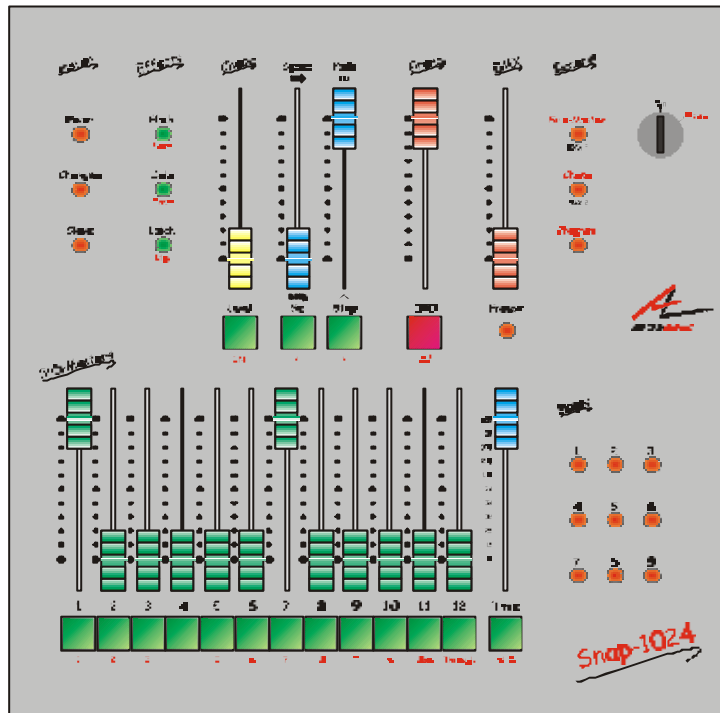


Snap-1024



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Firmware Version V1.1 Manual Revision V1.4

**A R T I S T I C L I C E N C E
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I N T R O D U C T I O N

WELCOME Welcome to the Snap-1024 manual. Snap-1024 is a DMX512 lighting console. It is able to playback twelve sub-masters and one chase simultaneously whilst merging the console output with received DMX512.

Snap-1024 controls 1024 channels across two universes of DMX512.

Snap-1024 is programmed by recording received DMX512 as a snapshot into any of the one hundred and eight available memories. Snap-1024 can also be programmed via the PC serial link using Snap-Edit.

Snap-1024 consoles may be linked together to provide 2048, 3072, 4096 and greater output solutions.

Snap-1024 can be used as either a backup console or a self contained lighting controller. When operating in backup mode, the main console is connected to the dimmers or moving lamps via Snap-1024.

Snap-1024 monitors the output from your main console. If the output fails, Snap-1024 warns the operator with an audible tone and flashing power light allowing the operator to perform a seamless crossfade to a backup state or sequence.

When normal operation of the main console resumes, simply crossfade back to the live DMX.

Snap-1024 uniquely provides an internal un-interruptible power supply (UPS) allowing operation for up to eight hours without external power. Therefore, if the front of house power feed fails, Snap-1024 will keep the show running.

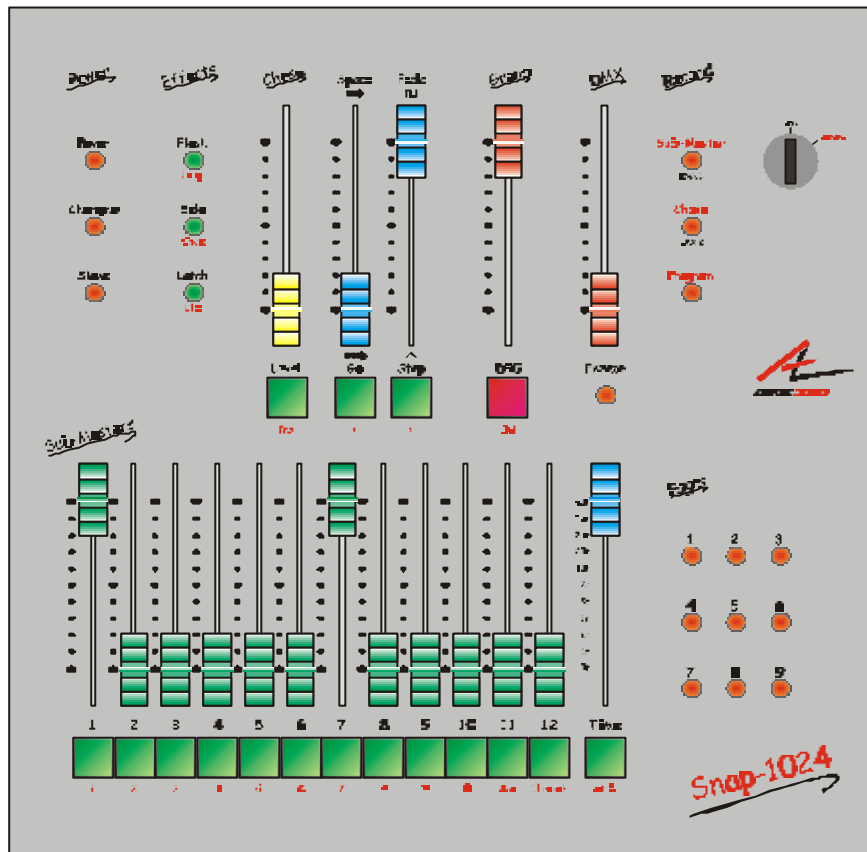
Snap-1024 is able to connect to a PC for remote programming. The separate Snap-Edit system provides a visual representation of channels and cues as well as transmitting live data via Snap-1024. This allows the operator to program live at the PC.

