ISIS® Software for PHOENIX XT and MENTOR

User Manual
Software v. 2.45

ADB
Lighting Technologies

CHAPTER OVERVIEW

1 INTRODUCTION

1.1 Welcome to the *ISIS®* software User Manual

ISIS® software from ADB is an advanced approach to the control of lighting systems. It provides the operator total command over conventional luminaires, colour changers and moving light instruments and more.

ISIS® is an evolutionary software platform, designed with the most advanced development techniques and characterised by a perfectly structured architecture. The software design allows *ISIS®* to be open to further expansion and innovation for many years to come.

One of the concepts behind *ISIS®* is to make the system intuitive for the operator, whether control is required over a small generic lighting system, or a rig comprising many moving lights and DMX instruments. Many functions have been incorporated into *ISIS®* following suggestions from lighting professionals from around the World.

Any show programmed on an *ISIS®* system can be run on any other console or PC running the software. This means that shows can be easily transported between different lighting desks, and the operator can be quickly familiarised with other consoles of the *ISIS®* family.

ISIS® software runs on a powerful real-time 32-bit operating system, providing multi-user and pre-emptive multi-tasking capabilities, with a very short boot-up time. And also this system has been proved highly reliable and stable.

1.1.1 About this manual

This manual describes the functions of *ISIS®* software in detail, and provides examples of their use. The information in some chapters is partially included in other sections, to guide the operator through a complete procedure.

The manual is split into logical chapters, allowing the required information to be found quickly. It is designed to be useful for those operators who prefer to use the manual when necessary, as well as for those who would like to follow the chapters from start to finish.

In addition to this manual, the *ISIS®* software contains a complete on-line help system, accessed by pressing the <HELP> key or F11 from the alphanumeric keyboard. The on-line help system contains hypertext links between various topics, allowing relevant information to be quickly found. Importantly, using the on-line help does not affect the physical operation of the lighting desk: <u>all faders and controls can still be used whilst the on-line help is active</u>. Use of the on-line help system is described in the chapter 33 *Help*.
All functions and operations performed from the control platform can be made from the alphanumeric keyboard supplied with the system.

The chapter 31 *Using The Alphanumeric Keyboard* explains how the desk functions and fader selections can be made in this way. The alphanumeric keyboard is also used to input titles and other information when required. *ISIS®* recognises commands made from both the control platform and the alphanumeric keyboard simultaneously, without the operator having to enable one or the other.

The chapter 2 *Quick Start Guide* provides a very simplified guide to the most common requirements and functions of the lighting desk: it can be used as a quick reference chart or as a basic tutorial to the *ISIS®* system.

1.1.2 Main features of the ISIS® software

ISIS® provides all the operating functions expected of a high performance lighting control system, and in particular:

- Intuitive control of channels and memories in submasters, playbacks or Live;
- Powerful and flexible submasters with configurable functions for each submaster;
- Submaster faders can be used for individual channel control, parameter adjustments, and more;
- Completely user-configurable screen displays provide selected information;
- All channels and parameters within a memory can run different fade times simultaneously;
- Advanced sequence manager allows any event to be inserted into the playback sequence and triggered by the operator;
- Complex events can be created automatically by the Intelligent Link function;
- Easy modifications can be made from the channel and memory tracking functions;
- Unrestricted allocation of luminaires, colour changers and moving lights to control channels and DMX outputs: for example, a 20 parameter instrument requires 20 DMX outputs, but only one control channel;
- Each channel and parameter can be set to one of three operating modes: HTP, FTP or LTP;
- Extended motion control functions include move in black, tracking functions, and more;
- Powerful yet simple Effect Generator for moving light and colour changer instruments;
- Sophisticated concept of libraries for motion control elements;
- Smart patch for DMX inputs and outputs, including proportional output factors and dimmer laws;
- Selective multi-merge of show data;
- Live recording of macros allows real-time playback;
- Standard Ethernet functions include full tracking back-up and DMX through Ethernet;
- Comprehensive on-line help system with hypertext links.

ISIS® means Integrated Software for Intelligent Systems!

1.2 Introduction to using the *ISIS®* system

Before using an *ISIS®* system for the first time, the basic methods used to navigate the system and select functions should be understood.

1.2.1 Access to functions

Access to *ISIS®* functions is provided through the menu bar, accessed by pressing the <MENU> key, although there are also dedicated keys for many functions.

The most commonly required functions are loaded onto the eight function keys F1 to F8, and are displayed at the bottom of the screen. The functions assigned to these keys will change as the operator performs different actions, providing immediate access to the most logical functions.

1.2.2 Navigation

The <MENU> key displays the main menu bar, from which functions can be selected. The menu bar can be navigated using the function keys to make the selection indicated by the numbers 1 to 8, or the arrow (or cursor) keys used to highlight a function which is then selected with the <ENTER> key.

Many menu selections will bring up a display, or dialogue box, on screen, where the operator can browse and configure options and make selections. These dialogue boxes can be navigated using the four arrow keys and the <ENTER> key, or the function keys F1 to F8 directly.

Items can be highlighted from lists using the arrow keys, but more directly by using the main fader wheel. Pressing <ALT> in combination with an arrow key will produce the functions <HOME>, <END>, <PAGE UP> and <PAGE DOWN> when navigating longer lists.

Numerical items in any manager or list can be directly selected by typing the number on the keypad. The number entered will appear in the information bar at the bottom of the list, and can be reset one digit at a time by pressing <CLEAR>.

Each dialogue box is given a number within its title - for example, “810: Screen Configuration”. If a dialogue box is regularly used, its number can be used to display the dialogue box directly, instead of accessing the function through the menu.
The shortcut to displaying the required dialogue box is to hold down the <MENU> key and type the associated dialogue number on the keypad.

1.2.3 Messages

From time to time, *ISIS®* displays messages to the operator on the screen. These appear in a small blue window which automatically disappears after a few seconds, or on a subsequent keypress. The latest message is at the bottom of this message list.

If the operator wishes to redisplay the blue message window, this facility is available from the Tool functions of the menu, under the option 'Show Messages'.

1.3 Summary

ADB's *ISIS*® software provides the operator with complete command over the lighting control system. The software is very easy to use and, once the basics have been mastered, the system is highly intuitive.

It is not necessary to understand all of the concepts and functions of the *ISIS*® system before it can be used: the lighting for many shows can be controlled straight away using only the submaster faders.

However, the advanced functions of *ISIS*® allows the operator to take the lighting control in a precise and repeatable level. The software offers highly sophisticated functions and can be customised as required by the operator.

We hope that you will enjoy using *ISIS*® software and, with the aid of this manual, learning to exploit this high performance system.

2 QUICK START GUIDE

2.1 Turning on

After a normal start, the desk configuration is exactly as it was when the desk was last used – submasters loaded, fades running, all memories intact.

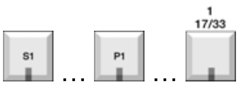
The monitor displays the system's warm start routine: you can see all the *ISIS®* files, and the current show being loaded.

Show Initialization (clearing the desk)
It may be necessary to initialize the system – clearing previous work from the desk. This operation allows the system to boot normally. Select <SHOW INIT> in the File option of the Menu, make the required selections and confirm with <F8 (OK)>.

Warning:
Selecting and initializing the Configuration option will reset the monitor displays to their default settings.

2.2 Working field selection

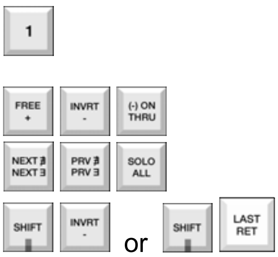
All channel operations are sent to the selected working field (submaster, Stage, Preset etc): press the selector key associated with the desired field before entering channels and intensities. The content of the working field is displayed on the monitor.



2.3 Channel selection

On systems with one keypad, any number entered is assumed to be a channel number unless told otherwise. Therefore, simply type the desired channel number on the keypad.
On systems with two keypads, enter the desired channel number on the dedicated Channels keypad.

Lists of channels can be quickly built up with the <+> <–>- <THRU> <NEXT> <PREVIOUS> <ALL> <INVERT> <LAST> functions.



2.4 Creating groups

Selected channels can be recorded as a group. Groups are simply lists of channels and can be used wherever a single channel can be entered. In this way, colour washes, stage areas or instrument types, for example, can be grouped together for quick and easy modifications. Please refer to the chapter 10 *Groups* for the details.

A group is created via the key <RECGRP>.

channel selection …

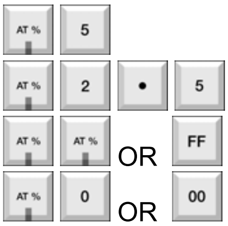
"group number"

2.5 Intensity assignment

After a channel or group has been entered, the <AT> key is pressed to assign an intensity level. *ISIS*® is a Single Digit Direct Entry system, so intensities can be entered as follows:

- ➔ 50% would be entered as <5>
- ➔ 25% as <2><.><5>
- ➔ 100% (or Full On) is <AT><AT>
- ➔ 0% is 0.

The <AT> key is not required for use of the WHEEL, <FF>, <00>, <+5%> or <-5%> keys, although it does not matter if <AT> is accidentally pressed prior to these keys.

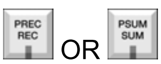


2.6 Memory number selection

On single keypad systems, precede the memory number with the <MEM> key.
On dual keypad systems (Phoenix 10), enter the memory number directly on the dedicated Memories keypad.

2.7 Recording memories

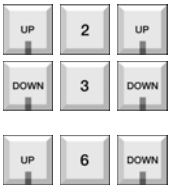
To record the contents of the selected working field only, enter the memory number and use <REC>.
To record the total desk Output, excluding any bypassed channels, use <SUM>.



2.8 Assigning memories times

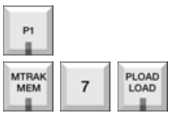
When recording any memory, the default times will be associated to the memory.
To specify memory Up and Down times, press the <UP> or <DOWN> key, enter the time (in seconds), then press <UP> or <DOWN> for a second time.

If both times are to be changed to the same value, the keystrokes can be shortened by pressing the <UP> key, entering the time (in seconds), followed by the <DOWN> key.



2.9 Loading memories

Select the desired working field, then select the desired memory number and press <LOAD>. For single keypad systems, the memory can be directly loaded by pressing <MEM> twice, the required memory selected with the wheel and confirmed with the <LOAD> key.

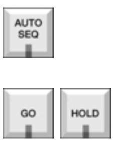


OR

2.10 Sequential memory playback

Each playback has two sides: S for Stage, which is active, and P for Preset, which is effectively blind. The stage and preset halves of the playbacks are analogous with a two preset manual desk. In order to playback pre-recorded memories in sequential order, the <SEQ> button must be illuminated.

Playbacks can be operated manually by moving the S and P fader pairs, or automatically by pressing the <GO> key. A running crossfade can be paused and un-paused by using the <HOLD> key.



2.11 Erasing working field contents

Press <ERASE> twice removes the content of a Working Field. If the content is a recorded entity such as a memory or chaser, it can not be deleted from the system memory.

2.12 Deleting

All deleting (permanent removal) is done from the relevant manager. For example:

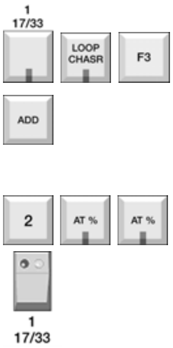
- ➔ to delete a memory, use Memory Manager;
- ➔ to delete a group, use Group Manager.

... Enter into the Memory Manager

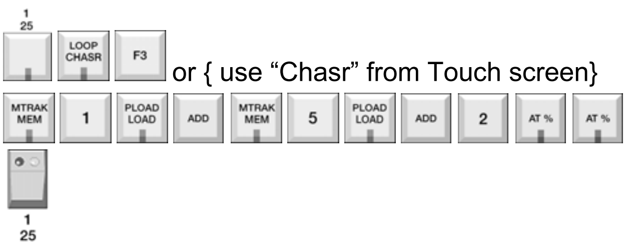
2.13 Creating chasers

Select a submaster, press <CHASER> then press <F3 {NEW}>.

Press <ADD> to create each new step, and then enter the channels, groups, or memories required and assign an intensity level. Chasers are started and stopped using the Flashkey associated with the submaster containing the chase, whilst the overall intensity level is set with the fader.



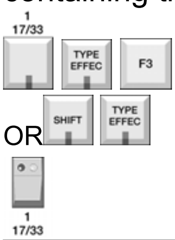
OR



2.14 Creating effects

Select a submaster, press <EFFECT> then press <F3 {NEW}>.
Enter the channels, groups, or memory contents required in the effect in the order desired. The effect type can be changed by selecting <TYPE> and selecting from the List of effects.

Effects are started and stopped using the Flashkey associated with the submaster containing the effect.



2.15 Output patch

To change the output patch, press <PATCH> to enter the Patch Screen. The syntax for patching is:

➔ *channel number* to *DMX address* at *proportional level*

To patch to alternate DMX universes (lines), the dot syntax can be used to distinguish the required universe, instead of calculating the numerical DMX address.

Press <PATCH> a second time or <F8> when complete.

= ch1@Dim a1 on FF

= ch2@Dim b7 on FF

2.16 Saving a show

The current show can be saved to disk. Use the Menu as shown, or the dedicated <TO DISK> key, enter a filename and description using the alphanumeric keyboard, and press <F8 (OK)> to complete the operation. The save progress is shown on the monitor.

… give a abbr and a show name…

2.17 Shut down

If the desk is to be turned off, it is important to shut down the software properly before turning off the power. A correct shutdown <MENU> <F1> <F6> <F7> ensures that all the files in the working directory are properly updated and saved so that the show is restored on the next power-up.

3 HARDWARE TYPES

3.1 Introduction

ISIS® software is a common platform, designed to be used on several different families of control desk. It is the software used by the MENTOR, PHOENIX and, previously, VISION 10 ranges.

The *ISIS®* software has a full range of features, all of them are available from any style of control desk. However each type of system has different physical hardware – for example: some have less faders or keys; some desks utilise an LCD touchscreen, which can be used both to display information and to select functions and channels.

The table below illustrates the main differences between each hardware platform.

TYPE	PHOENIX 2	PHOENIX 5	PHOENIX 10	RB Backup	MENTOR	MENTOR XT
Physical Playbacks	*1*	*2*	*2*	*0*	*1*	*1*
Physical Subs	*16*	*24*	*24*	*0*	*24*[2]	*48*
Extension (24 faders)	*No*	*No*	*No*	*No*	*Up to 4*	*Up to 2*
Keypads	*1*	*1*	*2*	*0*	*1*	*1*
Touchscreen	*No*	*No*	*Yes*	*No*	*Yes*	*Yes*
Trackball	*Yes*	*Yes*	*Yes*	*No*	*External*	*Yes*
Parameter Wheels	*1*[4]	*3*	*4*	*0*	*1*[3]	*4*
Local Monitors (max)	*4*	*4*	*4*	*4*	*1*	*4*
Processing Unit	*External*	*External*	*External*	*Internal*	*Internal*	*Internal*

Notes:

[1] Optional second playback
[2] Can be increased using extension wings
[3] Uses external trackball controls
[4] Uses intensity belt

Due to these differences, there are several ways of accessing functions on each type of desk. Other chapters of the manual will include the methods used in each case, especially the chapters 30*Touchscreen Control* and 31 *Using The Alphanumeric Keyboard* together with the Function Assign facility in the chapter 24 *Macros & Learn Profiles*.

3.2 MENTOR extension fader wings and motion wing

The MENTOR control platform has 24 physical submaster faders, although these can be augmented by using extension wings. Each extension wing provides an additional 24 submasters with flashkeys and 6 direct access macro buttons.

The MENTOR extension wings are simply connected to the rear of the MENTOR, and each one provides a link connection to additional wings. A total of four extension wings can be added to the MENTOR system and 2 fader extension wings or 1 motion wing for MENTRO XT.

3.3 Touchscreen

Several *ISIS®* platforms provide an LCD touchscreen for access to functions, selection of channels and display purposes. Use of the touchscreen can be found in the chapter 30 *Touchscreen Control*

4 WORKING FIELDS

4.1 Introduction

ISIS® software uses a system of "working fields" to assign the operator's instructions to a specific area of the desk.
A working field must be selected before any other instructions – such as channel intensities – are entered.

It is important to understand the concept of working fields, as the active field determines which area of the desk will receive the commands made by the keypads and other controls on the desk.

The list below gives the available working fields within *ISIS®* software:	
	Submasters 1 to 96
P1	Preset 1
S1	Stage 1
P2	Preset 2
S2	Stage 2
LIVE	Live
EDMEM	Edit Memory / Edit Library

The basic functions - such as channel selection, intensity allocation, recording & loading memories (cues), colour selection and motion control - can be carried out in any of the working fields.
However, each type of working field has additional functions associated with it.

SUBMASTERS
If a submaster is selected, the fader must be raised to see its contents at the output of the desk - although keeping the fader down is a useful way of creating scenes "blind". Submasters can also be used for chasers & special effects, or for running a list of memories (a cue stack).

PLAYBACKS (STAGE & PRESET)
The Stage field is the active part of the playback: its contents are sent straight to the output of the desk. The Preset field contains the lighting state that will be used in the next crossfade. Using the Preset as the working field is another easy way of plotting blind - particularly if the newly created blind state is to be played back as the next operation. The playback is also used for complex sequences of memories and other events.

LIVE (COPY LIVE)
The Live field, as its name implies, is concerned with the output of the desk; but in this field any channels that are modified will be captured. Captured channels are sent directly to the output of the desk, and their output value cannot be altered by any other working field.

In *ISIS®* software version 2.42 or higher, press SHIFT + LIVE to be able to enter into LIVE working field, otherwise staying in Copy Live function.

EDIT MEMORY / EDIT LIBRARY
The contents of this field are never sent to the output of the desk; it is a useful field for plotting blind.
Edit Memory can also be used for modifying several memories or motion control libraries simultaneously.

Summary: The working field concept is so flexible that it makes *ISIS*® software very easy to use, yet extremely powerful. A memory created in any field can be loaded into any other field for playback or modification purposes, and field contents can be copied from one area to another.

4.2 To select a working field

To select any of the working fields, simply press the associated selector key: its LED will light.

All operations of the channels and memories keypad, special functions panel, and motion controller will be sent to the current working field, until a different field is selected.

It is possible to select more than one submaster field simultaneously, by using the selector keys in conjunction with the <+>, <->, and <THRU> keys.
Playback fields and the special function fields (such as Edit Memory, Live and the Patch) are exclusive: they cannot form part of a list of selected fields.

4.3 To empty a working field

To empty the contents of a working field, press <ERASE> twice while the field is selected.
This will not permanently delete any recorded memories, chasers or effects; it will simply remove them from the selected working field.

