upgraded software to be reinstalled on the console if it becomes necessary.
5. You can make a further backup of the password, as previously described.

Software Registration Form



Please complete and fax immediately to the Strand Lighting International Software Registration Center (see below)

International Fax number +44 1592 653499
From United Kingdom 01592 653499
From North America 011 44 1592 653499

In case of difficulty, you may fax the registration form to one of the following country registration centers

North America 1-800-775-LEKO
Canada 1-905-667-6859
Asia/Pacific +852 2757 1767

or contact your nearest distributor or Strand Lighting office (refer to front of this Operator's Guide)

End User or Owner

Name _____
 Work Title _____
 Company _____
 Street _____
 City _____
 County/State _____
 Zip/Postcode _____
 Country _____
 Telephone _____
 Fax _____

Current operating software version

(This can be seen on the Report Screen Configuration window)

Console Series

300 Series

500 Series

Console/dongle security number(if applicable)

Change of Address

Check this box if you are notifying a change of end user.

Installation (please tick one box only)

End User Workplace Civic Venue
 Professional Theater Education
 Amateur Theater Film/Video Production
 Broadcast/TV Theatre Rental/Supply
 Other

If other, please specify _____

Native Language (Please tick one box only)

English Russian
 French Italian
 German Dutch
 Spanish Other

If other, please specify _____

Supplier

Name _____
 Company _____
 Street _____
 City _____
 County/State _____
 Zip/Postcode _____
 Country _____
 Telephone _____
 Fax _____

Application software serial numbers

Enter the title (e.g., Networker, etc.) and the serial number (if applicable) from each application software disk label.

_____	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>
_____	<input type="text"/>	<input type="text"/>

Other products

Name _____
 Number _____