Snap-Edit is also provided with an extensive personality library for Moving Lamps. This allows Snap-Edit to control Moving Lamps in addition to dimmer channels and other DMX512 devices.

The personality library is fully user editable and is compatible with the sister product Micro-Scope 3.

Please remember to return your product registration card, so that we can keep you informed of new developments.

PRODUCT PICTURE



SNAP-1024 FEATURES

Snap-1024 provides the following features:

- 1024 channels on two DMX512 universe
- Opto-isolated DMX512 inputs
- Automatic re-timing of DMX512 data
- DMX512 Merge Facility, Programmable HTP / LTP mode
- Audible warning upon DMX512 failure
- 108 Memories
- 9 Pages
- 9 Sequences of 120 steps
- Snapshot DMX512 from a lighting console
- Through - And - At memory programming
- Variable speed auto-fades
- Variable speed and fade rate chase
- Timed chase envelope
- External trigger from contact closure
- DMX512 triggered playback
- Rechargeable battery powered
- Remote PC programming

SNAP-EDIT FEATURES

Snap-Edit provides the following features:

- Fader based visual user interface
 - Hard disc storage of multiple shows
 - Moving lamp personality library
 - Lamp personality editor
 - Edit all cues, sequence and times
 - Set channel LTP / HTP status
 - Real time programming
-

Q U I C K S T A R T

QUICK START

Snap-1024 is extremely easy to operate. The remainder of the manual details the entire product operation.

This section is intended for those familiar with lighting consoles who simply require a few pointers to the major functions.

CLEAR THE CONSOLE

Q. How do I clear the entire console ready for my next show?

Answer:

- Power Off
 - Key-switch to record
 - Disconnect DMX512 inputs
 - Hold down both the sub-master and chase record buttons
 - Power on
 - Release buttons when three short beeps are heard.
-

RECORD A MEMORY

Q. How do I record a memory from the DMX512 input?

Answer:

- Key-switch to record
 - Press the sub-master record button
 - Press desired page
 - Press desired sub-master effects button
 - The short tone signifies that recording is complete
-

PROGRAM A MEMORY

Q. How do I program a memory?

Answer:

- Key-switch to record
 - Press the program button
 - Press desired page
 - Press desired sub-master effects button
 - Use effects keys to enter channel numbers and levels
 - Example: 12 Through 57 And 1012 @ 100
 - Press '@' to finish
 - The short tone signifies that recording is complete
-

**PLAYBACK A
MEMORY**

Q. How do I playback a memory?

Answer:

- DMX fader to zero
- Grand master to full
- Key-switch to playback
- Time fader to zero
- Desired sub-master to full

**RECORD A
CHASE**

Q. How do I record a chase?

Answer:

- Key-switch to record
- Press the chase record button
- Press page button for desired chase
- Press page button followed by sub-master effect to select the memory for each step
- Press flash (loop) button to end the sequence
- The short tone signifies that recording is complete

**PLAYBACK A
CHASE**

Q. How do I playback a chase?

Answer:

- DMX fader to zero
- Grand master to full
- Key-switch to playback
- Time fader to zero
- Chase master to full
- Press Go

**HTP
OPERATION**

Q. I am using Snap-1024 for generic (non-moving) lamps, how do I ensure all channels are in HTP mode?

Answer:

- Select switch 7 on the rear panel to 'Off'
- This disables all LTP operation.

BEEPING

Q. I am attempting to program the Snap-1024 during show time. Can I disable the beeper?

Answer:

- Yes, select switch 1 & 2 on the rear panel to 'Off'
 - This disables the beeper in all modes.
 - The power lamp will flash whenever the beeper would normally sound.
-

LINKING

Q. I need to link two Snap's together. What do I do?

Answer:

- Plug the RJ11 link cable into the output connector on the console that is to be the master.
 - Plug the other end into the input connector of the slave.
 - Ensure power is connected to both consoles.
 - The slave lamp will illuminate on the slave console to confirm link mode is operating.
-

T H E C O N T R O L S U R F A C E

OVERVIEW The control surface comprises of seven key areas. Functionality is as follows:

POWER

The Power panel contains one switch and three indicators.

Power Switch

The power button has a latching operation. To switch on the console, press the power button once. The red power lamp will illuminate.

To switch off the console, press the power button a second time.

The power button disconnects both internal battery

(UPS) power and external power.

However, the UPS battery will continue to charge whenever external power is connected.

The power lamp blinks whenever the bleeper sounds.



Charging Lamp

The charging lamp is illuminated when the UPS system is re-charging it's battery at the maximum current.

The lamp will illuminate for approximately three hours, whilst the battery is completely recharged.

The lamp will also illuminate for approximately 5 minutes whenever power is applied to the console.