5 PHYSICAL AND VIRTUAL FADERS

5.1 Introduction

Because *ISIS*® software is able to run on a variety of hardware platforms, the software may support faders, keys, or other controls that do not physically exist on the desk. When this happens, the control is known as a “virtual” control.

The most obvious example of this is the submasters: The software supports up to 96 submasters but there are less physical faders on all standard systems. If the first submaster page is selected, higher numbered submasters are virtual. The page can be turned to give physical access to these higher numbered faders, but there are other controls within the software that are always virtual.

Sometimes, due to operational manipulations, there is a difference between the level of a physical fader and the value of its associated virtual fader. In this case, it is the virtual fader that is contributing to the desk output status and to regain manual control of it, the physical fader must be moved to the same level as the virtual fader.

When the levels are matched, the physical fader takes control. This is called “**collecting**” the fader. In all screen displays, virtual fader levels are displayed in **red**, whereas physical fader levels are shown in **white**. When the physical fader is moved, the displayed level will turn from red to white when the physical fader matches the virtual fader level.
At this point, the operator has control of the fader level. Virtual fader levels can also be entered directly as keyboard commands, or in conjunction with the fader wheel.

Functions that do not have a physical key can be controlled by a simple code of keystrokes from the alphanumeric keyboard, or they can be assigned to another key by the operator.
Faders that do not have a dedicated control can be controlled from the alphanumeric keyboard, or they can be assigned to the wheel or another physical fader.

Note: A full list of keyboard shortcuts is given in the chapter 31 *Using The Alphanumeric Keyboard*.

5.2 Fader sampling at power-up

When the desk is shut down, *ISIS*® software records the levels of all of the faders: these values are then restored on power-up of the desk. If the submasters were left at specific values when the desk was shut down, those values are restored on power-up, even if the faders have been moved in the meantime.

The Grand Master is an exception to that rule. If the desk is turned off but channels have been left at the output, the Grand Master can be faded down while the desk is off to avoid those channels coming straight back on at the next power-up. It is the physical level of the Grand Master that is loaded at power-up, not the virtual.

5.3 The Grand Master fader and Blackout functions

All of the *ISIS®* desks have both a Grand Master fader and a Blackout key.

The alphanumeric keyboard can also be used to access these functions, if the operator prefer to do so. Please refer to the chapter 31 *Using The Alphanumeric Keyboard*.

5.4 The Override fader

The Override facility forces output intensities beyond 100% of their current level, up to 140%, and works on all channels proportionally. Intensities that are at full (FF) cannot be increased, but intensities that are less than FF can be proportionally increased until they reach 140% of their original level - or absolute 100%, whichever comes first.

This is the opposite function of the Grand Master fader: where the Grand Master proportionally decreases intensities, the Override fader can be used to proportionally increase them.

Some hardware platforms have dedicated Override controls (for example, the P10xt has 2 keys under the General Control Fader: OVE+ and OVE-); on other systems the function can be assigned to the wheel, another physical fader, or controlled from the alphanumeric keyboard.

5.5 The Auditorium fader

The Auditorium group is a special list of channels, which is controlled by the auditorium fader.
These specific channels can then be manually faded down at any time, as the fader has an inhibitive effect.

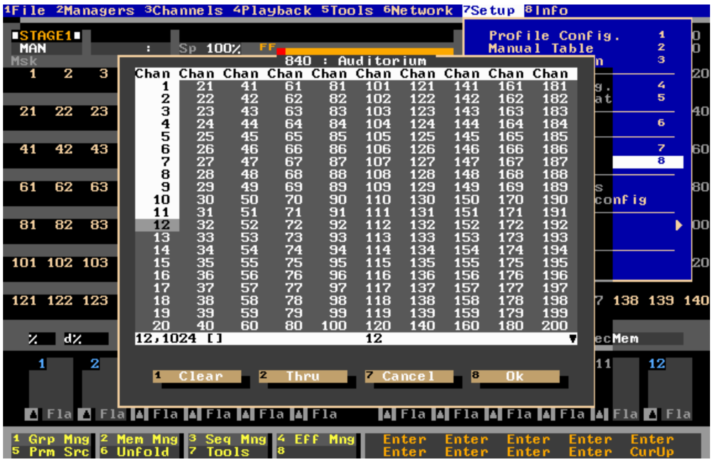
For example: all front of house lights in a traditional proscenium theatre can be allocated to the Auditorium fader. Then, whenever the front house curtain is lowered, all lights that could otherwise spill onto it can be faded out when required.

5.5.1 Allocating channels to the Auditorium group

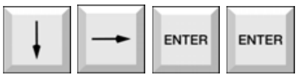
The channel list assigned to the Auditorium fader can be added to or changed at any time.

examples of keystrokes

<MENU> <F7 (SETUP)> <F8 {AUDITORIUM}>
➔ Displays a simple channel list.



Auditorium channel selection (Dialogue Box 840)



...

<↓> <→> <ENTER> <ENTER> …

➔ Select the required Auditorium channels using the cursor keys and <ENTER>.

<F2 {THRU}> <↓><↓><↓> <F2 {THRU}>

➔ A consecutive list of channels can be selected using the <THRU> function.

<F8 {OK}>

➔ Confirms the selected channels and exits the dialogue box, returning to the working field previously selected.

5.5.2 Using the Auditorium fader

The auditorium fader is used to manually inhibit the channels allocated to it when required. It can be useful to manually fade out the front-of-house lights when the tabs are flown in - hence the name of the function.

However, the auditorium fader can also be used for any group of channels that need manual control in this way, such as working lights or music stands.

Some hardware platforms have dedicated Auditorium controls; on other systems the function can be assigned to the wheel, another physical fader, or controlled from the alphanumeric keyboard.

Note: The Auditorium fader is purely inhibitive.

It can fade down the channels allocated to it if they are present at the Output from other working fields.

It cannot add those channels to the Output.

For more information on inhibit functions, please turn to the chapter 11 *Submasters *.

5.6 The Submasters

ISIS® software supports up to 96 submasters, however there are less than 96 physical faders on all standard systems. Each submaster can have a non-zero value at any time, but only one page of submasters can have physical control.

Because of the concept of submaster pages, it is likely that there will be discrepancies between the positions of the actual submaster faders and their virtual values.

The levels of individual submasters can be displayed on screen in the submaster information boxes.
The submaster level is shown in **white** if it is the physical fader controlling the submaster level, and in **red** if it is the virtual value controlling the submaster level.

When there is a difference such as this, manual control of the submaster can be taken by moving the physical fader so that its level matches that of the virtual fader. When the match is made, the submaster value changes from red to white to show that the physical fader is in control of the submaster level.

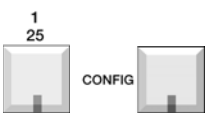
Any submaster can be controlled by the physical fader by changing pages as required. If a page change is not desirable, the virtual fader can be controlled from the alphanumeric keyboard. Please refer to the chapter 31*Using The Alphanumeric Keyboard *.

There is a function in the submaster configuration dialogue box that sets the virtual fader value to the physical fader of the selected submaster(s) on the selected page.

For example: if submaster 1 is set to 50% ,when the page turns to page 2, the physical fader becomes submaster 25, though the fader is at 50% but the virtual value of submaster 25 (17) is still zero.

Either the operator moves the physical fader down to zero to match the virtual value (shown in red in the submaster information box), or the "faders" function can be used to force the virtual value to match the physical position of the selected submaster.

examples of keystrokes



<SUB 1> <CONFIG>
➔ Enters the submaster configuration dialogue box (for submaster 1 only).

<F2 {FADERS}>
➔ Forces the virtual value of submaster 1 to match the position of the fader.

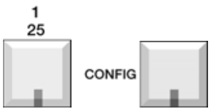
5.7 The Submaster General fader

Each submaster can be assigned to the Submaster General fader, which has overall control of the levels of all submasters that are allocated to it. By default, each submaster is assigned to this fader, but it is possible to configure a submaster to ignore this control.

The Submaster General fader is entirely virtual on all operating surfaces, and can be assigned to the wheel, another physical fader, or controlled directly from the alphanumeric keyboard.

Submasters are allocated to the Submaster General fader in the submaster configuration dialogue.

examples of keystrokes



<SUBMASTER SELECTION> <CONFIG>
➔ Displays the submaster configuration dialogue box for the selected submaster.

<↓>
➔ Use the down arrow key to move the cursor to the Submaster General fader box.

<ENTER> <F8 {OK}>
➔ Select or deselect the option to allocate the selected submaster(s) to the Submaster General fader.
➔ Confirms the selection and exits the dialogue box.

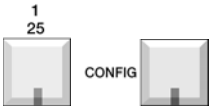
5.8 The Flash Master fader

Each submaster flashkey can be assigned to the Flash Master fader, which has overall control of the flash level. By default, each flashkey is assigned to this fader, but it is possible to configure a submaster to ignore this control.

The Flash Master fader is entirely virtual on all operating surfaces, and can be assigned to the wheel, another physical fader, or controlled directly from the alphanumeric keyboard.

The submaster flashkeys are allocated to the Flash General fader in the same submaster configuration dialogue box.

examples of keystrokes



(CFG)

<SUBMASTER SELECTION> <CONFIG>
➔ Displays the submaster configuration dialogue box for the selected submaster.

<↓>
➔ Use the down arrow key to move the cursor to the Flash General fader box.

<ENTER> <F8 {OK}>
➔ Select or deselect the option to allocate the selected submaster(s) to the Flash General fader.
➔ Confirms the selection and exits the dialogue box.

5.9 The DMX Input fader

When an external desk is connected to the DMX input, the input patch is subject to the level of the DMX Input fader.

The DMX Input fader is entirely virtual on all operating surfaces, and can be assigned to the wheel, another physical fader, or controlled directly from the alphanumeric keyboard. The fader can also be set and enabled from the general configuration dialogue box in the setup menu.

examples of keystrokes

<MENU> <F7 {SETUP}> <F6 {GENERAL}>
➔ Displays the General Configuration dialogue box *866*, giving access to all input options.

<ENTER>
➔ Enable the DMX input by checking the box.

<↓> WHEEL

➔ Moves the cursor to the DMX input level. The DMX input level can be set proportionally: 0% is the minimum, 100% is the maximum. A value of 50% will produce an output of half the DMX input levels. The fader wheel can be used to set the input level, or it may be entered directly from the keypad.

<F8 {OK}>

➔ Confirms the operation and closes the dialogue box.

5.10 The Audio Input fader

To enable the audio functions, a suitable input level must be set with the audio input fader.
If an audio signal is connected, its level can be visualised on-screen via bargraphs to help optimise the setting of the audio input.

<u>The Audio Input fader is entirely virtual on all operating surfaces</u>, and can be assigned to the wheel, another physical fader, or controlled directly from the alphanumeric keyboard.

The fader can also be set and enabled from the general configuration dialogue box *866* in the setup menu.

examples of keystrokes

<MENU> <F7 {SETUP}> <F6 {GENERAL}>

➔ Displays the General Configuration dialogue box.*866*

<↓><↓> <ENTER>

➔ Enable the audio input by checking the box.

<↓> WHEEL

➔ Moves the cursor to the audio input level. The audio input level can be set between 0% (the input is fully attenuated) and 100%. The fader wheel can be used to set the input level, or it may be entered directly from the keypad.

➔ If the audio input is connected and active, average, bass, mid-range, and treble bargraphs are displayed on-screen to give a visualisation of the audio input level. The optimum level should allow the signal to peak occasionally, but not persistently. The required level will vary between different input sources.

<F8 {OK}>
➔ Confirms the operation and closes the dialogue box.

5.11 Using the Wheel to control virtual faders

Any of the virtual faders can be temporarily assigned to the fader wheel. However, <u>when the wheel (or belt) is assigned to a virtual fader function, it cannot be used for adjusting intensities</u>.

The current wheel assignment is shown in the information bar on monitor 1 above the screen footer. By default this is shown as “Wh Intens” for intensities, but the selected virtual fader is shown in this box when it is assigned to the wheel. Assigning the wheel to control any of the virtual faders is achieved via the function keys.

examples of keystrokes

<F7 {TOOLS}> <F6 {WHEEL}>
➔ Displays the Wheel virtual assignment options.
<Fx {VIRTUAL FADER}>
➔ The required virtual fader is selected from the available options:
F1 Intensities
F2 Submaster Master
F3 Flash Master
F4 Auditorium
F5 DMX Input
F6 Audio Input
F7 Parameter Control
➔ The function key <F8 {OTHER}> displays further options:
F1 Effect Speed
F2 Override

WHEEL
➔ Adjusts the level of the selected virtual fader.

Note: Do not forget to re-assign the wheel to Intensities before using it to control channels or tab clear twice.

5.12 Connecting physical submaster faders to virtual faders

Any of the submaster faders can be used to control some of the virtual faders described above.

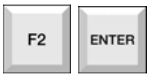
These faders are then connected to the virtual faders, and cannot be used to control submasters. Such configuration is made in the Manual Table option of the Menu.

examples of keystrokes

<MENU> <F7 {SETUP}> <F2 {MANUAL TABLE}>
➔ Enters the Manual Table configuration dialogue box*816*.

OR 

WHEEL OR <↓>
➔ Use the wheel or the down arrow key to highlight the required group of physical faders.



<F2 {SPECIAL}>
➔ Displays the Extra Faders Edit dialogue box.

 … 

<↓> ... <ENTER>
➔ Use the arrow keys and <ENTER> to assign the required function to each fader.

<F8 {OK}>
➔ Confirms the operation and changers the fader assignment.

<F4 {RENUMBER}> <F8 {OK}>
➔ Renumbers the remaining submaster faders and exits the Manual table Configuration facility.

5.13 Connecting the Auxiliary fader to a virtual fader

Some platforms have an auxiliary fader, which can be used to control some of the virtual faders described above. Such configuration is made in the Setup option of the Menu.

examples of keystrokes

<MENU> <F7 {SETUP}> <F6 {GENERAL}>

➔ Displays the General Configuration dialogue box*866*.

<↓><↓> <ENTER>

➔ Use the down arrow key to select the Auxiliary Fader option, then <ENTER> to display the available options.

<↓> <ENTER>

➔ Select the required virtual fader from the list.

<F8 {OK}>

➔ Confirms the selection and closes the dialogue box

6 SETUP

6.1 Introduction

Before using an *ISIS®* system for a new show, it can be necessary to configure the monitor displays, clear any old show information, and configure the hardware controls and software settings to the operator's requirements.

ISIS® is completely user-configurable and allows software options to be hidden from the operator, preventing inexperienced users from modifying settings. User profiles can also be added to save preferred configurations for any number of operators.

6.2 Screen configurations

ISIS® supports up to four local monitors (depending upon the desk hardware), and four additional network monitors. All monitors can be customised to the operator's preference and the screen configuration options provide an ergonomic and enhanced visual user interface.

Monitor 1 (the default working field monitor) offers several possibilities within the configuration menu, but systems with a single monitor can take advantage of a number of display possibilities and functions.

Each monitor contains a main 'Contents' display, and a 'Footer' display, and these can be selected from a number of options. In addition, the display format can be changed to suit specific requirements.

Monitor contents and display format can be altered from the Setup menu.

examples of keystrokes

<Menu> <F7 {setup}> <F4 {Screen Config}>
➔ Enter into the Screen Configuation dialogue box *814*
➔ Allows screen contents and settings to be configured.

<Menu> <F7 {setup}> <F5 {Display format}>
➔ Enter into the Display Format dialogue box *815*
➔ Allows the format of the displayed information to be changed.

Note : For P10 range, there is another way : Select Mon1 or Mon2 from the front panel, then by choosing F4 or F2, can enter into the Screen Configuration box *814* or the Display format box * 815* directly.

6.2.1 Display contents

The default content is channel intensity information, displayed in percentage format; this can be changed in the Screen Configuration dialogue. The number of channels displayed depends upon the footer configuration.

6.2.2 Display footers

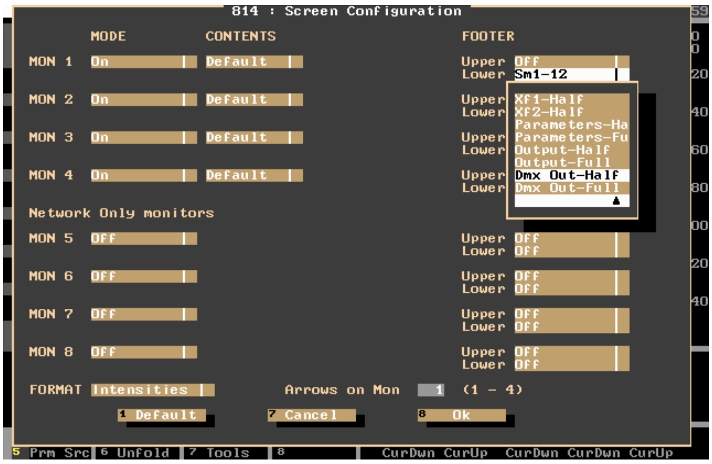
The lower section of the display – the footer – can be used to display specific information, or it can be turned off to allow more channels to be displayed on the monitor.

The footer itself is divided in to two sections – upper and lower – and each can be configured independently. The amount of screen space required by each section of the footer varies according to the selected option.

Note: Not all combinations of footers are allowed and some footers are not available on monitor 1.

The table below indicates the available options for display in the footers

Selection	Type	Description
Parameters	Full / Half	Displays motion control parameters
Output	Full / Half	Displays channels in the Output screen
DMX Output	Full / Half	Displays the DMX output values
Submasters	Full / Half	Displays the configuration and status of 12, 24 or 48 submasters
Playback 1	Full / Half	Displays the sequence list for playback 1
Playback 2	Full / Half	Displays the sequence list for playback 2



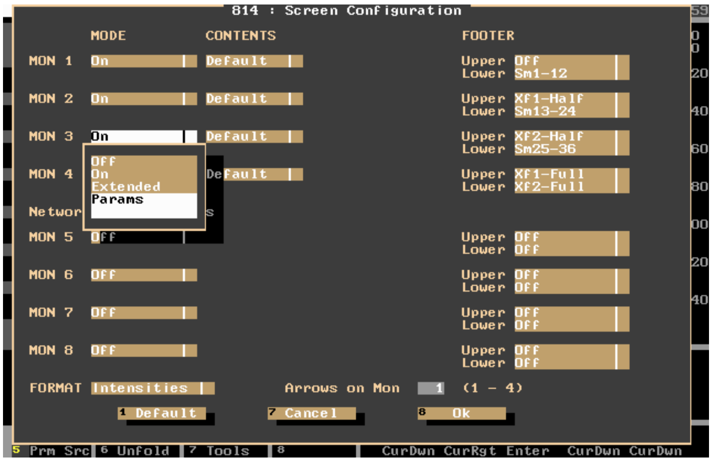
Configuring the monitor footers (Dialogue box 814*)*

Note: If parameter mode is selected from the desk, parameter footers do not appear. If the Output mode is selected from the desk, output footers do not appear.