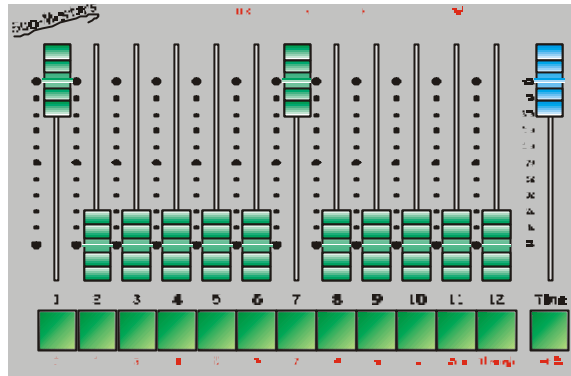
Slave Lamp

The slave lamp is illuminated when the Snap-1024 is slaved to another Snap-1024 console.

The selection of slave mode occurs automatically when the link cable is connected.

SUB-MASTERS

The twelve sub-master faders each control an individual memory containing 1024 channels. The sub-master faders combine the memories on a highest-takes-precedence basis.



This means that any or all of the sub-master faders can be used to produce a combined output level.

The overall level of the sub-master output is scaled by the Grand-Master fader.

Snap-1024 can be programmed to use latest-takes-precedence operation.

Timer

The sub-master faders and the chase master faders can be set to automatically fade within a set time.

The time fader is used to set the total fade time for a sub-master fade from zero to full. The time fader can be set to a total fade time of between one second and one minute.

Switch 8 on the rear panel is used to define whether the effects buttons are also affected by the timer.

The timer can be totally disabled by pressing the button below the fader.



Page Select

The memory associated with each of the sub-master faders is defined by the Page Select. Snap-1024 can record a total of one hundred and eight memories that are organised as nine pages of twelve sub-masters. Pressing a Page Select button changes to a new page. All sub-master faders that are at zero will change immediately to the new page.



Roll Hold

If a sub-master fader is active (above zero) when the page is changed, it will retain the current memory until it is faded down to zero. In this situation, the green lamp below the fader pulses.

Flash Button

Below each sub-master fader is a momentary push button containing a green lamp. The push button can act as a Flash button or a Solo button.



GRAND MASTER

The Grand Master fader is used to scale the output of the sub-master and chase output.

The Grand Master has no affect upon the DMX512 input fader. The DBO (Dead Black Out) button is located below the Grand Master fader.

The DBO, when active, is analogous to fading the Grand Master to zero.

The DBO can operate in either momentary (must be held down to activate) or toggle mode (consecutive key presses activate and then deactivate the function) depending upon the setting of the Latch button.

When the DBO is active, the button is illuminated in red.



DMX FADER

The DMX fader is used to scale the value of received DMX512 before retransmission.

The Grand Master and DMX faders are used to crossfade between incoming DMX512 from the 'main' console and backup operation from Snap-1024.

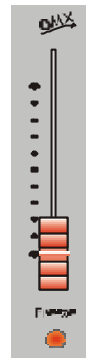
The Freeze button is located below the DMX fader.

The Freeze button, when active, freezes the incoming DMX512 and allows the static state to be faded.

The Freeze button operates in toggle mode (consecutive key presses activate and then deactivate the function).

When Freeze is latched active, the button is illuminated in red.

If the incoming DMX512 signal fails, while the DMX fader is above zero, the Freeze function operates automatically. In this situation the Freeze button pulses red and an audible alarm sounds.



EFFECTS BUTTONS

The twelve sub-master faders and the Chase master fader have effects buttons mounted below. The operation of these buttons is defined by the Effects Button Control.

Four modes of operation may be selected. These are Momentary Flash, Momentary Solo, Latched Flash and Latched Solo.

The green lamps in the select switches illuminate to indicate the current mode.

The effects buttons can also be controlled by the Timer Fader.

Switch 8 on the rear panel is used to define whether the effects buttons are controlled by the timer.



Momentary Flash

Momentary Flash mode is enabled when only the Flash button is illuminated in green and the Solo and Latch buttons are extinguished.

In this mode, pressing an effects button is analogous to pushing the relevant fader to the top. When the button is released, the output reverts to the level defined by the fader.

If multiple effects buttons are held down, the effect is additive in just the same way as if multiple faders are active.

Momentary Solo

Momentary Solo mode is enabled when only the Solo button is illuminated in green and the Flash and Latch buttons are extinguished.

In this mode, pressing an effects button is analogous to pushing the relevant fader to the top and zeroing all other faders. When the button is released, the output reverts to the levels defined by the faders.

The solo effect overrides all other faders with the exception of the DMX512 input.

If multiple effects buttons are held down, the effect is additive in just the same way as if multiple faders are active.

Latched Flash

Latched Flash mode is enabled when the Flash and Latch buttons are illuminated in green and the Solo buttons is extinguished.

In this mode, pressing an effects button is analogous to pushing the relevant fader to the top and leaving it in that position. Pressing the effects button a second time clears the action.

If multiple effects buttons are latched, the effect is additive in just the same way as if multiple faders are active.

When effects buttons are latched, the lamp in the button is illuminated in green.

All latched functions can be cleared by pressing the Latch button twice.

Latched Solo

Latched Solo mode is enabled when the Solo and Latch buttons are illuminated in green and the Flash button is extinguished.