6.2.3 Display modes

The operator can choose the mode of each monitor. If the ‘Extended Mode’ option is chosen in the Screen Configuration dialogue box, the selected monitor becomes an extension of the previous screen.

If the ‘Parameters’ mode is picked, the selected monitor shows the parameters display. This allows a multi-screen system to have some displays in channel mode and other displays in parameter mode.



Setting screen 3 to Parameter mode

6.2.4 Paging monitor displays

The cursor (arrow) keys can be used to page the display up and down, but they only work on one monitor at a time. The active monitor can be selected by using the relevant <MON> key, or from the Screen Configuration dialogue.

The cursor keys can be used directly to turn the page of the active monitor’s main contents, whilst using <SHIFT> and the cursor keys will page the footer displays.

Note: If the ‘Autopaging’ options are enabled in the Display Format dialogue, the page containing the selected channel will be automatically displayed. If autopaging is not active, the display page must be manually turned using the cursor keys.

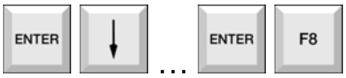
6.2.5 Display formats

The Display Format dialogue offers further display options, which affect how information is displayed rather than the display content.

The display mode can be selected independently for both the working field monitor and the Output monitor. This allows, for example, only channels with an intensity (non-zero) to be displayed on the Output screen, and all patched channels on the working field screen.

examples of keystrokes

<menu> <F7 {setup}> <F5 {display format}>
➔ Enters the Display Format dialogue box *815*.

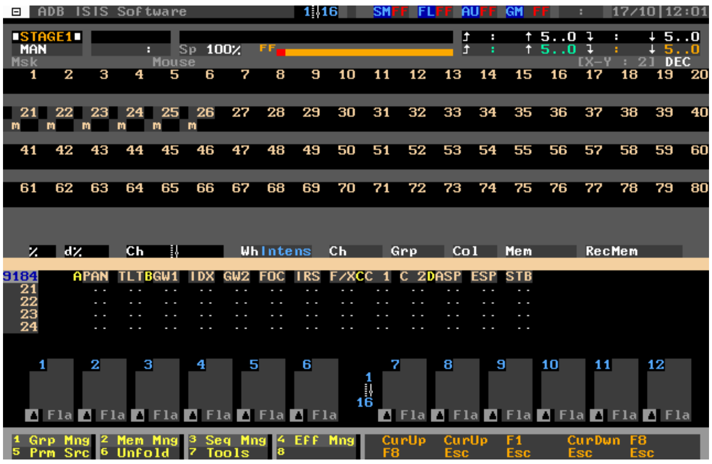


<enter> <↓> ... select 'all patched' <Enter> <F8 {ok}>
➔ Changes the working field monitor format to display only patched channels.

Note: The 'Condensed' option displays non-zero channels in numerical order across the screen. This can be useful when controlling bigger lighting rigs.

6.2.6 Single screen operation

By combining the display elements it is possible to have workable information compiled on a single screen. The contents can be selected by the operator for a specific application.



An example single-screen configuration

The screenshot above illustrates an *ISIS®* system displaying 80 channels, the parameters of 4 instruments, and 12 submasters. If the Output is needed, one press of the <OUT> key will change the display to the Output screen.

6.3 Fader configuration and the Manual Table function

ISIS® software allows the submaster faders to be configured in different modes, allowing them to be used for other purposes, not just submaster control.
For example, the faders can be used to control moving light parameters by using the **Unfold** function, or individual channel intensities, or used as extra faders for controls such as the Auditorium group, Audio level, Submaster General level and Effect Speed. This can be useful for smaller hardware platforms which don't have physical controls for these functions.

6.3.1 Direct channel control

The submaster faders can be used to directly control channel intensities. Working in this mode is similar to using a manual lighting control desk, where each luminaire corresponds to one fader on the desk. This provides a very simple way for controlling the lighting rig, although once the channel levels have been set, they can be recorded as memories.

As there are a limited number of submasters on all hardware platforms, the faders are used to control a number of channels at one time, then another range is assigned by turning the pages. In this way, the faders can be used to control all of the channels available.

The direct channel control mode is available directly from all platforms by using the "**S**" on alphanumeric keyboard. Some platforms have a dedicated key "**SM/C**" for this function.

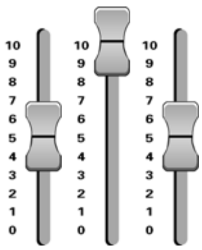
Note: The function can be assigned to a key on the desk by using the Function Assign facility. This is described in the chapter 24*Macros & Learn Profiles*.

example of keystrokes

OR  S

<SM/CH> **OR** <S>

➔ Toggles the faders between submaster control and direct channel control.
➔ Channels controlled by the faders are displayed on the monitors in green faders.



➔ Use the faders to control channel intensities in the current working field.

… 

OR 

… 

<down> … <up> **or** <shift + 1-24> … <shift + 25-48>
➔ Assigns the next range of channels to the faders.

OR  S

<SM/CH> **OR** <S>
- ➔ Toggles the faders between direct channel control and submaster control.
- ➔ The SM/C key is only available in Mentor series

If only a certain number of faders are required to control channel intensities, with the remaining faders operating as submasters, this can be achieved in *ISIS®*. The Manual Table function allows groups of 4 submaster faders to be configured permanently into a different control mode. In this case, selected faders could be defined as fixed channel controls.

example of keystrokes

<MENU> <F7 {Setup}> <F2 {Manual Table}>
- ➔ Displays the Manual Table Configuration dialogue box *816*.

The Manual Table configuration utility (Dialogue Box 816)

OR  … 

wheel **or** <↓> ... <enter>
- ➔ Use the wheel or the down arrow key to highlight the required group of physical faders.
- ➔ Multiple groups can be selected with <ENTER>.

<F1 {Edit}> <Enter>
- ➔ Displays the Fader Edit dialogue box, and enters the drop-down list of fader options.

Wheel Down OR ↓ … ENTER

Wheel **or** <↓> ... <Enter>
➔ Use the wheel or the down arrow key to highlight the 'Channel Fixed' option and select with <ENTER>.

F8

<F8 {ok}>
➔ Confirms the operation and changers the fader assignment.

F4 F8

<F4 {Renumber}> <F8 {ok}>
➔ Renumbers the remaining submaster faders and exits the Manual table Configuration facility.

Note: If 'Channel Fixed' mode is selected, the direct channel control will not be available.

6.3.2 Moving light parameter control

The submaster faders can be used to directly control moving light parameters, by using the Unfold function. This offers a convenient way of selecting and setting parameter values, and can be extremely useful on platforms that do not have digital encoder wheels.

example of keystrokes

F6

<F6 {Unfold}>
➔ Toggles the faders between submaster control and parameter control for the selected channel(s).

Note: The selected channels must be defined as moving lights or colour scrollers for this function to have any effect. For further information, please see the chapters 19 *Motion Control Setup* and 21 *Using Moving Lights*.

The Manual Table configuration function allows groups of 4 submaster faders to be configured permanently into a different control mode. In this case, selected faders could be defined as fixed parameter controls.

The same process demonstrated in the example above can be used to assign faders to direct parameter control, in this case choosing the option 'Channel Fixed' in the Fader edit dialogue box.

6.3.3 Extra fader control

The submaster faders can be assigned to control virtual levels. This offers direct control over these settings and is useful for hardware platforms that do not have the required physical fader. The table below lists the available controls that can be assigned.

Fader	Description
Audio	Controls the Audio Input level found in the General Configuration dialogue.
Auditorium	Controls the Auditorium group level.
DmxIn	Controls the DMX Input level found in the General Configuration dialogue.
SmFlash	Controls the Submaster Flash level.
SmGeneral	Controls the Submaster General Master level.
EffectSpeed	Controls the Speed of a selected chase or effect.

example of keystrokes

<MENU> <F7 {Setup}> <F2 {Manual Table}>
➔ Displays the Manual Table Configuration dialogue box.

OR


wheel **or** <↓>
➔ Use the wheel or the down arrow key to highlight the required group of physical faders.

<F1 {special}>
➔ Displays the Extra Faders Edit dialogue box.


…


<↓> ... <enter>
➔ Use the arrow keys and <ENTER> to assign the required function to each fader.

<F8 {ok}>
➔ Confirms the operation and changers the fader assignment.

<F4 {Renumber}> <F8 {ok}>
➔ Renumbers the remaining submaster faders and exits the Manual table Configuration facility.

6.4 Profiles

ISIS® is a very powerful software, offering advanced control of a lighting system and complete customisation of many functions and settings. However, it may appear complex to the untrained operator.

To overcome this – and to prevent the inexperienced user from changing certain configuration settings – *ISIS®* provides a system of configurable profiles.
A profile can be used to prevent access to certain functions and settings. This allows the system to be setup and configured as necessary, and the access to critical functions then removed.

Profiles can also be used to create customised settings for a number of operators - each of who have their own preferences and favourite settings, or to produce configurations for different types of events - such as theatre mode or live music mode.

➔ A profile allows custom configurations to be stored and quickly recalled.

6.5 Profile Manager

The Profile Manager allows profiles to be created, edited, copied and deleted, and also selects which profile is active. Profiles can be imported and exported to floppy disk from the Profile Manager, and they can also be locked with a password.

The Profile Manager is found in the Setup options of the menu.

example of keystrokes

<MENU> <F7 {SETup}> <F1 {Profile Config}>
➔ Displays the User Profiles; initially this displays a list of existing profiles.
➔ The active profile is indicated by a tick in the current ('Cur') column.

6.5.1 Selecting a profile

The active profile is selected from the User Profiles, and can be changed at any time.

example of keystrokes

OR 

wheel **or** <↓>

➔ In the User Profiles, use the wheel or the down arrow key to highlight the required profile.

<F2 {Use}>

➔ Activates the selected profile; configuration of the *ISIS®* software is immediately changed.

<F8 {ok}>

➔ Exits the Profile Manager.

6.5.2 Creating and editing profiles

A new profile can be created from scratch, or copy an existing profile and modify this. In both cases, the operator is asked for a name for the new profile, which is then edited to modify the profile settings.

example of keystrokes

OR 

<F1 {New}> **OR** <F5 {Copy}>

➔ Creates a brand new profile, or copies the currently highlighted profile.

➔ The New Profile dialogue box is displayed.

Name

➔ A short name is entered for the new profile, using the alphanumeric keyboard.

Description

➔ A descriptive name can be entered for the new profile, using the alphanumeric keyboard.

<F8 {ok}>

➔ Confirms the new profile details and returns to the Profile Manager.

The new profile must then be edited, changing the configuration settings as required. Existing profiles can be selected and their settings changed in an identical way.

example of keystrokes

OR 

wheel **or** <↓>

➔ In the User Profiles, use the wheel or the down arrow key to highlight the required profile.

<F3 {Edit}>

➔ Displays the Profile Configuration dialogue box, showing the selected options for this profile.

 … 

<↓> ... <enter>

➔ Use the arrow keys and <ENTER> to move around the dialogue box and select the required options.

➔ The profile name and description can also be edited.

<F8 {ok}>

➔ Confirms the new profile details and returns to the Profile Manager.

Note: Editing the profile in this way only changes access to various functions of *ISIS®*. If the profile is to contain general configuration details and monitor settings, these must be added to the profile using a different method.

➔ General and monitor configuration data must be saved to the profile independently.

The current settings can be added to the *active* profile using the General Configuration dialogue box *866*, from the setup options of the menu.

example of keystrokes

<MENU> <F7 {Setup}> <F6 {General}>
➔ Displays the General Configuration dialogue box.

<F1 {Save to Profile}>
➔ Saves the current desktop settings and monitor configurations to the active profile.

<F8 {ok}>
➔ Exits the General Configuration dialogue box.

Note: Settings are only added to the active profile. It is necessary to select the required profile from the User Profiles before this procedure is followed.

6.5.3 Locking a profile

Profiles can be locked with a password, preventing them from being modified. Locked profiles can still be used, and still can be exported to floppy disk. When a profile is locked, the operator is unable to change *ISIS*® settings in the setup menu as listed below.

Locked items	**Description**
General	Desktop configuration such as inputs and Move in Black
Screen Config	Monitor contents
Display Format	Monitor display settings
Keys Function	Assigning functions to keys on the hardware platform
Manual Table	Modifying the fader modes
Default SM Config	Modifying the default submaster configuration details

example of keystrokes

<MENU> <F7 {Setup}> <F1 {Profile Config}>
➔ Displays the Profile Manager; initially this displays a list of existing profiles.

OR

wheel **or** <↓>
➔ Use the wheel or the down arrow key to highlight the required profile.

<F6 {OtherFct}> <F3 {Lock}>
➔ Displays the Profile Password dialogue box.

Password
➔ Use the alphanumeric keyboard to enter the password.
➔ The password is CASE SENSITIVE.

<F8 {ok}>
➔ Exits the User Profiles.

Note: The profile can be unlocked using the same method.

6.5.4 Importing and exporting profiles

Profiles can be exported to floppy disk for backup purposes, and for transferring to another *ISIS*® system. The Profile Manager is used to both export and import profiles.

example of keystrokes

<MENU> <F7 {Setup}> <F1 {Profile Config}>
➔ Displays the User Profiles; this displays a list of existing profiles.

OR

wheel **or** <↓>
➔ Use the wheel or the down arrow key to highlight the required profile.

<F6 {OtherFct}> <F2 {Export}>
➔ Selects the export routine.

Insert floppy disk
➔ A floppy disk must be inserted into the drive.

<F8 {ok}>
➔ Saves the profile to the floppy disk.

Profiles can be imported from floppy disk using a similar method, although a dialogue box showing the content of the floppy disk is displayed. This allows the required profile to be selected.

example of keystrokes

<F6 {OtherFct}> <F1 {Import}>
➔ Selects the import routine.

The content of the inserted floppy disk is displayed, and can be viewed by date or name order. It is also possible to select a different directory if required.

OR


wheel **or** <↓>
➔ Use the wheel or the down arrow key to highlight the required profile.

<F2 {View}>
➔ The selected profile can be viewed, if required.

<F3 {Imp.Pro.}>
➔ The selected profile is imported into *ISIS*® and is shown in the Profile Manager.

<F8 {ok}>
➔ Exits the Profile Manager.

7 OUTPUT PATCH

7.1 Introduction

A patch is used to configure how the control channels manipulated on a lighting desk relate to the outputs of dimming equipment, and also connected colour changers and moving lights.

Traditionally, this was achieved by physically connecting the output of each dimmer to one of the available outlets in the venue, using a patch cable. This type of arrangement is usually called a “Hard Patch”.

The concept of a patch on the lighting control desk is to set this configuration by using the DMX output information sent from the desk. A channel on the desk can be patched to a different numerical DMX address by the software; this is usually called a “Soft Patch”.
By setting the patch in this way, it is also possible to assign a specific “Dimmer Law” – the fade profile of each channel, and allocate a proportional factor.

Normally, after a desk initialisation, the patch settings of the desk will be one-to-one: that is, channel 1 will control DMX address 1, channel 2 will control DMX address 2, and so on. Of course, each DMX address can belong to a dimmer, a scroller, or a moving light.

To learn and use the basic functions of *ISIS®* - calling up channels, recording memories, generating chasers - it is not necessary to create a patch; the default one-to-one patch can be used. However, it is often the case that devising a patch is the first thing required before any lighting control can take place.

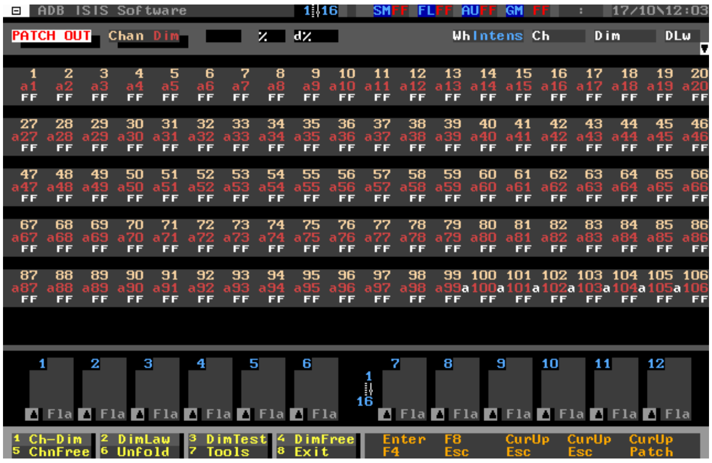
Note: Patch operations for moving lights & colour changers are explained in the chapter 19 *Motion Control Setup*.

7.2 Patch operations

The output patch sorts which desk channels - instrument numbers - are connected to which DMX outputs; usually dimmers, but also the parameters of other DMX driven devices.

The “Default Patch” is the channel numbers are the same as the output numbers, with standard linear dimmer laws and a proportional factor of 100%: this is the one-to-one patch.

The output patch can be visualised on-screen in *ISIS®* at any time. Within the output patch screen, desk channel numbers are displayed in beige, and the DMX output numbers in pale red.
The proportional output factor is displayed in white beneath the dimmer (DMX) number, and the applied dimmer law (if it is not the standard linear law) in yellow next to the proportional factor.



The output patch screen, 1:1 patch

The output patch screen can be displayed in two ways: channels to dimmers, or dimmers to channels; the display mode can be changed at any time to suit the preference of the operator.

7.2.1 Channels to dimmers

An easy way of thinking about patching is to decide which desk channels should be connected to which DMX outputs. This is known as channels to dimmers patch.

examples of keystrokes

OR


<PATCH> **Or** <menu> <F3 {channels}> <F1 {output patch}> <F1 {patch}>

➔ Enters the output patch screen; the output patch is displayed as channels to dimmers by default.

OR


< PATCH > or <F8>
or any other working field key

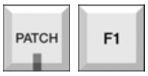
➔ Exits the output patch screen.

7.2.2 Dimmers to channels

Some operators find it easier to think the other way around: which dimmer (or DMX address) should be connected to which channel. This is called dimmers to channels patch.

ISIS® allows the default screen display to be reversed, so that the display is dimmers to channels, rather than channels to dimmers.
Operationally, the system is the same, it is just the display that has changed. Displaying dimmers to channels can be helpful when inspecting the moving light patch.

examples of keystrokes



<patch> <F1 {ch-dim}>
➔ Toggles the screen display to dimmers to channels.

Note: This feature is a toggle function: repeated use of the <F1> key will swap between the two displays.

7.2.3 Deleting the output patch

If a complicated patch is required, it can be easier to start with all DMX outputs disconnected from the desk control channels. This is called deleting the patch.

examples of keystrokes

<menu> <F3 {channels}> <F1 {output patch}>
➔ Selects the output patch options from the Channels menu.

<F2 {delete}>
➔ Deletes the patch - channels on the desk will not control any DMX outputs.

A warning is issued:
➔ A warning is given:The patch will be deleted – Are you sure?

< F8 {yes}>
➔ Confirms the operation.

7.2.4 Patching a single channel to a single dimmer

The most common patch requirement is to patch one channel to a single dimmer (DMX) number.

examples of keystrokes

<patch>
➔ Enters the output patch screen.

<1> <dimmer> <1> <0> <0> <AT> <AT>

➔ Patches desk channel 1 to dimmer (DMX) 100.

OR


<patch> **or** <F8>

➔ Exits the patch.

7.2.5 Patching one channel to a consecutive range of dimmers

A single channel can be used to control more than one dimmer (or DMX address).

examples of keystrokes

<patch>

➔ Enters the output patch screen.

<dim> <1> <thru> <1> <0> <ENTER> <2> <AT> <AT>

Or

<2><dim> <1> <thru> <10> <AT> <AT>

➔ Patches desk channel 2 to dimmers 1 to 10.

➔ Channel 2 now controls ten dimmer channels (or DMX addresses).

7.2.6 Patching one channel to a non-consecutive range of dimmers

A single channel can be used to control a non-consecutive range of dimmers (DMX addresses).

examples of keystrokes

<patch>

➔ Enters the output patch screen.

<4> <dim> <1> <+> <3> <+> <5> <AT> <AT>

➔ Patches desk channel 4 to dimmers 1, 3 and 5.

7.2.7 Patching a range of channels to consecutive dimmers

A range of consecutive channels can be patched to a consecutive list of dimmers (DMX addresses) in a single operation. The list of channels does not have to be consecutive.

examples of keystrokes

<patch>
➔ Enters the output patch screen.

<1> <thru> <1><0> <dim> <1><1> <AT> <AT>
➔ Consecutively patches desk channels 1 to 10 to dimmers 11 to 20.
➔ Each channel controls a single dimmer (DMX address).

<1> <+> <3> <+> <5> <thru> <1> <0> <dim> <2><0> <AT> <AT>
➔ Patches desk channel 1 to dimmer 20, desk channel 3 to dimmer 21, and so on.

Note: Patching a range of channels to one single dimmer is not supported: this operation would have no sense.

The DIM key for P10XT is RPLACE / DIM .

7.2.8 Replacing a previously patched dimmer with a new dimmer

The Replace function allows the dimmer(s) patched to a channel to be replaced with a new dimmer number(s). Normally, the patch operation only adds the new dimmer number(s) to the existing patch.

examples of keystrokes

Channel 1 is already patched to dimmer 1

<1> <DIM> <REPLACE> <2> <AT> <AT>
➔ Channel 1 is patched to dimmer (DMX) 2 only; the previous patch for channel 1 is replaced.

Note: Not all hardware platforms have a dedicated <REPLACE>  key.

7.2.9 Erasing a range of channels and their patched outputs

When patching, it can be useful to remove the current settings for a range of channels. This can be achieved by using the Erase function.

examples of keystrokes

<patch>
➔ Enters the output patch screen.

<1> <thru> <1><0><0> <erase> <erase>
➔ Removes channels 1 to 100, and their patched outputs.
➔ Channels 1 to 100 no longer control any dimmers (DMX addresses).

7.3 The “Dot Patch” syntax for multiple DMX universes

A single DMX cable can be used to control up to 512 channels (or addresses). However, as *ISIS®* is able to control many more channels than this, several DMX lines – or “Universes” may be required. For example, if 8192 DMX addresses were used, this would equate to a total of 16 DMX universes.

It soon becomes impractical to manage this quantity of DMX addresses in the conventional way, by using numbers 1 to 8192. *ISIS®* solves this problem elegantly by introducing the ‘Dot Patch’ syntax. This allows the operator to patch by DMX universe, rather than the traditional definite DMX address.

> ➔ Patching using ‘Dot patch’ becomes much simpler, as the operator only needs to know the address of the unit required (1 to 512), and the DMX universe (cable) it is connected to.

examples of keystrokes

<patch>
➔ Enters the output patch screen.

<1> <dim> <4><dot><1><0><1> <AT> <AT>
➔ Patches channel 1 to address 101 of the fourth DMX universe, or traditionally DMX address 1637 (512+512+512+101 = 1637).

It is not necessary to use the dot patch syntax for the first DMX universe (although both methods are accepted), and the traditional method of patching is still possible.

Note: Setting the Display Mode to ‘Display patch by DMX lines’ in the Display Format dialogue box *815* becomes extremely useful when working with the Dot Patch method.

7.4 Proportional output factor

The proportional factor in the output patch is an output limit, or scaling factor.

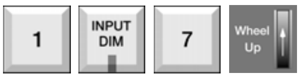
When the proportional factor is set to FF, the output will be full when the channel is full. If the factor is set to 90%, the output will only be 90% when the channel is full. This difference is usually invisible to the user, but can be seen by comparing the Output screen with the DMX output screen.

Limiting the output to about 97% makes negligible difference visibly, but can make a huge difference to lamp life. In the extreme, the proportional factor could be used for low voltage lamps, although the use of electronic dimmable transformers is recommended instead.

examples of keystrokes

<patch>
➔ Enters the output patch screen.

<1> <AT> <9> <.> <5>
➔ Changes the proportional factor of channel 1 to 95%.



<1> <dim> <7> Wheel
➔ Patches channel 1 to dimmer 7 at a proportional factor set by the wheel.

<dim> <2> <At> <9>
➔ Changes the proportion of dimmer 2 to 90%.
➔ The <DIM> key must be used to distinguish between dimmers (DMX addresses) and channels.

<1> <dim> <1><0><0> <AT> <8>
➔ Patches desk channel 1 to dimmer 100 with an output proportion of 80%.

7.5 Dimmer laws

A dimmer law changes the characteristics of the look of a fade to suit different instruments or preferences. There are several dimmer laws (or curves) in *ISIS®*, all but one of which are fully editable.

The default law, number 0, is linear which is the *standard dimmer law*. The input/output ratio is consistent across the curve, so the curve is in fact, a straight line.

7.5.1 Allocating a dimmer law

A dimmer law is selected simply by adding its number during the patch functions. A dimmer law can also be assigned to a channel after it has been patched. The Dimmer Law function in the output patch screen opens the Dimmer Law List dialogue box *813*. A dimmer law can be selected with the wheel, or it can be entered directly from the desk.

examples of keystrokes

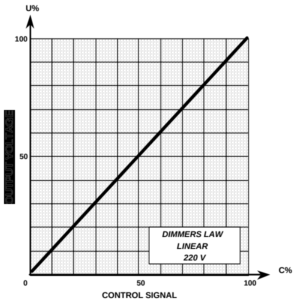
<patch>
➔ Enters the output patch screen.

<1> <dim> <1><0><0> <at> <at> <F2 {dimlaw}> <2{Fluorescent 220V}> <F8>
➔ Patches desk channel 1 to dimmer 100 and assigns dimmer law 2 which is “Fluorescent 220V”.
➔ <F2 {DIMLAW}> opens the Dimmer Law List dialogue box *550*: scroll with the wheel to assign another dimmer law.

<5> <F2 {dimlaw}> <3> <F8>
➔ Allocates dimmer law 3 which is “Preheating 220V” to channel 5 without changing the channel/dimmer patch, or output proportion.

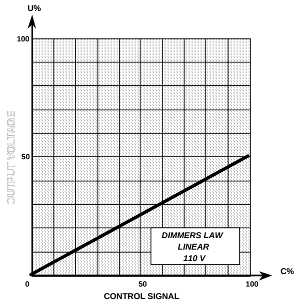
Note: Patch, proportion and dimmer laws can all be allocated within one operation by combining functions.

The pre-defined dimmer laws available are illustrated below.



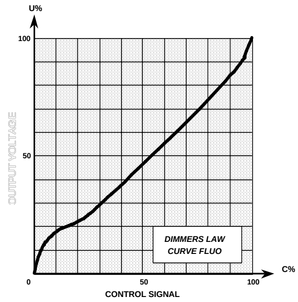
0

➔ Linear
The default law, input/output ratio is completely proportional. (This law cannot be edited)



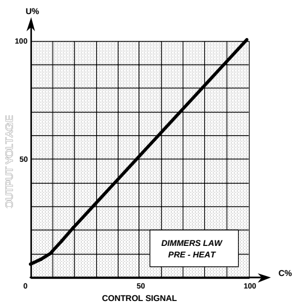
1

➔ 110 V
Limits the output voltage to approximately half the normal level. Can be used for 120 V lamps.



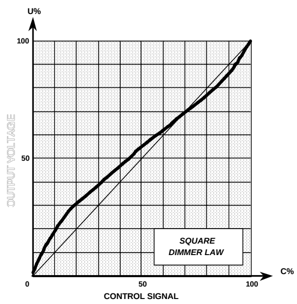
2

➔ Fluorescent 220 V
Gives a “kick start” at the lower end of the curve to make fluorescent sources match tungsten sources following a linear law. Note: Dimmable ballasts must be employed.



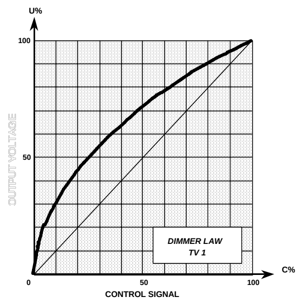
3

➔ Preheating 220 V
Keeps lamps warm by trickling a few volts at all times. Can help to smooth out fades at low percentages.



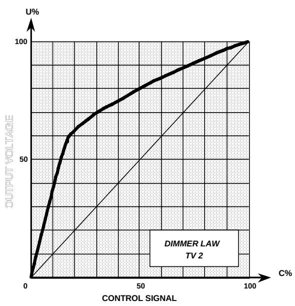
4

➔ Square Law 220 V
Simulates old analogue dimmers.



5

➔ Television 1 – 220 V
As defined by international television committees.

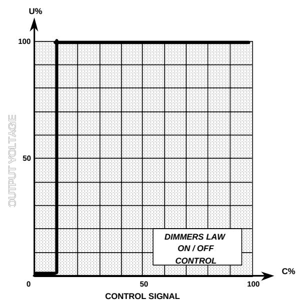


6

➔ Television 2 – 220 V
An alternative TV law.

7-8 & 10-15

➔ Spare
User definable laws (default is linear).



9

➔ On/Off 220 V (HMI)
Non-dim (on/off): when the input reaches 10%, the output jumps from 0 to 100%, acting like a switch. Note: This does not bypass the dimmer circuit.

7.5.2 Editing a dimmer law

If none of the system dimmer laws are suitable, they can be edited to user requirements. The 'spare' laws are linear by default but are included specifically for user editing.

The Dimmer Law List dialogue is available through the output patch functions of the Channels menu.

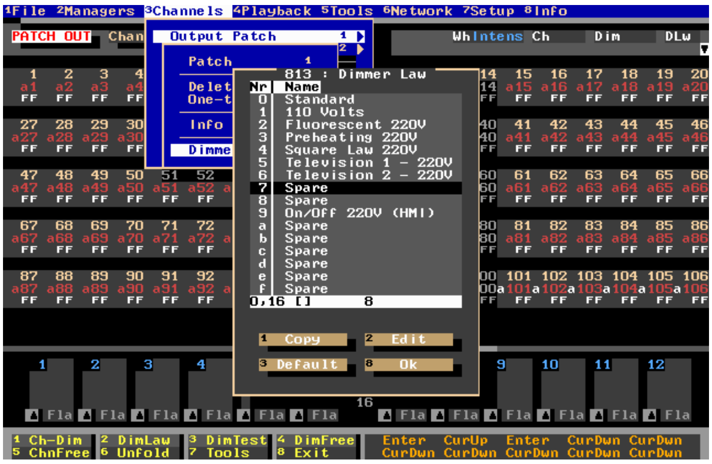
examples of keystrokes

<Menu> <F3 {channels}> <F1 {output patch}> <F5 {dimmer laws}>
➔ Selects Dimmer Law from the output patch options.

OR


wheel **or** <↓>
➔ Use the wheel or the down arrow to highlight the dimmer law to be edited.

<F2 {edit}>
➔ Enters the dimmer law editing facility.



Dimmer law dialogue box (Dialogue box 813)

The dimmer law editing facility displays two graphs: the top one shows the whole curve for reference. The bottom one - the one used for editing - is shown in two or three sections, depending on whether 'percentage' or '256 steps' mode is selected.

The dimmer law is edited in a purely graphical fashion, in 100% (decimal), or 255 steps (8-bit resolution). The function key <F1 {100/255}> toggles between the two modes.

The selected step is highlighted by the cursor; its step number is shown beneath the arrow pointing to it, and its value shown by the arrow on the left hand side of the graph. This value changes as the up and down arrow keys are used.

The left and right arrow keys move the cursor along the base line of the curve. The up and down arrow keys are used to increase or decrease the value of the selected step. Using the arrow keys in this way, and the step value information, the whole curve can be modified step-by-step.

OR


<F8 {ok}> **or** <F7 {Cancel}>
➔ When the editing is completed <F8 {OK}> is used to save the changes, or <F7 {CANCEL}> to revert the curve back to its previously stored shape.

➔ Dimmer law 0 cannot be edited.

The dimmer law editing facility allows a dimmer law to be copied to another law number.

examples of keystrokes

<Menu> <F3 {channels}> <F1 {output patch}> <F5 {dimmer laws}>
➔ Selects the Dimmer Law from the output patch options.

<F1 {Copy}>
➔ Opens the Copy Dimmer Law dialogue box.

source
➔ Enter the dimmer law to be copied.

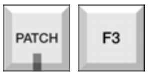
target
➔ Enter the dimmer number to be copied to.

<F8 {OK}>
➔ Confirms the Copy operation; the copied dimmer law can now be edited, if required.

7.6 Testing a dimmer

A dimmer can be manually tested, independently of the patch or other desk functions or status. The test function will bring the selected dimmer either to 100% or zero, as selected.

examples of keystrokes



<PATCH><F3 {test}>

OR 

or <menu> <F3 {channels}> <F1 {output patch}> <F4 {info dimmers}> <F3 {test}>

➔ Enters the output patch screen from the Channels menu.
➔ Enters the Dimmer Test dialogue box *341*.

Note: Some hardware platforms such as P10 XT have a direct access key to the Dimmer Test function.

dimmer
➔ Enter the dimmer number to test.

OR


<F1 {←}> or <F2 {→}>
➔ Selects the previous or next dimmer number.

OR


<F3 {00}> or <F4 {FF}>
➔ Selects zero or FF (100%) as the test level.

<F8 {ok}>
➔ Finishes testing and exits the Dimmer Test dialogue box.

Dimmer test dialogue box (Dialogue box 341)

7.7 Dimmer & channel information

It can be useful to view additional details when planning a patch operation. *ISIS*® provides the operator with several information dialogues.

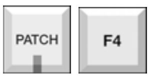
7.7.1 Free dimmers display

ISIS® provides a function to display all the non-patched dimmers. This can provide the operator useful information during a patch operation. The Free Dimmers facility is available through the output patch options of the Channels menu, or directly from the patch screen.

examples of keystrokes

<menu> <F3 {channels}> <F1 {output patch}> <F4 {Info dimmers}>
➔ Displays the dimmer information options from the menu.

<F1 {Free}>
➔ Displays the Free Dimmers information dialogue box *339*.

Or 

<patch> <F4 {Dimfree}>
➔ Enter into the dialogue box *339*

7.7.2 Patched dimmers display

The operator can display all patched dimmers instead of all free dimmers. This may be more useful when only a small number of dimmers have been patched. This facility is available through the output patch options of the Channels menu.

examples of keystrokes

<menu> <F3 {channels}> <F1 {output patch}> <F4 {Info dimmers}>
➔ Displays the dimmer information options from the menu.

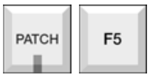
<F2 {patched}>
➔ Displays the Patched Dimmers information dialogue box .

7.7.3 Free channels display

ISIS® provides a function to display all the non-used channels. This can provide the operator useful information during a patch operation. The Free Channels facility is available through the Channels menu, or directly from the patch screen.

examples of keystrokes

<Menu> <F3 {channels}> <F3 {Info}> <F1 {Free}>
➔ Displays the Free Channels information dialogue box *336*.

Or 

<patch> <F5 {Chnfree}>
Enter into the dialogue box *336*

7.8 Returning to the one-to-one patch

The one-to-one patch is the default setting. Each channel is connected to the DMX output with the same number, the default law is assigned and all proportional factors are set to 100% (FF). This is useful after a show has finished and default output is required to all the DMX channels.

examples of keystrokes

<Menu> <F3 {channels}> <F1 {output patch}>
➔ Displays the output patch options from the Channels menu.

<F3 {one-to-one}>
➔ Restores the one-to-one default patch.

A warning is issued
➔ A warning is given: Set Patch one to one – Are you sure?

<F8 {yes}>

8 SHOW MANAGEMENT

8.1 Introduction

The current show data is stored on the system hard drive; each show can be saved independently with all of its settings and information intact. This allows a new show to be created and saved without having to delete any existing work. There is plenty of space on the internal hard drive for storage of all the shows in a busy repertoire season. Shows can be loaded from the hard drive whenever they are required. ISIS® also offers the facility to selectively load information from a show file into the current show.

Shows can also be saved to floppy disks or USB Flash Key as a portable copy of the show and an emergency back-up. If the show tours to another venue with an ISIS® control system, the floppy disk or USB Flash Key can be used to transfer the show from the original desk to the new one.

ISIS® also incorporates support of the USITT ascii data exchange format for show information. This means that a show created on an ISIS® system can be exported to another manufacturer's desk, provided it supports this standard format.

Shows created on the VISION 10 system using software prior to ISIS® can also be imported into ISIS®, allowing the operator to recover older show information.

In addition to file storage on disk, ISIS® provides comprehensive printing options for "hard" paper copies of shows.

8.2 Turning off the system: Shutdown

The file structure of ISIS® includes a directory on the internal hard drive called "work". Most of the time this directory is hidden from the operator, but it is the location where all the data in the current session is stored.

When the system is properly shutdown, the work directory is updated and saved, so that when next using the desk, the show and the desk configuration are restored to the same condition as that at shutdown, and any errors are prevented.

It is very important to shut down the system properly.

examples of keystrokes

<Menu> <F1 {File}> <F6 {Shutdown}>
➔ Selects the Shutdown procedure from the File options of the menu.
A warning is issued.
➔ A warning is given:This will stop all ISIS services - Are you sure?