In this mode, pressing an effects button is analogous to pushing the relevant fader to the top and holding it there whilst zeroing all other faders.

The effect is released by pressing the effects button a second time.

If multiple effects buttons are latched, the effect is additive in just the same way as if multiple faders are active.

When effects buttons are latched, the lamp in the button is illuminated in green.

All latched functions can be cleared by pressing the Latch button twice.

LATCHING

The Latch button also affects the DBO button.

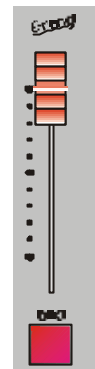
DBO

The effect of the DBO button is modified by the Latch button.

When Latch is active, the DBO button will toggle between no-affect and blacking out the output.

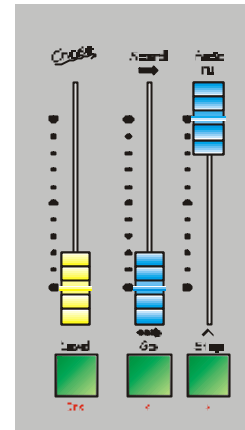
When Latch is inactive, the black out affect is momentary.

The DBO button does not affect the DMX fader.



CHASE

The chase panel provides automated and sequential playback of memories. A total of nine chases may be programmed, one per page. Each chase is a list of memories that are played back sequentially at a variable rate. A chase can contain up to 120 steps selected from the available 108 memories. A single memory may be used in many steps, allowing loops to be programmed. Chase playback is controlled by three faders and three buttons:



Chase Master

The chase master fader (yellow) sets the overall level of chase playback. If enabled by the configuration switch 4, it also automatically starts the chase running from the first step whenever the fader is moved off the zero position. If the chase master fader is active when the page selection is changed, the chase will fade into the first step of the new chase selection as soon as the current step fade has completed.

Chase Effects Button

The chase effects button operates in a similar manor to the sub-master effects buttons. All the options of flash, solo and latch are available. Additionally, the chase effects button automatically starts the chase from the first step. The button illuminates in green to indicate that the latch function is active.

Chase Speed Fader

The chase speed fader (blue) sets the overall rate of the chase playback. The slowest speed is set with the fader at the bottom. The speed ranges from thirty seconds per step at the slow end, to 20 steps per second at the high end. The green lamp in the go button pulses at the step rate to indicate the selected speed.

Chase Crossfade Fader

The chase crossfade fader (blue) sets the 'smoothness' of each step. The smoothest fade is set with the fader at the bottom. In this position, Snap-1024 performs a full dipless cross fade between steps. When the fader is positioned at the top of its travel, steps snap from one to another. Position both blue faders at the bottom for the slowest, smoothest fade.

Chase Go
Button

The chase go button acts as a go - pause control for the chase.
When the chase is running, the button pulses at the step rate of the chase.
Pressing the button once will pause the chase at the current fade position. The button will then illuminate.
Pressing the button a second time continues the chase from the current fade position.

Chase Step
Button

The chase step button starts a single step fade.
The operation of step varies depending upon the current mode of the chase.

Current state	Effect of Step Button
Chase Running.	Current step completes and then the chase pauses.
Chase paused at the end of a step.	Next step executes and then the chase pauses.
Chase paused in the middle of a step.	Current step completes and then the chase pauses.

The step button lamp illuminates for the duration of a single step.

LAMP SUMMARY

The following table provides a summary of all the LED lamp modes.
The lamps can take on one of four modes:

Off

Pulsing – the lamp flicks on twice per second

Flashing – the lamp alternates between on and off, twice per second

On – the lamp remains on all the time.

LAMP OPERATION IN RUN MODE

Lamp	Pulsing	On
Sub-Master Effects	Indicates that the memory will change when the sub-master is faded to zero.	The sub-master is latched in either Flash or Solo mode.
Power		The console power is on.
Charging		The console's UPS is fast charging.
Slave		The console is under the control of a master. User controls are disabled.
Flash		Effects buttons operate in Flash mode.
Solo		Effects buttons operate in Solo mode.
Latch		Effects buttons, DBO and Freeze operate in toggle mode
Chase Effect		The chase is latched in either Flash or Solo mode.
Chase Go	The chase is running. The pulse rate indicates the chase speed.	The chase is not running.
Chase Step		Illuminates for the duration of the step in single step mode.
DBO		The DBO is latched active.
Freeze	The DMX512 input has failed and the last state is frozen.	The Freeze button is latched active.
Record Sub-Master		Valid DMX512 input 1 is being received.
Record Chase		Valid DMX512 input 2 is being received.
Page		Indicates the active page.

LAMP OPERATION IN RECORD SUB-MASTER MODE	Lamp	Flashing	On
	Sub-Master Effects	Indicates that the effects buttons are active for programming. Pressing an effects button will record DMX512 into the assigned memory.	Indicates that the assigned memory has already been programmed.
	Record Sub-Master	Indicates that the current mode is record sub-master	Indicates that record sub master mode may be selected
	Page	Indicates that the page buttons are active for selecting the page into which to record.	Indicates the active page for recording.
	DBO (Del)		Indicates that if the sub-master effect button is held down, the DBO button will clear the memory

LAMP OPERATION IN RECORD CHASE MODE	Lamp	Flashing	On
	Sub-Master Effects		Indicates that the assigned memory is programmed into this chase step.
	Record Chase	Indicates that the current mode is record chase	Indicates that record chase mode may be selected
	Page	Indicates that the chase should be selected	Indicates that a sub-master on this page is programmed into this step.
	DBO (Del)		Indicates that if the DBO (DEL) button is held down, pressing a page button will clear that chase If editing steps the current step will be deleted, with all future steps moving down one position.
Level (Ins)		The button will insert a blank step, with all future steps moving up one position. The insert operation occurs prior to the selected step.	

Lamp	Flashing	On
Go (<)		The button is active to select the previous step.
Step (>)		The button is active to select the next step.
Flash (Loop)	Indicates this is the last step of the chase and that it will loop.	Indicates this chase is set to loop continuously.
Solo (Once)	Indicates that this is the last step of the chase and that it will run once.	Indicates that this chase is set to run once.

**LAMP
OPERATION
IN PROGRAM
SUB-MASTER
MODE**

Lamp	Flashing	On
Sub-Master Effects	If selecting a memory: Indicates that the effects buttons are active for programming. Pressing an effects button selects that memory for programming. If selecting levels: Indicates active keys	If selecting a memory: Indicates that the assigned memory has already been programmed.
Page	Indicates that the page buttons are active for selecting the page into which to record.	Indicates the active page for recording.
DBO (Del)		Indicates that when pressed, the selected channels will be set to HTP operation.
Latch (Ltp)		Indicates that when pressed, the selected channels will be set to LTP operation.

PROGRAMMING THE CONSOLE

OVERVIEW The Snap-1024 console can be programmed by either recording received DMX512, using the And-Through-At keys or via the PC link. This section addresses the first two options.

KEY SWITCH

The key switch must be selected to 'record' before recording or programming can commence. The three record buttons then light to allow the record mode to be selected. Note that if no DMX is being received the record Sub-Master button will not light as this mode requires DMX reception.



DMX OUTPUT

During record mode (i.e. when any of the record lamps is flashing) the DMX512 output remains live, allowing the user to programme live or blind, dependent upon the master fader levels

RECORDING MEMORIES

To initiate recording of a memory, press the sub-master record button. The red lamp in the button will start flashing, indicating that record Sub-Masters is active. The nine page select buttons will start to flash.

Select the desired record page on.

The eight un-selected page select buttons will start to flash. The currently selected page select button will be illuminated.

Any sub-master effects buttons that have not already been recorded will also flash, whilst those that have already been recorded will illuminate.

The DBO (Del) button will also flash.

Recording into the current page

To record a memory on the currently selected page simply press the relevant effects button.

A short tone will be heard to indicate that recording is complete.

NB The sub-masters that have already been programmed, are illuminated rather than flashing during record mode. This is for operator information only. If a 'non-flashing' button is pressed, the previous recording will be overwritten.

Recording into another page

To record a memory in a different page, simply press the relevant page button followed by the relevant sub-master effects button.

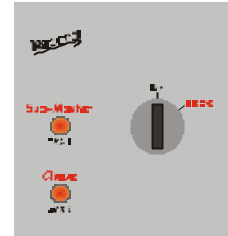
The page change is only active in record mode, the page will revert to the original at the end of programming.

Deleting a Memory

To delete a memory first select the page that contains the memory. Then, while pressing the DBO (Del) button, press the submaster to delete. A short tone will be heard to indicate that the submaster has been deleted.

RECORDING CHASES

To initiate recording of a chase, press the chase record button. The red lamp in the button will start flashing, indicating that record is active. All nine page select buttons will start to flash. Select the chase to be recorded by pressing the relevant page select button.



The page and sub-master lamps will now show the contents of step one of the chase. The page and sub-master lamps that represent the contents of this step will illuminate.

All other page and sub-master lamps will flash indicating that the step can be edited.

If the step is empty the nine page select buttons will flash, but the submaster effects buttons will not be lit, indicating that a page can be selected to store a memory for this step.

If the chase level fader is not at zero the currently selected step will be output from Snap.

Recording Steps

A total of 120 steps can now be recorded. Each step is one of the one hundred and eight available memories. Memories can be used as many times as required within a single chase, allowing loops to be executed within the chase.

Each step is recorded by pressing either a single sub-master effects buttons or a page select followed by a sub-master effects button.

Whenever a sub-master button is pressed, the next step is selected.

A short tone will be heard to indicate that step recording is complete.

Correcting A Mistake

Whilst in chase record mode, the go (<) and step (>) buttons act as step back and step forward respectively. This allows the previous steps to be re-recorded or previously recorded steps to be jumped over.

A double tone will be heard if the beginning or end of the chase is reached by pressing these buttons.