<F7 {YES}>
➔ Confirms the shutdown.

All the files in the “work” directory are properly updated, saved, and closed.
The system can be safely switched off when the monitor displays the message “Power Down”.

8.3 Saving to disk

Once a show has been plotted, or perhaps at convenient points during programming, the work should be saved as a show with its own unique name. This means that it can be reloaded whenever it is required. Saving a show also provides a first-line backup in case of the “work” directory becoming corrupted or losing data due to incorrect shutdown. Although these situations are unlikely, no computer is 100% reliable!

When a show is saved, the size of the show file depends upon how many channels, memories, chasers, and so on have been used. The limit of the shows that can be stored only depends on the size of the hard drive.

8.3.1 Saving a new show

Although the current show is stored in the “work” directory until it is replaced, it is always recommended to store it with its own name on the hard drive. If the show needs to be transferred to another control desk, or a PC for off-line editing, it should also be stored separately on floppy disks or **USB**.

When a show is saved, it is given a short abbreviated name which the computer uses for filing, but it can also be given a show name of up to 20 characters which operators may prefer.

examples of keystrokes

<MENU> <F1 {FILE}> <F3 {TO DISK (SAVE)}>
➔ Displays the To Disk dialogue from the File options of the menu.

Saving a new show (Dialogue box 120)

The following information can be entered in the To Disk dialogue.

Srv/DSK

➔ The directory or disk used to save the show can be selected (if required).

➔ Save location can be: Local Drive, Shared Map, on Network or on USB Key

➔ The default directory (no name entered) is suitable for saving most shows in to the local Hard Disk.

ABBR

➔ Enter an abbreviated show name, up to 8 characters long.

NAME

➔ Enter the show title, up to 20 characters long.

<F8 {OK}>

➔ Confirms the names and saves the show.

The abbreviation is limited to 8 characters and is the name that the computer uses in its file management. Most keyboard characters can be used in the abbreviated name, but be careful as it is case sensitive: it is possible to have two different shows called show1 and SHOW1.

> ➔ It is considered computer etiquette to use lower-case only for directory and file names.

Adopting this method will avoid confusion such as the above example.

The show name is the identity more likely to be of use to operators; when a show is first saved, and subsequently loaded, this name appears at the top of monitor 1. Any keyboard characters can be used and this name has no impact on the internal file management – so upper or lower case lettering can be used as preferred.

When the Save function is confirmed, the contents of the “work” directory are copied into the new show file. When work is resumed on the desk, it is carried out in the “work” directory; the show is safely stored until it is next saved manually.

8.3.2 Saving a show on USB

It is possible to save a show file in to a USB flash key by the same synthax “To Disk”

examples of keystrokes

Insert first your USB flash key on the USB port !

MENU F1 F3 select Srv/Dsk and press ENTER ↓ …chose USB_x ENTER

<MENU><F1 {FILE}><F3{TO DISK (SAVE)}><Srv/Dsk><Enter><↓><USB><Enter>

If necessary enable “Pack [**X**]” for compressing size of the show file

8.3.3 Re-saving an existing show

If a show has been saved, but subsequently modified in the “work” directory, it should be re-saved to keep it up to date.

When the To Disk dialogue box*120* is opened, it usually retains the information of the last show saved, so that re-saving the current show is just a single key-press away.

examples of keystrokes

MENU F1 F3 F8

<MENU> <F1 {FILE}> <F3 {TO DISK}(SAVE)> <F8 {OK}>

➔ Saves the current show to disk using the information in the To Disk dialogue.

If other shows have been saved in the meantime, or a cold-start performed, the information in the To Disk dialogue may be different from the current show, or blank altogether. In those circumstances, the correct show information can be typed in again, or, more conveniently, found by using the list facility.

examples of keystrokes

<MENU> <F1 {FILE}> <F3 {TO DISK}(SAVE)>
➔ The abbreviation and name fields are empty or incorrect.

<F5 {LIST}>
➔ Displays a list of the existing show abbreviations and titles.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a show for saving.

<F8 {OK}>
➔ Confirms the selection.

A Warning Is issued
➔ A warning is given:The show already exists - Overwrite?

<F8 {OK}>
➔ Confirms the operation and executes the re-save.

8.4 Loading a show

A saved show can be loaded whenever it is required. Loading a show will copy the saved information into the “work” directory for modification.

examples of keystrokes

<MENU> <F1 {FILE}> <F2 {FROM DISK}(OPEN)>

➔ Displays the From Disk dialogue box*110*.

OR 

wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key , or keyboard to highlight a show for loading.

<F8 {FULL}>
➔ The selected show will be fully loaded and the current data replaced.

A Warning Is issued
➔ A warning is given:Loading show (show name) - Are you sure?

<F8 {YES}>
➔ Confirms the selection and fully loads the show.

Loading a show will replace the contents of the “work” directory with the selected show. All modifications made to the existing show in the “work” directory will be lost. The current show should be saved before a new show is loaded, if changes are to be retained.

8.5 Show Initialisation

When the operater starts a new show, it is usually better to remove the old show information and begin from a clean, empty condition; this is called “show initialisation”.

If any information from the existing show is required, the required details can be reload by a Partial Load function.
This helps ensure that the working data does not become corrupted by continually editing the same show.

Note: partial Loading is explained in the section 8.6.

The Show Initialisation function, found in the F1 File options of the menu, allows the operator to select from a number of pre-determined initialisation options, or create a customised selection. The available options are listed in the table below.

Mode	Description	Equivalent Start Type	
Full Init	Returns the *ISIS*® system to its default settings.	Cold Start	ALT + C
Show	Retains instrument definitions & channel allocations only.	Warm Start	ALT + W
Submasters	Clears submasters and deletes any Banks only.	Hot Start	ALT + H
User Defined	Clears the selected items only.	-	

example of keystrokes

<Menu> <F1 {File}> <F7 {Show init.}>
➔ Displays the Show Initialisation dialogue box.

<Enter>
➔ Displays the drop-down list of pre-defined initialisation options.

OR

…


wheel **or** <↓> ... <Enter>
➔ Use the wheel or the down arrow key to highlight an option, and select with <ENTER>.

<F8 {ok}>
➔ Confirms the selection and performs the required initialisation procedure.

Note: The cursor keys and <ENTER> can be used to make a user-defined selection from the dialogue box.

The pre-defined initialisation options can also be performed when the system is started, as the *ISIS*® software is loaded. This is achieved by holding down a combination of keys on the alphanumeric keyboard; the keys are given in the table above. The required keys must be pressed at the beginning of the loading sequence of the *ISIS*® software, and held until a message confirming the specific start action is displayed.

Note: After any type of initialisation, a saved show can be loaded from the hard-drive, or restored from a floppy disk.

8.6 Selectively loading information from a show

ISIS® allows the operator to load a selection of information from a previously saved show into the current show. This operation will not replace the contents of the "work" directory, but will add to it.
For example, selective (or partial) loading allows a patch to be imported from previous work, or a list of chasers or effets to be loaded into the current show.

The operator can select from 3 methods of selective loading, depending on the result required.

Add and overwrite
The information to be loaded is added to the current show, and any existing elements are replaced. For example, importing the list of chasers 1 to 10 would overwrite any chasers within that range that exist in the current show.

Add and keep
The information to be loaded is added to the current show, but any existing elements are retained. For example, if chaser 3 exists in the current show, it will not be replaced.

Replace
The information selected will overwrite the entire element list.
For example, loading memories will completely replace the current memory list with new information.

In addition, memories, submasters, groups, banks and motion control libraries can be merged with existing show information, rather than simply overwriting the current data.

examples of keystrokes

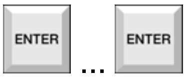
<MENU> <F1 {FILE}> <F2 {FROM DISK}>
➔ Displays the From Disk dialogue box.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a show for loading.

<F1 {selec.}>

➔ Selective show loading is chosen: the Selective Show Load dialogue box is displayed.



<ENTER> <MODE SELECTION> <ENTER>

➔ The required import mode is selected from the drop-down list.

<element selection>

➔ The information required is selected.

Merging

➔ Select 'merging' if entities are to be merged with existing data.

<F8 {OK}>

➔ Confirms the selections.

A Warning Is issued

➔ A warning is given: Selective Loading Show - Are you sure?

<F8 {YES}>

➔ Confirms the operation and imports the information into the existing show.

As the data is imported, a blue information window displays the status of the selective loading procedure. When the selective load is complete, the display returns to the channels screen.

Selectively loading information from a show

ADB Lighting Technologies

8.6.1 Selective load log

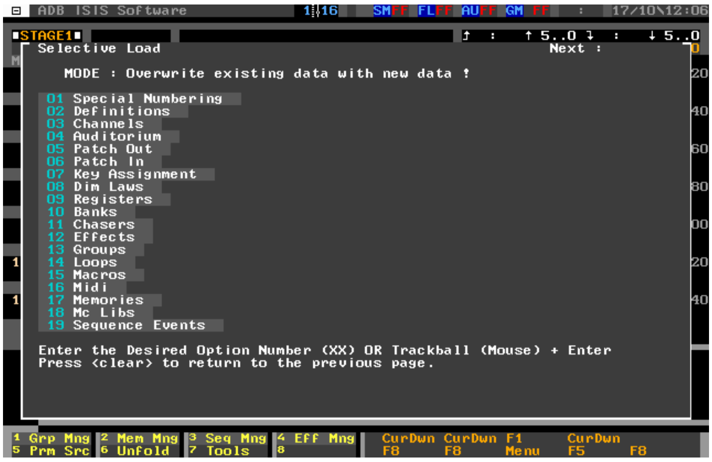
Any elements loaded or merged into the current show from the selective load function can be viewed via the menu, allowing the operator to track any changes that have been made.

examples of keystrokes

<MENU> <F5 {TOOLS}> <F8 {Selective Show Log}>

➔ Displays the Selective Load index.

Note: The selective load index is only displayed if a selective load has been made in the current show. If the operation has not been performed, the message “Help file not consistent” is displayed. This is normal, because the selective load log has not yet been created.



The selective show log

The mode used to selectively import information is displayed at the top of the dialogue box, and an index of entity types listed. If an entity is selected, the operations performed during the selective load procedure are listed.

Press ESC to exit the dialog screen or SHIFT + Clear on the desk

examples of keystrokes

<1><7> <ENTER>

➔ Displays the selective load information for memory entities.

<Clear>

➔ Returns to the selective load index.

<HELP>

➔ Exits the selective load information dialogue box.

➔ The alphanumeric keyboard can also be used to exit the dialogue box using the <ESCAPE> key.

8.7 The Directory Manager

The internal hard disk can be divided into any number of directories for the saving of show files.

Directories are like folders, and allow show files to be stored in logical groups. Directories can be added, renamed and deleted from the Directory Manager.

examples of keystrokes

<MENU> <F5 {TOOLS}> <F6 {Directory list}>

➔ Displays the Directory manager; the current list of directories is displayed.

The Directory Manger (Dialogue box 890)

8.7.1 Creating a new directory in the Directory Manager

By creating directories, the information stored on the system can be subdivided into logical groups. This allows, for example, a separate directory to be created for old shows, or a directory to be allocated to each operator. Directory names can be up to 8 characters in length.

examples of keystrokes

<F3 {New}>
→ Displays the New Directory dialogue box.
→ A new directory name can be entered (up to 8 characters in length).

<F8 {OK}>
→ Confirms the changes and exits the Directory Manager.

8.7.2 Renaming a directory in the Directory Manager

Existing directories can be renamed if required.

examples of keystrokes

<F1 {rename}>
→ A new name can be given to the selected directory (up to 8 characters).

<F8 {OK}>
→ Confirms the changes and exits the Directory Manager.

8.7.3 Making a directory Public in the Directory Manager

An existing directory can be made "Public" – which means it is,available for other network users to use. Any shows in a public directory can be seen by all other users on the network.
For more information, please refer to the documentation on ISIS® networking.

Note: Only one directory at a time can be made public on each *ISIS®* system.

<F 4 {Public}>

8.7.4 Deleting a directory in the Directory Manager

Existing directories can be deleted completely if they are no longer needed. Only empty directories can be deleted.

examples of keystrokes

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a directory.

<F2 {Delete}>
➔ Selects the deletion function.

A Warning Is issued
➔ A warning is given: Delete directory – Are you sure?

<F8 {YES}>
➔ Confirms the operation and deletes the selected directory..

Note: Directories cannot be deleted if they contain shows. The shows must first be deleted from the Show Manager.

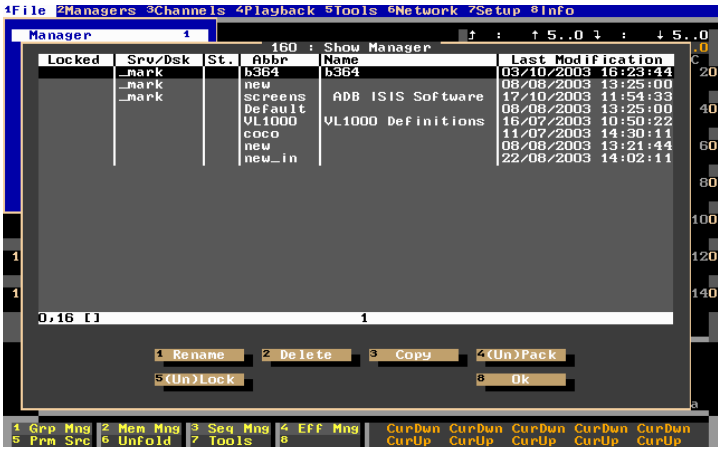
8.8 The Show Manager

Existing show files can be renamed, copied, or deleted in the Show Manager, to assist in the management of show storage.
examples of keystrokes

<MENU> <F1 {FILE}> <F1 {MANAGER}>
➔ Displays the File manager: a list of existing show files is shown.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or the keyboard to highlight a show.



The Show Manager (Dialogue box 160)

8.8.1 Renaming a show in the Show Manager

Sometimes it is necessary to rename an existing show file: both the show title and the directory name can be changed. Remember that the name is case-sensitive: if it is saved in capital letters, it must be loaded in capital letters.

examples of keystrokes

<F1 {RENAME}>
➔ Displays the Rename Show dialogue box.

SRV/DSK
➔ The directory or disk used to save the show can be selected if required.

ABBR
➔ Enter an abbreviated show name, up to 8 characters long.

NAME
➔ Enter the show title, up to 20 characters long.

Alternatively, the List function can be used to select a new show name and abbreviation. The show selected in this list will be overwritten with the selected show.

<F8 {OK}>
➔ Confirms the operation and executes the renaming.

8.8.2 Deleting a show in the Show Manager

If a show is never needed again, or has been archived to floppy disk, it can be deleted in the File Manager to regain space on the hard drive.

examples of keystrokes

<F2 {DELETE}>
➔ The selected show is to be deleted.

A Warning Is issued
➔ A warning is given: Delete show(s) – Are you sure?

<F8 {OK}>
➔ Confirms the deletion.

Note: A list of shows can be selected from the File manager prior to the delete operation: select shows from the manager using the <ENTER> key. The highlighted shows will all be deleted in a single operation.

8.8.3 Copying a show in the Show Manager

An existing show can be copied with a new abbreviation and/or name. This can be useful if a few changes need to make to a show without losing the original version, or to have a second copy of the show as a back-up. Shows can also be copied to a different directory if required.

examples of keystrokes

<F3 {COPY}>
➔ Displays the Copy Show dialogue box.

SRV/DSK
➔ The directory or disk used to save the show can be selected if required.

ABBR
➔ Enter an abbreviated show name, up to 8 characters long.

NAME
➔ Enter the show title, up to 20 characters long.

Alternatively, the List function can be used to select a show name and abbreviation. A show selected in this list will be overwritten.

<F8 {OK}>
➔ Confirms the operation and executes the copying.

8.8.4 Compressing a show in the Show Manager

Existing show files can be compressed to save space. This is useful for shows that will not be used for some time, but need to be kept on the hard drive.

Compressed show files are indicated in the File manager by the abbreviation ‘Pak’ in the status field.
It is not possible to load a show file when it is compressed.

examples of keystrokes

<F4 {(Un)Pack}>
➔ The selected show is to be (un)compressed: the Show (Un)packing dialogue is displayed.

<F7 {cancel}>
➔ Cancels the compression procedure.

OR

<F8 {OK}>
➔ Confirms the operation; the show file will be displayed with the status ‘Pak’.

8.8.5 Locking a show in the Show Manager

Show files can be locked in the Show Manager to prevent other network users from opening and modifying the selected show. This feature is only applicable to networked systems; please refer to the documentation on ISIS® networking for further information.

<F5 {(Un)Lock}>

8.9 Creating a backup on floppy disk

So far, all saving has been made on the internal hard-drive of the system. For most purposes, this is perfectly acceptable, but some operators are happier to have a separate copy on a floppy disk.
Floppies can also be used for library storage or transferring the show to another ISIS® system or to a PC for off-line editing.

ISIS® show files are fairly large, so they are automatically compressed when they are saved to a floppy, and decompressed when loaded on another ISIS® system. This compressing and decompressing routine is invisible to the user.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {FLOPPY}>
➔ Displays the floppy disk menu options.

<F3 {SAVE ADB SHOW}>
➔ Selects the floppy disk backup function (save to floppy).
➔ Display a list of shows in the Save dialogue box*132*, showing the shows currently saved.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a show.

<F1 {save}>
➔ The selected show is to be saved to floppy disk.

Or

<F2 {work}>
➔ The show information currently in the “work” directory is to be saved to floppy disk.

<F8 {OK}>
➔ Confirms the backup procedure and calculates the amount of data to be saved.
➔ A list of files being processed is displayed.

Insert floppy 1/1
➔ Insert a floppy disk into the drive.
➔ A complex show may require more than one disk and the quantity required is shown here.

<F8 {OK}>
➔ Starts saving the show data to floppy disk(s). A message is shown if further disks are required.

SAVE IS complete
➔ This message is shown when the last disk is finished.

<F8 {OK}>
➔ Exits the Save to Floppy dialogue box

<F8 {OK}>
➔ Exits the Save dialogue box*132*.

8.10 Restoring a backup from floppy disk

A show file saved to a backup floppy disk can be loaded back into the desk that it was created on, or any other system running ISIS® software.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {FLOPPY}>
➔ Displays the floppy disk menu options.

<F2 {LOAD ADB SHOW}>
➔ Selects the floppy disk load function; the Load Show dialogue box is displayed.

Insert FIRST ISIS floppy
➔ Insert the floppy disk containing the show, or the first disk if there is more than one floppy disk.

<F1 {read}>
➔ The read function can be used to display the show's abbreviation, to ensure the correct floppy disk backup has been selected. The abbreviation is displayed at the top right of the dialogue box.

SERVER/Disk
➔ The show saved on the floppy disk can be loaded into a specific directory on the hard disk if required.

<F8 {OK}>
➔ Starts the load from floppy procedure. The progress is displayed on-screen.
➔ Insert the next floppy disk when prompted if the backup set spans more than one disk.

Restore complete
➔ This message is shown when the last disk is finished.

<F8 {OK}>
➔ Exits the dialogue box.

Note: Once the show has been restored, it is listed in the File Manager. The show is not loaded by default, so the From Disk function must be used to select the restored show file.

8.11 Formatting a floppy disk

Floppy disks can be formatted from the ISIS® software if required. Formatting will clear all previous information from the floppy disk and allow it to be re-used for backup purposes.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {floppy}>
➔ Displays the floppy disk menu options.

<F6 {format}>
➔ Enters the Format Floppy dialogue box.

INSERT A FLOPPY DISK

<F8 {ok}>
➔ Starts the formatting procedure.

insert another floppy

 OR 

<F8 {ok}> **OR** <F7 {Cancel}>
➔ Formats another floppy disk, or exits the Format Floppy dialogue box.

8.12 Importing previous VISION 10 data

Shows created on the VISION 10 system using software prior to ISIS® can be imported into ISIS®, allowing the operator the facility to recover older show information. The following information is specific to the previous VISION 10 software.

- ➔ All memories, groups, intensities, times, titles, moving lights, patch, and so on are imported.
- ➔ Softkeys and macros are not imported - any required macros must be recreated in the *ISIS®* software.
- ➔ Control memories are imported as 5 second blackout cues; they should be removed and replaced by an equivalent event (control memories do not exist in *ISIS®*; events are used instead).
- ➔ Instrument definitions from VISION 10 are imported into the User Pool, using definition numbers 901 upwards. This allows instruments from the ADB pool in *ISIS®* to be added to those instruments created in VISION 10.

The Import VISION Data function is made by using floppy disks. During the process, the floppy disks are "mounted" which allows the ISIS® operating system to read the previous VISION 10 operating system file format.

If there is a current show or other valuable work already in the system being used to import the VISION data, it should be saved in its own directory before using this function (see section 8.3 above).

When VISION 10 data is imported, it replaces any other work currently loaded.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {floppy}> <F4 {LOAD ASCII SHOW}>
➔ Displays the Import VISION 10 dialogue box*170* with a warning that any existing work will be replaced.

PATH
➔ If a directory was created on the floppy disk when the VISION 10 data was saved, the directory name must be entered in the dialogue box. If no directory name was used and the VISION 10 data is stored in the default root directory (a:), leave this field blank.

FILE
➔ Enter the filename of the show stored on the floppy disk.

Note: Please use the DIRECTORY name (max 8 characters) and not the optional GLOBALTITLE that could be given to archived VISION 10 shows.

<F8 {VISION}>
➔ The import procedure is started and a blue window is displayed.
➔ The option to abort is offered via the <ESC> key.
Insert floppy disk

<ENTER>
➔ The first part of the import procedure is begun: the VISION 10 files are copied to a temporary store on the hard drive.

A blue screen automatically displays the rest of the procedure: reading the temporary files and then converting them to the new ISIS® format. It is clearly visible when each different part of the show is successfully imported and converted.

The final stage of the import procedure is for the system to automatically save the complete show in ISIS® format. The blue import screen is closed when the procedure is complete.

The show is now ready to be replayed or modified, but don't forget to recreate macros and insert events if necessary.

8.13 USITT ASCII data format for lighting information

The information contained within an ISIS® show file is stored in a proprietary format, and can only be read by systems running ISIS® software. In much the same way, other manufacturers have their own format for saving shows. While this is understandable – especially as different manufacturer's desks operate in different ways and can offer considerably different functions – it can create difficulties if a show created on one system needs to be replayed on another.

For this reason, the United States Institute for Theatre Technology (USITT) proposed a standard format around that lighting information can be exchanged between incompatible systems. The format is based on ASCII characters, and while the file format is rigidly defined, it does allow manufacturers to include information specific to their software.

Whilst this offers a method to transport lighting information from one system to another, not all intricacies of the show will necessarily be transferred correctly. In addition, some manufacturers do not strictly adhere to the USITT ASCII data format.

However, ISIS® can export and import ASCII lighting data saved in strict USITT format.

8.13.1 Exporting USITT ASCII data

The current show can be exported to floppy disk in strict USITT ASCII format. It is only necessary for the operator to give a name to the ASCII data file; all other conversion is performed automatically.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {floppy}> <F5 {SAVE ASCII SHOW}>
➔ Displays the USITT Show Export dialogue box*180*.

FILE name
➔ Enter a filename for the data file (up to 8 characters). The default file extension is '.asc'.

<F8 {ok}>
➔ The export procedure is started and a blue window is displayed.
➔ The option to abort is offered via the <ESC> key (<SHIFT+CLEAR> from the desk).

Insert FLOPPY #1
➔ The show data may require more than one floppy disk for the conversion.

<ENTER>
➔ The *ISIS®* show file is converted into strict ASCII data and written to the floppy disc.

Press any key
➔ Once the export procedure is completed, any key (from the alphanumeric keyboard) can be used to exit the export window.

8.13.2 Importing USITT ASCII data

Importing strict USITT ASCII data is performed in a method similar to the import of old VISION 10 show files, as described above. It is important that the filename of the ASCII data is known before attempting to import the data.

examples of keystrokes

<MENU> <F1 {FILE}> <F4 {floppy}> <F4 {LOAD ASCII SHOW}>
➔ Displays the Import Vision 10 dialogue box*170* with a warning that any existing work will be replaced.

PATH
➔ If a directory was created on the floppy disk when the ASCII data was saved, the directory name must be entered in the dialogue box. If no directory name was used and the ASCII data is stored in the default root directory (a:), leave this field blank.

FILE
➔ Enter the filename of the ASCII file stored on the floppy disk.

<F1 {ascii}>
➔ The import procedure is started and a blue window is displayed.
➔ The option to abort is offered via the <ESC> key on the alphanumeric keyboard.

Insert the FLOPPY DISK

<ENTER>
➔ The first part of the import procedure is begun: the ASCII data is copied to a temporary store on the hard drive.

A blue screen automatically displays the rest of the procedure: reading the temporary files and then converting them to the new ISIS® format. It is clearly visible when each different part of the show is successfully imported and converted.

The final stage of the import procedure is for the system to automatically save the complete show in ISIS® format. The blue import screen is closed when the procedure is complete.

The ASCII show data is now contained in the “work” directory ready to be replayed or modified.

8.14 Printing

All, or any part, of a show can be printed, and there are numerous print options. The configuration and setup of the system (number of channels, DMX outputs, monitors, etc.) can also be printed. Before any information is printed, the required printer should first be setup in the Printer Manager.

examples of keystrokes

<MENU> <F1 {FILE}> <F5 {PRINT}> <F2 {print manager}>
➔ Displays the Printer Manager dialogue box*142*.

<F4 {Printer}>
➔ Displays a list of printer types available: the correct printer type should be selected.

Other functions available in the Printer Manager relate to the selected print job.

<F1 {pause}>
➔ Pauses printing of the selected print job.

<F2 {Resume}>
➔ Resumes printing of the selected paused print job.

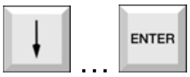
<F3 {Delete}>
➔ Deletes the selected print job from the print queue.

<F8 {ok}>
➔ Exits the Printer manager.

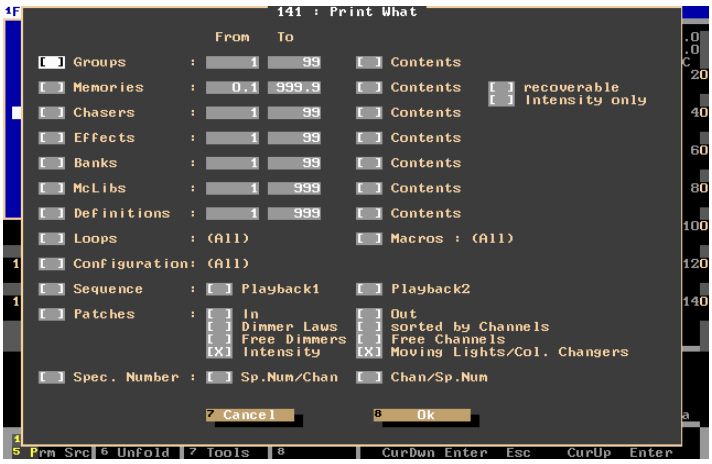
Once the printer has been set up, it is possible to select from an extensive list of options what is to be printed.

examples of keystrokes

<MENU> <F1 {FILE}> <F5 {PRINT}> <F1 {PRINT WHAT}>
➔ Displays the Print What dialogue box*141*.



<↓> … <Enter>
➔ Use the arrow keys to move the cursor around the screen and <ENTER> to select the print options.
➔ If there is a cross in a box, the selection is made and the option will be printed.



Selecting print content (Dialogue box 141)

<F8 {ok}>
➔ Prints the selected information.

Selected options are printed as a list, showing all existing items between a range of values. By default the range is set to maximum, but can be changed by editing the 'From' and 'To' boxes. The printed list will include titles, and creation date and time for each item.

If 'Contents' is selected, detailed content of each item is printed. Printing a memory's contents, for example, will include channel intensities, parameters, special times, as well as the global times and titles as shown in the memory listing. If 'Recoverable' is selected, a separate list of recoverable items is printed.

When printing the patch, information can be sorted either by channels to inputs or inputs to channels. The dimmer law assigned to each channel can also be included. Patch information can include generic ('Intensity') channels and other DMX instruments. It can also include the information about Free Dimmers and Free Channels.

Note: In the Menu / F1 (File), there are 2 other items : System Setup F8 and System Exit.

System Setup is a highly sensitive subject. Normally it is not recommended to access into it. If by accident selecting this option, the front desk will be offline, but the Alphanumeric Keyboard works. Be very careful for the further operation.

System Exit is similar to it.

The right procedure to shut down the desk is **MENU / F1 /F6 (SHUT DOWN) / F7**.

9 CHANNEL CONTROL

9.1 Introduction

This chapter describes how to make channel selections and allocate intensities to individual or lists of channels.

The channel keypad works directly in the selected working field: if submaster 1 is selected, the channels will be sent to submaster 1. If Stage 1 is selected, the channels will be sent there and so on.

To see the output from a submaster, its fader must be raised to send its contents to the Output. Please also check that the Grand Master is raised to 100%, and the Blackout is not activated - the LED in the Blackout key should be off, and the top line of the display on monitor 1 should show “GM FF”.

The channel keypad and associated functions operate in the selected working field.

9.2 Selecting channels

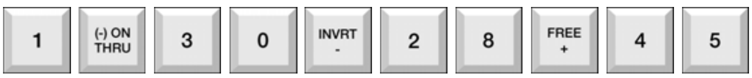
Any selected channels are shown highlighted with a white background in the working field. The last channel number entered is displayed in the information line above the footer of monitor 1.

Once an intensity is assigned to a selected channel, the next number entered is assumed to be a new channel number, so the previous channel selection is cancelled automatically.

Other functions can be used to build up a list of channels, such as <+>, <-> <thru> and <next>.

The last channel number entered in a selection can be cleared by pressing the <clear> key once; pressing <clear> twice clears all selections made from the keypad.

examples of keystrokes



<1> <THRU> <3><0> <-> <2><8> <+> <4><5>

➔ Selects the list of channels 1 to 30, except 28, and plus channel 45.

<ALL>

➔ Selects all the channels that currently have an intensity (non-zero or “visible” channels).

<1> <THRU> <1><0><0> <-> <ALL>
➔ Selects all channels with no intensity in the selected range (in this example the range is 1 to 100).

<ALL> <-> <4><1> <THRU > <4><5>
➔ Selects all the non-zero channels, except those in the selected range (here the range is 41 to 45).

<1><2><0> <+> <NEXT> <+> <NEXT>
➔ Selects channels 120 and 121 and 122.

<2><5><0> <+> <PREV> <+> <PREV>
➔ Selects channels 250, 249 and 248.

<1><0> <thru-on> <8><0> <thru-on> or <ENTER>
➔ Selects all non-zero intensity channels between 10 and 80.

<1><0><1> <thru-on> <thru-on>
➔ Selects all non-zero intensity channels from 101 onwards.

<invert>
➔ Swaps the current channel selection for all other non-zero intensity channels.

<solo>
➔ Keeps selected channels at their respective intensities, and temporarily removes all other channels in the selected field from the Output. The solo function is cancelled by pressing <CLEAR> or <SOLO> for a second time.

<CLEAR>
➔ Clears the last entered number from a selection.

<CLEAR> <CLEAR>
➔ Clears the current channel selection.

<last>
➔ Re-selects the last channel selection made before the keypad was cleared.

<erase> <erase>
➔ Removes all channels from the selected working field.

Note: Certain hard keys such as PREV / NEXT are only availabe in certain platforms. But they can be assigned from the Keys Function (Dialogue Box *817*).

9.3 Allocating intensities

Selected channels can be given an intensity value by entering digits on the keypad, or by using the wheel.

ISIS® uses a “single-digit direct entry” system when entering intensities from the keypad. Tens of percent are entered as a single digit (i.e. 50% is entered as just “5”). ISIS® can emulate “two-digit direct entry” systems (i.e. 50% entered as 5 0, or 47% entered as 4 7 rather than 4.7) by holding down the <at> key whilst entering the intensity.

examples of keystrokes

<1> WHEEL
➔ Sets channel 1 to any level between 0% and 100% (FF).

<1> <AT> <7>
➔ Sets channel 1 to 70%.

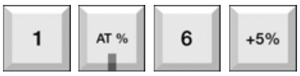
<1> <AT> <7><.><3>
➔ Sets channel 1 to 73%.

<1> <AT> <AT>
➔ Sets channel 1 to FF (100%).

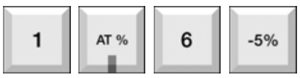
<1> <FF>
➔ Sets channel 1 to FF (100%) where available.

<1> <AT> <0>
➔ Sets channel 1 to 00 (zero).

<1> <00>
➔ Sets channel 1 to 00 (zero) where available.



<1> <AT> <6><+5%> Or <+x%>
➔ Sets channel 1 to 65% where available.



<1> <AT> <6><-5%> Or <-x%>
➔ Sets channel 1 to 55% where available.

<RET>
➔ Returns the currently selected channel(s) to the previously unmodified intensity level(s). The Return function cannot work after the selection has been cleared with <CLEAR> <CLEAR>.

The channel selection methods and intensity allocation methods work in tandem, so any combination of channels can be set to any intensity levels by any of the methods shown above. Thus ISIS® offers the operator much faster, simpler and flexible means of channel control.

9.4 Advanced intensity modifications

Channels with intensities can be modified proportionally to their current levels, either individually or as a list. Using these methods, a whole lighting state, or part of it, can be proportionally modified without using the Grand Master or Override functions; this means that channels whose output sent from other submasters are not affected.

Proportional modifications are made with the wheel or by adding or subtracting any percentage to the current levels by using the keypad.

examples of keystrokes

<1> <THRU > <1><0> WHEEL

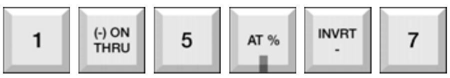
➔ Proportionally increases the intensities of channels 1 to 10. If they are at different levels, they will increase in intensity as the wheel is moved upwards. Eventually all the channels will reach 100%, but if the wheel is then moved downwards, they will regain their original balance and be decreased proportionally. Similarly, if the wheel is moved downwards, all the channels will reach an intensity of zero, but when the wheel is moved back up, they regain their original balance.

<2><5> <thru> <2><8> <enter> <.> <5>

➔ Channels 25 to 28 have 5% added to their original intensities: do not use the <AT> key.

<1> <THRU > <5> <at> <+> <5>

➔ The levels of channels 1 to 5 increase proportionally by 50% of their **current** intensities.



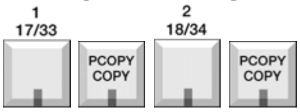
<1> <THRU > <5> <At> <-> <7>

➔ The levels of channels 1 to 5 decrease proportionally by 70% of their **current** intensities.

9.5 Copying channels and their intensities between the fields

Once channel intensities have been set in a working field (such as a submaster or playback), they can easily be copied to a different working field. This can be a very useful function.

examples of keystrokes

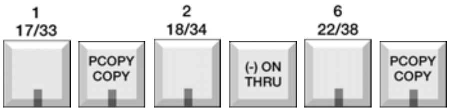


<sub1> <copy> <sub2> <copy>

➔ Copies the contents of submaster 1 into submaster 2.
➔ Note that the original contents of submaster 2 will be replaced by this operation.

<erase> <erase>

➔ Removes the contents of submaster 1.
➔ This has moved the contents of submaster 1 to submaster 2.



<sub1> <copy> <sub2> <thru> <sub6> <copy>

➔ Copies the contents of submaster 1 into submasters 2 to 6.

Copy can be used in many ways; it is described in the chapter 27 *Copy And Part Functions*. P10/XT has a dedicated COPY hard key.

9.6 Free channels

The free channels function is a list showing all channels that have not been used in groups, memories, chasers & effects. It gives a quick overview of spare channels that could be put to a new use.

examples of keystrokes

<menu> <F3 {channels}> <F3 {INFO}> <F1 {FREE}>

➔ Displays the list of free (unused) channels that are patched.
➔ Dialogue box*336*

9.7 Used channels

The used channels function is a list showing all channels that have been used in memories, chasers or effects. It gives a quick overview of channel usage and can help the operator in the management of the lighting rig.

examples of keystrokes

<MENU> <F3 {channels}> <F3 {info}> <F2 {used}>

➔ Displays the list of used channels in the dialogue box*337*.

9.8 Testing channels

The test channels function is provided to assist in lamp identification or fault finding. All used channels, or all channels in a selected range are sequentially flashed to a default intensity of 70% for one second, or manually for as long as is required. During testing, the channels are sent directly to the Output, after the Grand Master value. The default intensity and the duration of the flash can be changed by the operator.

examples of keystrokes

 OR 

<TEST> **or** <MENU> <F3 (CHANNEL)> <F4 (TEST)

➔ Enters the channel testing facility.

<F1 {start}>

➔ Starts the automatic testing of all channels. They are individually and sequentially flashed to 70% for 1 second by default.

<F2 {stop}>

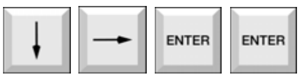
➔ Stops the test routine.

 OR 

<F3 {prev}> **or** <F4 {next}>

➔ Selects and tests the previous or next channel to the point where the sequential testing was stopped.