Recording a blank step	A step can contain any memory or be blank. To select a blank step, press the effects button that is illuminated. The lamp will toggle to off, indicating a blank step.
Deleting a step	Press the DBO (Del) button to delete the current step. All future steps will be moved down to fill the gap.
Inserting a step	Press the Level (Ins) button. A new blank step will be inserted prior to the currently selected step. All future steps will be moved up by one position.
Editing a step	Simply press a new page and sub-master effects button to change the memory assigned to the current chase step. A short tone will be heard and Snap will move on to the next step.
Ending The Sequence	To end the sequence, simply press the chase record button. The length of the chase will be set to the currently selected step.
Setting a chase to loop or run once	A double tone will be heard if an attempt is made to program more than 120 steps.
Setting a chase to loop or run once	Chases can be programmed to either loop or stop at the end of a sequence.
Setting a chase to loop or run once	The Flash (Loop) and Solo (Once) lamps indicate the current status.
Setting a chase to loop or run once	During chase programming, the Flash (Loop) lamp will be constantly illuminated if the chase is set to loop. Conversely, the Solo (Once) lamp will be constantly illuminated if the chase is set to run once.
Setting a chase to loop or run once	If the current step is the last step in the chase, the above lamps will flash.
Setting a chase to loop or run once	To conclude programming of a sequence, press either the Flash (Loop) or Solo (once) buttons to set both the mode and the length of the sequence to the currently selected step.
Deleting a Chase	Press the record Chase button to select record chase mode. Then, while pressing the DBO (Del) button, press the page button of the chase you want to delete. A short tone will be heard to indicate that the chase has been deleted.

RECORDING

CHANNEL LTP/HTP MODE FROM RECEIVED DMX

Snap-1024 has the unique ability to record channel LTP / HTP status from the received DMX512.

To initiate recording of channel mode, press the sub-master record button followed by the Latch (Ltp) button. A short tone will be heard to indicate that recording is complete.

Any channel with a level above 75% (0xbf/0xff, 191/255) will be set to HTP operation, any channel less than or equal to 75% will be set to LTP operation.

If either DMX512 universe is inactive, no action will occur on that universe.

The above settings coincide with most moving lamp channel layouts when intensity is set to full and other attributes such as pan and tilt are at their default position. Use the program LTP/HTP option to modify these settings.

LTP OPERATION

All of the descriptions of channel operation so far in this manual relate to HTP (Highest Takes Precedence) operation. This mode of operation is most useful when working with intensity only lamps. In HTP mode, the sub-masters, chase and DMX512 input mix together such that the highest intensity wins.

HTP is not so useful when controlling moving lamps. Consider the situation where a specific memory contains a channel that is controlling a pan attribute and set to 50%. When the memory is played back, the pan axis will move to the centre of travel. However, playing back other memories would only allow the pan axis to be controlled at levels between 50% and 100%.

The concept of LTP (Latest Takes Precedence) is used to address this situation. Channels that are set to LTP are not scaled by the faders, but are triggered to full when the fader passes the 5% mark.

In the example above, playing back the first memory would set the pan channel to 50% as the sub-master fader passes the 5% mark. However, playing back another sub-master containing the same channel at say 25% will now work correctly as the latest operation wins.

The DMX fader controls whether Snap-1024 or the DMX input has LTP control. If the DMX fader is set to a value above 5% the DMX512 input controls LTP channels. If the DMX fader is below 5%, Snap-1024 controls LTP channels.

LTP with DMX512 input control	All received channels setup as LTP will pass through as if the DMX fader is set to full. All LTP channels are ignored in Snap's output.
LTP with DMX512 input control	All received channels setup as LTP are ignore in the DMX output. All LTP channels are output as if the grand master fader is at full for Snap's output.

PROGRAM MEMORIES

Snap-1024 offers the facility to program memories using the keypad as opposed to recording DMX512. The two options are complimentary as the feature can also be used to edit previously recorded memories.

To initiate programming of memories, press the program button. As with the other recording modes, the red lamp in the button will start flashing, indicating that program is active.

The nine page select buttons will start to flash. Select the page on which you wish to program.

The eight un-selected page select buttons will start to flash. The selected page select button will be illuminated.

Any sub-master effects buttons that have not already been recorded will also flash, whilst those that have already been recorded will illuminate.

Press the desired sub-master button.

The sub-master effects buttons are now used to enter channel numbers and levels.

The numeric buttons 1 – 9 and 0 will now flash indicating that a channel number should be entered next.

Between one and four digits should now be entered to represent a channel number in the range 1 – 1024. As soon as the first digit is entered, the And, Through and At buttons start to flash.

The And button is used to enter a non contiguous sequence of channel numbers (e.g. 1 And 50 And 1024).

The Through button is used to enter a contiguous series of channels (e.g. 100 Through 50).

The above two buttons can be combined (e.g. 1 And 50 And 53 Though 1000 And 1003 Though 1007).

The At % button is used to change from entering channel numbers to entering the percentage level (e.g. 100 Though 200 And 300 At 50%). This button is pressed a second time to terminate entry of level digits. A short tone will be heard to confirm the operation and the mode will return to channel entry. Select further channels or press the Program button to exit.

Quick setting to full	To facilitate quick programming if a level of 1 is entered Snap automatically converts this to 100%.
Ignoring LTP channels	When programming memories that address LTP channels it is often necessary to specify LTP channels to be ignored in the memory. Snap supports this feature by entering nothing for the percentage level. I.E. enter the channels and then press '@' '@'. When the memory is played back the selected channels will be ignored.
Entering channels in 256 level mode	A special configuration option allows levels to be entered from 0-255, instead of in percentage format. See the 'Configuration Setup' section of the manual for more information.

**PROGRAM
CHANNEL
LTP/HTP
MODE**

The And-Through-At keypad can also be used to set the LTP / HTP status of each channel.

To initiate programming of LTP / HTP mode, press the program button. The red lamp in the button will start flashing, indicating that program is active.

Press the Latch (LTP) button to select LTP/HTP programming.

The sub-master effects buttons are now used to enter channel numbers.

The entry of channel numbers is identical to that described above.

Instead of pressing the @ button, press either Latch(LTP) or DBO(HTP).The Latch (Ltp) button will set all selected channels to LTP mode.

The DBO (Del) button will set all selected channels to HTP mode.

A short tone will be heard to confirm the operation. The channel are stored and the mode returns to channel entry. Select further channels or press the Program button to exit.

CLEARING THE CONSOLE

OVERVIEW It is possible to clear the memories, the chases or the entire console.

CLEAR ENTIRE CONSOLE

1. Switch off the power button.
2. Select the key-switch to record.
3. Hold down both the sub-master and chase record buttons.
4. Power on.
5. Release buttons when three short beeps are heard.

CLEAR ALL MEMORIES

1. Switch off the power button.
2. Select the key-switch to record.
3. Hold down the sub-master record button.
4. Power on.
5. Release button when three short beeps are heard.

CLEAR ALL CHASES

1. Switch off the power button.
2. Select the key-switch to record.
3. Hold down the chase record button.
4. Power on.
5. Release button when three short beeps are heard.

CLEAR SINGLE MEMORY

1. Press record sub-master.
2. Press page.
3. Hold down the DBO (Del) button
4. Press the sub-master effects button.

CLEAR SINGLE CHASE

1. Press record chase.
2. Hold down the DBO (Del) button
3. Press the page button of the chase to clear

E X A M P L E S

OVERVIEW The following section provides example key sequences.

Record memory
2 from
DMX512

1. Select the key-switch to record.
 2. Press record sub-master.
 3. Press page 1
 4. Press sub-master 2
-

Record chase 3
with 5 step
looping chase
using memories
13 to 17

1. Select the key-switch to record.
 2. Press record chase.
 3. Press page 3 (to select chase).
 4. Press page 2 (to select sub-master page).
 5. Press sub-master 1 (to select memory 13)
 6. Press page 2 (to select sub-master page).
 7. Press sub-master 2 (to select memory 14)
 8. Press page 2 (to select sub-master page).
 9. Press sub-master 3 (to select memory 15)
 10. Press page 2 (to select sub-master page).
 11. Press sub-master 4 (to select memory 16)
 12. Press page 2 (to select sub-master page).
 13. Press sub-master 5 (to select memory 17)
 14. Press the Go (<) button (to go back to the last step programmed).
 15. Press Flash (Loop) (to end chase and set loop mode).
-

Program
memory 3 with
channels at
differing
levels.

-
1. Select the key-switch to record.
 2. Press program.
 3. Press page 1 (to select sub-master page).
 4. Press sub-master 3 (to select memory 3).
 5. Press 2 (to select channel 2)
 6. Press 3 (to select channel 23)
 7. Press Through (to select channel 23 through)
 8. Press 5 (to select channel 23 through channel 5).
 9. Press 8 (to select channel 23 through channel 58).
 10. Press And (to select channel 23 through channel 58 And).
 11. Press 1 (to select channel 23 through channel 58 And 1).
 12. Press 0 (to select channel 23 through channel 58 And 10).
 13. Press 2 (to select channel 23 through channel 58 And 102).
 14. Press 4 (to select channel 23 through channel 58 And 1024).
 15. Press At (to select channel 23 through channel 58 And 1024 @).
 16. Press 1 (to select channel 23 through channel 58 And 1024 @ 1).
 17. Press 0 (to select channel 23 through channel 58 And 1024 @ 10).
 18. Press 0 (to select channel 23 through channel 58 And 1024 @ 100).
 19. Press At (to select channel 23 through channel 58 And 1024 @
100% and to complete operation).
-

C O N F I G U R A T I O N S E T U P

OVERVIEW The rear panel provides a bank of eight miniature switches that are used to select numerous options.
The default setting is all switches in the up or on position.

Switch 1
Warning beeper The warning beeper sounds when either of the DMX512 inputs fail.
Select 'on' to disable the audible warning.

Switch 2
Record beeper The record beeper sounds in programming mode to confirm a record operation. Select 'on' to disable the audible warning.

Switch 3
Not currently implemented.

Switch 4
Chase Master Chases are automatically started when the chase master is moved up from zero. Switch 'on' to disable start on fader and only allow the Chase Effects button to start the chase.

Switch 5
Program Level The level of selected channels in programme mode is entered as a percentage from 0 - 100. Switch 'on' to change to real value level entry of 0-255.

Switch 6
Text Mode The Snap-1024 is able to transmit DMX512 (2000) text information. This information can be viewed on a DMX512 text receiver and provides operator feedback during programming. Some dimmers and moving lamps may not correctly receive this information.
Select 'on' to enable text packets.