➔ Using the Next and Previous functions in this way allows channels to be tested manually instead of to a sequential pattern. Using Next and Previous makes the selected channel appear at the Output.

 ...

<↓> <→> <enter> <enter> …

➔ Use the arrow keys to move the cursor to the desired channel for testing.

<F8 {EXIT}>
➔ Stops the testing and exits the test facility.

The default duration and intensity can be edited by the operator if required.

Notes: For P10XT, the hard key for Test is CTRACK / CHTST

examples of keystrokes

TEST OR MENU F3 F4

<Test> **or** <MENU> <F3 (CHANNEL)> <F4 (TEST)
➔ Enters the channel testing facility, dialogue box*363*: TEST

<TAB>
➔ Move the cursor to the Intensity box and enter the required intensity for sequential testing. The default value is 70%.

OR

<PREV> **or** <Tab>
➔ Move the cursor to the Delay box and enter the required delay time for sequential testing. The default time is 1 second; the delay can be set between 1 second and 10 seconds.

9.9 Channel tracking

Channel tracking gives an overview of an individual channel's usage. It lists all the groups, memories, chasers and effects where that channel is used, and its intensity within each memory. It differs from the used channels list because it includes channels used in groups, and channel's intensities in memories. It is therefore a useful way of finding stray channels at unusual intensities.

For example, a channel that has been controlled proportionally and therefore recorded at less than 10% within a memory can be found.

examples of keystrokes

<select channel>
➔ Select the channel to be tracked.

OR


<Ctrack> or <Menu> <F3 {channels}> <F3 {info}> <F3 {channel tracking}>
➔ Displays the usage of the selected channel, in the dialogue box*338*: Channel Tracking

9.10 Channel Substitute

Channel Substitute offers the operator a very convenient and useful tool.
This function can be used in different situations: during the rigging and plotting , due to some reasons, the right channel could not have the right instrument but the work has to continue, the operator can use the most closest channel which has the similar result to do all the plotting. When the better solution finally arrives, this function allows the operator to keep the original channel number in all related groups, memories or effects. And also in the real world, there are the moments when unfortunately things happen during the production , for example one of the lamp goes off, by using the Channel Substitute , the operator can choose the channel which has the similar luminaries with the most closest project direction to replace the non-function channel.

The following is an example: channel 27 and channel 30 both has connected to a similar luminaries and their project directions are also very close, when the channel 27 has problems (no output from the dimmer if the dimmer patch is 1 to 1, or the lamp goes off or that socket has problem or the plug goes loose), the operator can use channel 30 to substitute the channel 27. After this has been done, the related Memory or Chaser or Effect will follow the new order.

In all the show information, channel 27 still there, but in reality, the real working unit is the one connected to the channel 30. And the channel 30 still keeps all its original *tasks*.

The Channel Substitute can be either Deleted or Clear whenever the operator wants

9.10.1 Assign the Channel Substitute function

This operation can be done anytime it is needed.

examples of keystrokes

<Menu > <F3> <F8>
➔ Enter into the dialogue box*3* : Channel Substitute

<F1 {Substitute}>
➔ Enter into the Substitute Channel dialogue box*3*

Channel *is substitute by*<No: >
➔ Use the keypad to enter into the right channel number needs to be substituted.
➔ Here is the channel 27

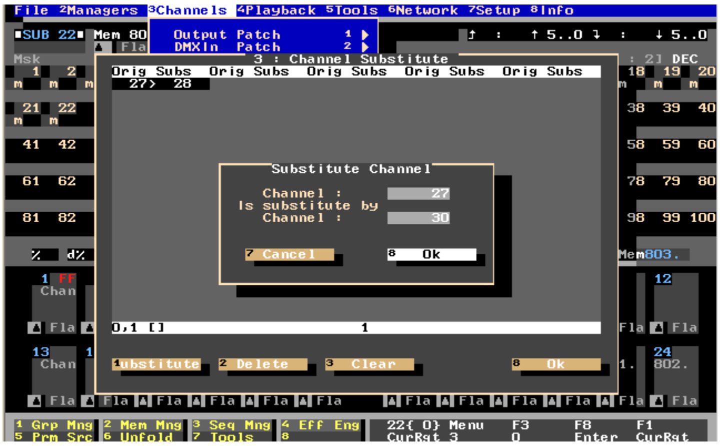
Channel <No: >
➔ Use the keypad to enter into the right substitute channel number
➔ Here is the channel 30

F8

<F8 {Ok}>
➔ To finish the operation

Or F7

<F7 {Cancel}>
➔ To Cancel the operation.



The Channel Substitute (Dialogue box 3)

9.10.2 Delete the Channel Substitute

The channel substitution can be erased when it suits the operator.

examples of keystrokes

<while staying in the Channel Substitute dialogue box *3* >
Use the wheel or the arrow key to hightlight the one to be deleted, then press

F2

<F2 {Delete}>

A Warning Is issued

➔ Delete current channel substitution
➔ Are you sure?

<F8 {Yes}>

9.10.3 Clear all the Channel Substitute

If there are more than one channel substitutions, they can be all erased in one go when it suits the operator.

examples of keystrokes

<while staying in the Channel Subtitute dialogue box*3*>

<F3 {Clear}>

A Warning Is issued
➔ Clear Channels Substitutions
➔ Are you sure?

<F8 {Yes}>

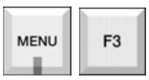
Or 

<F7 {No}>

9.11 Channels colors

Some times, it might help when the operator can extinguish some important channels with special colors. It is kind of reminds or alerts so the operator will pay extra attention for those channels with special colors. ISIS® allows choosing the special color between **white** or **yellow**. The normal channels display in **beige**.

examples of keystrokes



<Menu><F3>
➔ Opens the Channel menu

<↓>
use the alphanumeric keyboard directly or use the down arrow key
➔ Use the down arrow key, or the keyboard to highlight Channels colors

<Enter>
➔ Opens Edit Channels colors dialogue box*4*

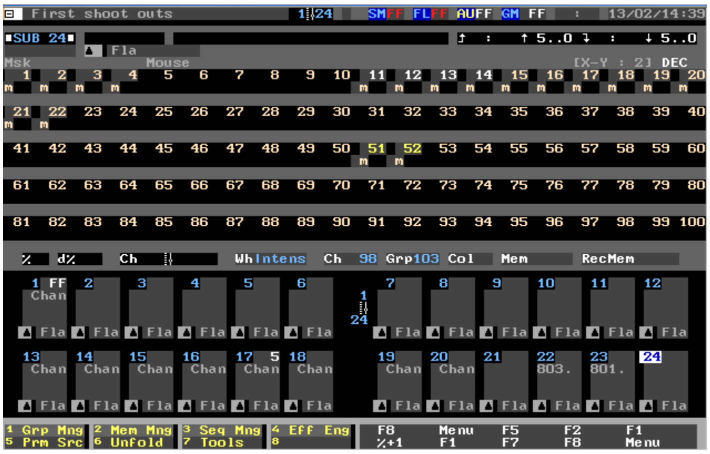
<F1 {Add}>
Enter into the Edit channels color dialogue box

Channel <NO.><Enter>
➔ Use the keypad to input the channel number
➔ Press Enter to confirm

Color <Yellow / White ><Enter>
➔ Use the arrow key to select the yellow color or white color
➔ Press Enter to confirm

<F8 {Ok}>
Finish the operation and exit the Edit channels colors

Edit channels colors Screen (Dialogue box4)



Channel 51 / 52 in yellow,channel 11- 14 in white

There are other operations in the dialogue box*4*: Edit channels colors: Change color or change channel number / Delete / Clear all the assigned special colors

9.11.1 Edit either the channel number or the color:

examples of keystrokes

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a directory.

<F2 {New}>
➔ Back to the Edit channels color
➔ Here you can change the color number or the special color

Or


F8 <Ok > or F7<Cancel>

9.11.2 Delete the channel color: DELETE

examples of keystrokes

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel, the down arrow key, or keyboard to highlight a directory.

F3<Delete >
- ➔ Selected item deleted
- ➔ Attention: There is no warning message

9.11.3 Clear all the channels colors from the list: CLEAR

examples of keystrokes

<F4 {Clear}>
- ➔ Selects the clear function.

A Warning Is issued
- ➔ A warning is given: Clear Channels Substitutions – Are you sure?

<F8 {YES}>
Confirms the operation and clear all the directories

Or 

<F7 {No}> to quit the operation.

10 GROUPS

10.1 Introduction

Groups are user-definable lists of channels, offering the convenience of controlling many channels as simply as if they were one single channel. In this way, colour washes, stage areas or instrument types for example, can be grouped together for quick and easy modifications.

Once a group has been created, it can be selected, allocated an intensity, or modified as two, three or four keystrokes instead of entering long lists of channel numbers.

A group can be used in any working field. Groups can also be used when creating chasers and effects.

10.2 Creating a group

Groups are convenient lists of channels defined by the user. Each show can have up to 999 groups recorded. Groups are created via the key <recgrp>.

examples of keystrokes

<1> <+> <3> <+> <5> <+> <7> <+> <9> <REC GROUP> <1> <REC GROUP> or <REC>
➔ Creates group number 1, consisting of channels 1,3,5,7 and 9.

Any combination of channel selections as described in the chapter 9 *Channel Control* can be used to make the channel selections for group creation.

10.3 Editing a group

Existing groups can be modified by changing the selected channels within the group and re-recording.

examples of keystrokes

<Group> <1> <Enter>
➔ Selects the channels currently recorded in group 1.

<+> <1><1> <+> <1><3> <+> <1><5>

➔ Adds channels 11, 13 & 15 to the selection.

<REC GROUP> <1>

➔ Selects group 1 as the destination for recording.

➔ Since group 1 already exists, a confirmation message is displayed: "Confirm override of destination"

<REC GROUP> <REC GROUP> **or** <REC><REC>

➔ Confirmation is made by repeating the record command and group 1 is modified.

10.4 Copying groups using the Copy function

Existing groups can be copied, and the copies modified as described above.

examples of keystrokes

<GROUP> <1> <COPY> <GROUP1><0><0> <COPY>

➔ Copies the contents and title of group 1 to group 100.

<GROUP> <1> <THRU> <5> <COPY> <GROUP2 01> <THRU> <COPY>

➔ Copies the contents and titles of groups 1 to 5 into groups 201 to 205 consecutively.

10.5 Displaying the group list

The list of groups, along with other lists such as memories and motion control libraries, can be displayed temporarily on any monitor at any time.

examples of keystrokes

<MON #> <F5 {Lists}> <F1 {Groups}>

➔ Displays a list of existing groups, showing numbers and titles on the selected monitor.

To return the monitor back to the default display:

<MON #> <F1 {Default}>

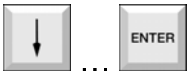
➔ Returns the selected monitor back to the default display.

To permanently display the groups list, one of the monitors must be configured for this through the menu.

examples of keystrokes

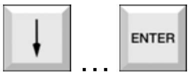
<MENU> <F7 {setup}> <F4 {SCREEN config}>

➔ Enters the Screen Configuration dialogue box.



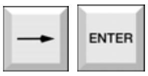
<↓> <enter>

➔ Use the down arrow to move the cursor to the Contents field of the required monitor, and display the available options by pressing <ENTER>.



<↓> <enter>

➔ Select ‘List Of’ from the available options.



<→> <enter>

➔ Move the cursor one position to display the menu of lists.

➔ Select the Groups option from the list.

<F8 {ok}>

➔ When the selection is correct, <F8 {OK}> applies the selections and exits the dialogue box.

➔ If anything is wrong or uncertain, press <F7 {CANCEL}> to exit the dialogue box without making any changes.

10.6 Selecting groups and allocating intensities

All channel selection methods described in the chapter 9 *CHANNEL CONTROL* also work with group selections.

examples of keystrokes

<GROUP> <1> wheel

➔ Sets group 1 to any level between 0% and 100% (FF).

<GROUP> <1> <AT> <7>

➔ Sets group 1 to 70%.

<GROUP> <1> <AT> <at>

➔ Sets group 1 to FF (100%).

<GROUP> <1> <AT> <0>

➔ Sets group 1 to 0 (zero).

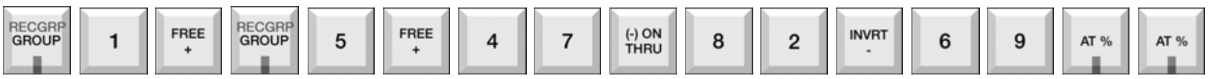
<RET>

➔ Returns the currently selected group to its previously unmodified intensity level.

<GROUP> <1> <thru> <8> <AT> <4><.><5>

➔ Sets groups 1 to 8 at 45%.

➔ Note that the <GROUP> key is not required to select the second group after a <THRU> command.



<GROUP> <1> <+> <GROUP> <5> <+> <4><7> <thru> <8><2> <-> <6><9> <AT> <AT>

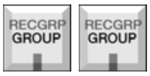
➔ Sets groups 1 and 5, and channels 47 to 82 (except channel 69) at FF (100%).

10.7 Direct Load of groups

The methods described above for selecting groups are easy to use if the operator can remember the number of the required group. It is, of course, possible to display the groups list on a monitor – but this information normally is not required all the time: it would be far better to use the monitor for other purposes.

Fortunately ISIS® offers a direct load function, which temporarily displays a list of existing groups and provides instant selection or intensity allocation of the highlighted group.

examples of keystrokes



<GROUP> <GROUP>

➔ Displays the list of existing groups, together with their titles.

OR


WHEEL **OR** <↓>

➔ Highlight the required group.

OR


<ENTER> **OR** <AT> <AT>

➔ Select the channels in the highlighted group with <ENTER>, or directly assign an intensity level.

Note: As a precaution, the direct load function is disabled when out of context.

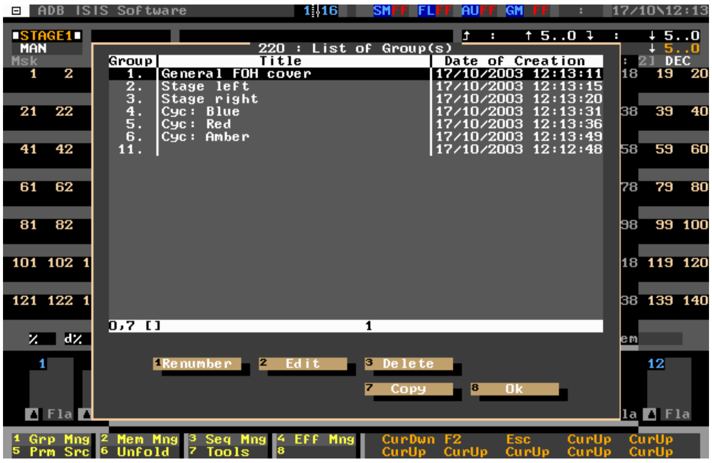
10.8 Group Manager

There are several "managers" throughout the software which are convenient places for manipulating pre-recorded entities. In the Group Manager, groups can be edited, named, copied, re-numbered and deleted. Deleted groups can be recovered in the Tools option of the menu.

examples of keystrokes

<F1 {GRP MNG}>

➔ Displays the group manager; initially this displays the list of recorded groups



Group Manager Screen (Dialogue box 220)

10.8.1 Naming a group in the Group Manager (Title)

It can be helpful to give groups names, such as “Red colour wash” for ease of identification within the Group Manager and groups list.

examples of keystrokes

OR 

WHEEL **OR** <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ In the Group Manager, use the wheel or the down arrow to highlight a group to be edited, or enter a number directly using the keyboard.

<F2 {Edit}>
➔ Selects the edit facility: the title can be added using the alphanumeric keyboard.

<F8 {Ok}>
➔ Confirms the title and exits the edit facility.

<F8 {Ok}>
➔ Exits the Group Manager. (Do not exit if other groups are to be named, copied, deleted, etc.)

10.8.2 Copying groups in the Group Manager

Memories can be copied in the memories manager. The advantage of this method over the <copy> function is that the **Group list is automatically displayed, and a delta function can be used so that lists of Groups** do not have to increment in steps of one.

examples of keystrokes

OR 

WHeel **or** <↓>
- ➔ In the Group Manager, use the wheel or the down arrow keys to highlight the group to be copied.
- ➔ Use <ENTER> to select a list of groups, if required.

<F7 {COPY}>
- ➔ Displays the copy dialogue box.

Target
- ➔ Enter the new group number, or the first number if a list of groups is selected.

DELTA
- ➔ Enter a delta offset value if required (see below).

<F8 {OK}>
- ➔ Confirms the copy function and exits the dialogue box.

Delta
Delta is an option when renumbering the list. Normally, the delta setting is 1, meaning that the new numbers will increase in increments of 1 from the first number. If the delta quantity is changed, the new numbers will increment by the value entered. Therefore if the delta is 2, the new numbers will skip every other number. If the delta is 10, the new numbers will increase in tens.

10.8.3 Deleting groups from the Group Manager

Unused or unwanted groups can be deleted to make room for new ones.

examples of keystrokes

OR

WHEEL **OR** <↓>
➔ Highlight the required group in the Group Manager.
➔ Use <ENTER> to select a list of memories, if required.

<F3 {Delete}>
➔ Selects deletion.

A WARNING IS ISSUED
➔ A warning is given: Delete element(s) - Are you sure?

<F8 {Yes}>
➔ Confirms the deletion.

<F8 {Ok}>
➔ Exits the Group Manager, if required.

10.8.4 Renumbering groups in the Group Manager

When several groups have been deleted, or if the groups were created using non-consecutive group numbers, they can be re-numbered to clarify the group list.

examples of keystrokes

OR …

WHEEL **OR** <↓> ... <ENTER>
➔ In the Group Manager, use the wheel or the down arrow to highlight a group to be renumbered, or enter a number directly using the keyboard.
➔ Use <ENTER> to select a list of groups for renumbering.

<F1 {Renumber}>
➔ Displays the renumber dialogue box.

Target
➔ Enter the new group number, or the first number if a list of groups is selected.

Delta
➔ Enter a delta offset value, if required.

<F8 {ok}>
➔ Confirms the group re-numbering and exits the dialogue box*220*.
➔ If the new numbers allocated are the same as any existing groups, a warning is given and the operation cancelled.

10.9 Recovering deleted groups

If a group has been deleted or changed, the original version can be recovered. If the same group has been modified more than once, it appears on the recoverable list as often as it was changed.

The most recent deletion (or modification) is always displayed at the top of the recoverable list. In addition, all deletion times and dates are shown - so if the required group is the version that was deleted yesterday at lunch time, it is easy to find in the list!