Switch 7
HTP Override The Snap-1024 LTP functions can be totally disabled when not required.
Select 'on' to force Snap-1024 to operate in HTP mode and ignore all channel settings.

Switch 8
Timer Fader When set to off, the Time fader affects both faders and effects

buttons. When set to on, the time fader only affects the faders and the effects buttons react instantly.

E X T E R N A L C O N N E C T I O N S

POWER SUPPLY Snap-1024 has an internal UPS (Un-interruptible Power Supply) that uses a Ni-Cd rechargeable battery to provide about 45 minutes operation without external power.

Users that prefer not to make use of this feature can simply disconnect the internal battery. The console will then operate on external power only.

Switching between external power and UPS power is transparent to the operator.

The external 9 Volt DC power supply is used to power and recharge Snap-1024.

As with all Ni-Cd battery products, the best battery life is obtained by completely discharging Snap-1024 prior to recharging. The power switch is used to switch off Snap-1024, battery charging will continue if the power connector is plugged in.

Snap-1024 contains a sophisticated battery manager, which regulates battery charging. A full charge is obtained in three hours (during which time, the charging lamp is illuminated), after which the external power supply is used solely to power Snap-1024.

POWER IN	PIN	FUNCTION
	Centre	+9VDC @ 700 mA
	Skirt	GROUND

**XLR PIN
DATA**

RECEIVE (MALE 5 PIN XLR)	
Pin	Function
1	Screen
2	DMX Receive Signal-
3	DMX Receive Signal+
4	NC
5	NC

TRANSMIT (FEMALE 5 PIN XLR)	
Pin	Function
1	Screen
2	DMX Transmit Signal-
3	DMX Transmit Signal+
4	NC
5	NC

**REMOTE
CONTROL
PIN DATA**

MALE 15 PIN DB	
Pin	Function
1	Effects button 8
2	Effects button 7
3	Effects button 6
4	Effects button 5
5	Effects button 4
6	Effects button 3
7	Effects button 2
8	Effects button 1
9	Effects button 12
10	Effects button 11
11	Effects button 10
12	Effects button 9
13	Chase Effects
14	Chase Step
15	Ground

The remote connection cable requires to a female connector on the cable. Cable length should be limited to 5m.
The relevant function is initiated by shorting the signal pin to ground. This can be accomplished with either a push button or a relay.
Do not connect external voltages to this connector.

CONSOLE LINKING

INPUT RJ11	
Pin	Function
1	Receive +ve 5V level
2	Receive ground
3	Receive +ve 15V level
4	NC

OUTPUT RJ11	
Pin	Function
1	Transmit +ve 5V level
2	Transmit -ve
3	NC
4	NC

Console linking is achieved by connecting the output RJ11 from the master console to the input RJ11 of the slave. This is repeated to link any number of consoles together.

Linking more than ten consoles together will introduce communication delays that are likely to be visible on the output. Cable length should be limited to 20m.

The link cable only requires connection of pins 1 & 2 although a cable with all pins wired straight through can be used.

Under no circumstances should this connector be connected to telecommunications equipment as damage will occur.

LINK OPERATION

In link mode the master console is used as normal. The slave console is identified by the illumination of the slave lamp.

All user controls, including the key switch, are disabled on the slave console.

Lamp indicators on the slave console(s) will operate as if local controls had been pressed.

PC REMOTE CONTROL

The link input connector can be used to allow a PC (or any other RS232 transmitter) control of Snap-1024.

The required link cable is detailed below. Please note that the RJ11 should be connected to the input connector.

PC LINK CABLE		
RJ11 Pin	DB9 (Fem) Pin	Function
2	5	Transmit ground
3	3	Receive

PC PROTOCOL

The remote control protocol allows the PC to operate as if it were a master console.

The control protocol is very simple allowing it to be implemented from within programs such as Macromind Director.

Port Setup

The serial port of the PC must be configured as:

Baud Rate	19.2KB
Start Bits	1
Data Bits	8
Parity	None
Stop Bits	2

S N A P - E D I T

OVERVIEW Snap-Edit is a Windows 95/98 application which serves three purposes:

1. Provides an on-line editor that allows live programming of moving lamps.
2. Provides an off-line editor allowing all Snap-1024 Cues, Sequences and configuration data to be programmed in a console style format.
3. Provides a Moving Lamp personality editor.

INSTALL

Snap-Edit is installed as follows:

1. Insert the disc in the floppy disc drive.
2. Select the Start Menu and then the Run Command.
3. Press the Browse button.
4. Locate the program SETUP.EXE on the floppy drive (normally A:).
5. Execute the program.
6. The Install Shield program will start and guide you through the remaining steps of the installation procedure.

HARDWARE

Snap-Edit requires the following minimum specification to run:

1. Pentium at 133mhz or higher PC Compatible.
2. Windows 95 operating system.
3. Mouse.
4. VGA 640 x 480 or better.
5. 1 MByte Hard disc space.
6. 16 MByte ram.

COMMS

Snap-Edit communicates with the Snap-1024 via the RS232 interface of the PC. Snap-Edit can access either COM1 or COM2.

An XLR5F to 9 pin DB cable is provided with Snap-Edit. The cable contains the RS232 to RS485 conversion electronics required for communications between the PC and Snap-1024.

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