Groups deleted by an initialisation routine cannot be recovered.

examples of keystrokes

<menu> <F5 {tools}> <F2 {recover}> <F1 {groups}>
➔ Enters the recover groups function from the tools menu.

OR  … 

WHEEL **OR** <↓> ... <enter>
➔ Select the group to be recovered.
➔ A list of groups can be created by using the <ENTER> key.

<F1 {recover}>
➔ Selects the recover function.

If the group being recovered does not exist in the current show, it is immediately recovered. If it is a modified version, the operator can choose which course of action to take.

A WARNING IS ISSUED

➔ A warning is given: Header # already exists - Overwrite?

F1 OR F7 OR F8 OR F2

➔ <F1{Cancel}> cancels the entire recovery procedure.
➔ <F7{No}> prevents recovery of the group number given in the warning.
➔ <F8{Yes}> confirms recovery of the group number given in the warning and overwrites the existing version.
➔ <F2{All}> allows all selected groups to be recovered without further warnings.

F8

<F8 {ok}>

11 SUBMASTERS

11.1 Introduction

The submasters are very flexible working fields. They can be used for creating lighting states, recording and playing back memories, chasers, effects, and loops, and used with audio and MIDI. Submasters are both easy to use and versatile.

If several different lighting states are stored in the submasters, it is easy to “busk” an unrehearsed show. The submaster contents may be parts of a more structured show, or they may be used as a means of overriding channel intensities from other working fields.

➔ When plotting channels into submasters, the contents of the submaster will only be seen at the output of the desk if the submaster fader (and the Grand Master) is raised. The output may also be subject to the level of the Submaster General fader, if the submaster is assigned to it.

Note: The behaviour of channels within the submasters will depend upon the *precedence* mode selected by the operator.
A conventional spotlight has only an intensity attribute (only the brightness of the lamp can be adjusted from the control desk): this is termed a *generic* luminaire.
Generic channels operate on highest-takes-precedence (HTP) basis: the working field contributing the highest intensity value for a given channel will be the one sent to the desk Output.
A motion control device (such as a moving light or colour scroller) has many more parameters that can be adjusted from the control desk: this is termed an *instrument*.
Parameters of an instrument operate by default on the latest-takes-precedence (LTP) principle: the last action performed by the operator is the value sent to the Output.
For full details of the precedence modes, please see the chapter 29 *HTP FTP LTP Operation*.

11.2 Submaster pages

ISIS® software supports up to 96 submasters, however there are fewer physical faders on all standard systems. The available faders are used to control “pages” of submasters.
Each of the 96 submasters can have a non-zero value at any time, but only one page of submasters can have physical control.

➔ A different page of submasters is accessed by turning the submaster page.

The concept of submaster pages means that there is likely to be discrepancies between the positions of the actual submaster faders and their virtual values.

As with all controls in *ISIS*®, the value shown is **white** if it is the physical fader controlling the submaster level and **red** if it is the virtual value.

When there is a difference between the virtual level of a submaster and its connected physical fader, manual control of the submaster can be taken by moving the physical fader so that its level matches that of the virtual fader. When the match is made, the submaster value changes from **red** to **white**, showing that the physical fader is in control of the submaster level.

Instead of matching the physical fader to the virtual value, there is a function in the submaster configuration dialogue that sets the selected virtual fader to the value of the connected physical fader.

➔ The “faders” function forces the virtual value to match the physical position of the selected submaster.

examples of keystrokes

CONFIG 

<CONFIG>
➔ Enters the submaster configuration dialogue box for the selected submaster(s).

<F2 {faders}>
➔ Forces the virtual value of the selected submaster(s) to match the position of the physical fader.

11.3 Selecting submasters

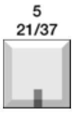
When a submaster field is selected, all operations made on the keypads and other areas of the desk are sent to it. When a submaster is selected it is displayed by default on monitor 1.

If several submasters are selected, memories, chasers and effects can be loaded into all of the selected submasters simultaneously, but intensities can only be modified in one submaster at a time. If more than one submaster is selected when intensity tools are used, the message “select one submaster only” is displayed.

11.3.1 Selecting one submaster

examples of keystrokes

<Sub1>
➔ Selects submaster 1.



<Sub5>
➔ Deselects submaster 1, selects submaster 5.

11.3.2 Selecting a list of submasters

examples of keystrokes

<Sub1> <Thru> <Sub12> <-> <Sub8> <+> <Sub14> <+> <Sub16>
➔ Selects submasters 1 to 16, except 8, 13, and 15.

11.3.3 Selecting a list of submasters across two pages

So far, all submaster selections have been on one page. As all *ISIS®* systems have 96 submasters, it is possible to select all submasters, or any combination from 1 to 96.

Any submaster selections using the <+>, <-> and <THRU> commands can be made across the submaster pages. The page selection must be made in the submaster selection list as required.

Note: If the Submasters Auto Paging option is selected in the Display Format dialogue box *815*, any submaster information boxes displayed on-screen will change to show the group of submasters containing the selected one.

11.4 Control in submasters

Any of the channel control manipulations described in the chapter 9 *Channel Control* will work in any of the submasters, but only in one submaster at a time. If channels are to be modified in several different submasters, each submaster must be selected individually.

➔ Channel intensities can only be modified in one submaster at a time.

Selected channels are not cleared before selecting a different submaster; these channel numbers will remain selected in the new submaster and are available for immediate control.

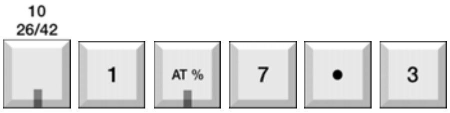
A new selection can be made by entering the channel numbers directly from the keypad. Alternatively, the selected channels can be cleared by pressing <CLEAR> twice, or by recording a memory. <u>If the channel selection is cleared in error, it can be recovered by using the <LAST> key.</u>

11.4.1 Channel selection and intensity allocation

Any submaster can be selected as the active working field, simply by pressing its selection button. Channels and intensities can then be set by using the keyboard and wheel.

When working in submasters, all the channel control manipulations demonstrated in the chapter 9 *Channel Control* can be used.

examples of keystrokes

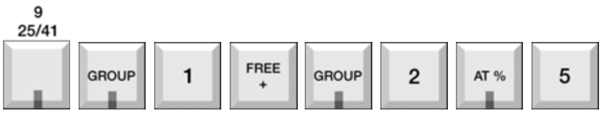


<Sub10> <1> <AT> <7><.><3>
➔ Sets channel 1 to 73% in submaster 10.

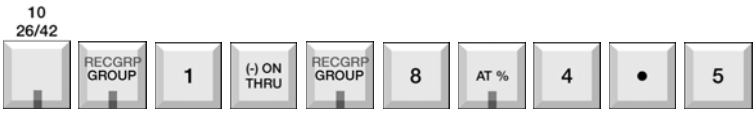
11.4.2 Adding and subtracting groups

Groups can be used in individual submasters in the same way as channels, using the same intensity allocation tools.

examples of keystrokes



<Sub9> <GROUP> <1> <+> <GROUP> <2> <AT> <5>
➔ Sets groups 1 and 2 to 50%, in submaster 9.



<Sub10> <GROUP> <1> <THRU> <GROUP> <8> <AT> <4><.><5>
➔ Sets groups 1 to 8 at 45%, in submaster 10.

<Sub11> <GROUP> <1> <+> <GROUP> <5> <+> <4><7> <THRU > <8><2> <-> <6><9> <AT> <AT>

➔ Sets groups 1 and 5, and channels 47 to 82, except channel 69 at FF (100%), in submaster 11.

11.4.3 Proportionally adding and subtracting memories

Memories can be proportionally added to, or subtracted from, existing submaster contents. In this situation, the memory is manipulated as if it were a list of channels, but unlike a group the balance within the memory remains, so the atmosphere of a lighting state is kept.

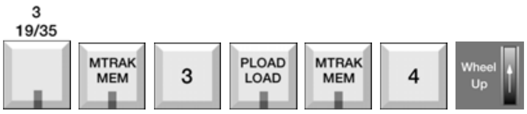
examples of keystrokes

<Sub1> <MEM> <1> wheel

➔ Proportionally increases or decreases memory 1 in submaster 1.

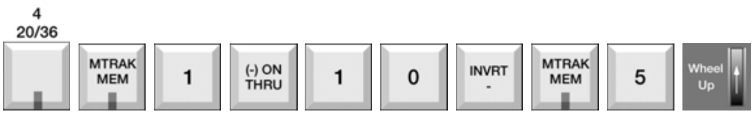
<Sub2> <MEM> <1> <+> <MEM> <2> wheel

➔ Proportionally adds memories 1 and 2 in submaster 2.



<Sub3> <MEM> <3> <Load> <MEM> <4> wheel

➔ Loads memory 3 into submaster 3, then proportionally adds memory 4 to it.



<Sub4> <MEM> <1> <Thru> <1><0> <-> <MEM> <5> wheel

➔ Proportionally adds memories all memories between 1 and 10 (except 5) to submaster 4.

Note: certain platform such as P10XT has a separated MEM keypad, so there is no need to press KE Y MEM.

11.4.4 Combining channels, groups and memories in a submaster

Channels, groups, and memories can all be combined within a single submaster.

examples of keystrokes

Channel Selection 

<Channel selection> <+> <MEM> <7> Wheel

➔ The selected channels and memory 7 are added to the existing contents of the active submaster.

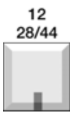
Channel Selection  Group Selection 

<Channel Selection> <+> <Group selection> <+> <MEM> <8> wheel

➔ The selected channels, groups and memory 8 are added to the existing contents of the active submaster.

If a memory is loaded directly into a submaster, it replaces any existing contents of that submaster. However, a selection of channels from an existing memory can be loaded into a working field without replacing any existing contents. In this way, selected channels from one memory can be added - at their recorded intensities - to the existing contents of the selected working field.

examples of keystrokes



<Sub12>

➔ Selects submaster 12, which already contains some channels with intensities.

<6><1> <Thru> <7><0>

➔ Selects channels 61 to 70.

<Pload> <MEM> <7> <Pload>

➔ Selects the PART LOAD function and adds the intensities of channels 61 to 70 in memory 7 to the existing contents of submaster 12.

Note: certain platform such as P10XT has an individual PLOAD KEY.

11.5 Erasing the submasters

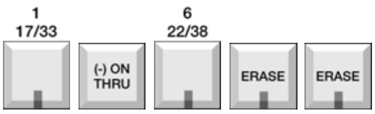
When the contents of a submaster are no longer required, or the submaster needs to be emptied to make way for new work, it must be erased.

➔ Erasing removes the contents of the submaster , returning them to the default times. It also resets the submaster and flashkey mode to Normal.

If the content of the submaster is a recorded entity, such as a memory, chaser or effect, erasing removes it from the submaster but does not delete it from the system memory. After a memory has been erased from a submaster, it is still available in the memory list.

To erase the selected submaster (or group of submasters), the <ERASE> key must be pressed twice. This is to prevent accidental erasing. If the <ERASE> key is pressed once, it's LED flashes as a warning. Pressing <CLEAR> cancels the erase command, and prevents the selected working field from being erased.

examples of keystrokes



<Sub1> <Thru> <Sub6> <Erase> <Erase>
➔ Erases the contents of submasters 1 to 6.

11.6 Submaster modes and priority

Normally the submasters work by adding their contents on a highest takes precedence (HTP) basis to the Output when their faders are manually raised. However, *ISIS®* submasters have different modes that enable lighting states to be manipulated in other ways.

Auto
A submaster can be configured as an *autofader*. The contents of a submaster in this auto mode are added to the Output as an accurately timed fade at the press of its flashkey, instead of manually moving the fader.

Audio
The contents of a submaster can be made to respond to an input audio signal or MIDI channel.

Inhibit
This mode is used to cut or boost selected channels that are at the Output from other working fields.

Bypass
A submaster in this mode will bypass the Grand Master and Blackout level and be sent directly to the Output. Submasters in bypass mode are not included when recording a memory using the sum (record live) functions.

Each submaster can be individually configured with any of these modes and some functions, such as Auto and Inhibit can work simultaneously.

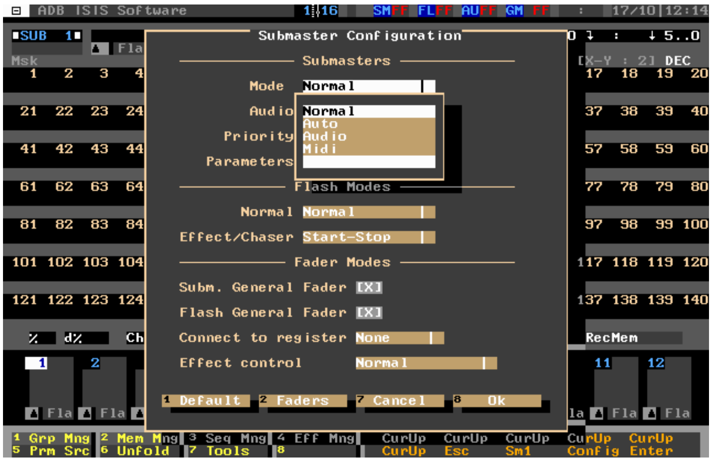
In addition, when a submaster contains channels that are colour changers (scrollers) or moving lights, the submaster can be configured specifically for motion control parameters (such as control of colour or gobo). This is explained in detail in the chapter 19 *Motion Control Setup*.

The different submaster modes are summarised below.

Mode	Description
Normal	Normal, manual, HTP
Auto	Submasters become simple timed playbacks
Audio	Submaster contents modulate according to an audio signal
Inhibit	Submaster level becomes a cut and boost function for the selected channels
Bypass	Submaster contents bypass all other areas and functions of the desk

11.6.1 Configuring the submasters

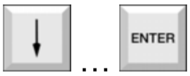
Submaster modes can be configured individually or as a group, using the submaster configuration dialogue box. They can also be individually configured to follow the level of the Submaster General fader, which is a virtual fader within the software.



Submaster Configuration Dialogue Box

examples of keystrokes

<CONFIG>
➔ Displays the submaster configuration dialogue box for the selected submaster(s).
➔ Options will be applied to all the selected submasters.



<↓> ... <Enter>
➔ Use the cursor keys and <ENTER> to make the required submaster mode selection.

<F8 {ok}>
➔ Confirms the selections, and exits the configuration dialogue box.

Depending upon the hardware platform being used, some of the submaster modes can be directly selected from the mode keys located next to the lower row of submaster faders. This avoids the necessity of opening the dialogue box. The mode chosen in this way is applied to all selected submasters.

examples of keystrokes

<Auto>
➔ Selects Auto mode for the selected submasters.

11.6.2 Setting the submaster to respond to the Submaster General level

By default, the submasters is subject to the Submaster General level. This is a virtual fader within the software, the level of which controls the proportional output of the submasters.

The Submaster General level is normally set to full, meaning that the contents of the submaster will be output at 100% of their intensities within the submaster, with respect to the position of the submaster fader. If the Submaster General level is set at 50%, the channels within the submaster will be output proportionally at half their values with respect to the position of the submaster fader.

It is possible to configure each submaster to ignore the Submaster General level and always output channel intensities at the proportional level of the submaster fader.

examples of keystrokes

<CONFIG> or <CFG>
➔ Displays the submaster configuration dialogue box. The selected submaster(s) will be subject to the Submaster General level when there is a cross in the associated box.

Submaster General Fader options		
	[X]	submaster is proportional to General fader level
	[ ]	submaster ignores the General fader level

11.6.3 Setting the Submaster General virtual fader level

The Submaster General level can be temporarily assigned to the wheel, to enable adjustments.

examples of keystrokes

<F7 {Tools}> <F6 {wheel}> <F2 {submst}> wheel
➔ Assigns the Submaster General fader to the wheel.

<F7 {Tools}> <F6 {wheel}> <F1 {intens}>
➔ Re-assigns the wheel back to intensity control.

It is also possible to control the Submaster General level via the alphanumeric keyboard, or it can be allocated to the Auxiliary fader (fitted on certain systems). Alternatively, one of the submaster faders can be configured in a special mode to control the virtual fader levels: please see the section *Menu / F7(setup) / F2 (Manual Table)* for further details.

11.6.4 Normal

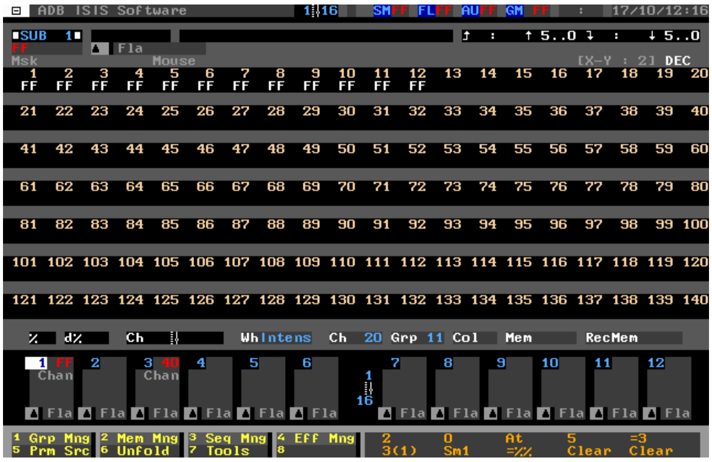
Normal is the default mode for all submasters. The fader must be manually raised for the submaster contents to be sent to the Output at a level proportional to the fader value.

If a submaster is configured to follow the Submaster General fader, the output is also proportional to that level. Submaster content is proportional to:

- ➔ The intensity of the channel within the submaster;
- ➔ The level of the submaster fader;
- ➔ The level of the Submaster General fader;
- ➔ The level of the Grand Master fader.

If the same channel is in more than one submaster, it is sent to the output on an HTP basis, subject to any submasters in Inhibit and Bypass modes.

Note: When a submaster is in Normal mode, the associated submaster information box on-screen shows the contents of the submaster - channels, memory, chaser or effect - and its fader level.



Submaster info box showing channels in submaster 1 and the fader level.

11.6.5 Auto

Auto mode changes the submaster from a manual fader into an automatic timed fader, executed either by pressing the associated flashkey or by movement of the submaster fader.

If the submaster contains channels and groups, Auto mode uses the system's default times (usually 5 seconds). If the contents are a memory, the memory times are used. Separate up, down and wait times for the Auto mode can be set by the operator if required. For full details on setting times, please see the chapter 14 *Recording & Modifying Times*.

The times of a submaster in Auto mode can be changed, but the new times are lost when the submaster is erased. If the times are changed and the submaster contains a memory, the new times only apply while the memory is loaded in same submaster, unless the memory is re-recorded to keep the changes.

Auto mode is selected through the submaster configuration dialogue box, or by using the submaster <AUTO> mode key, where available.

examples of keystrokes

<AUTO>

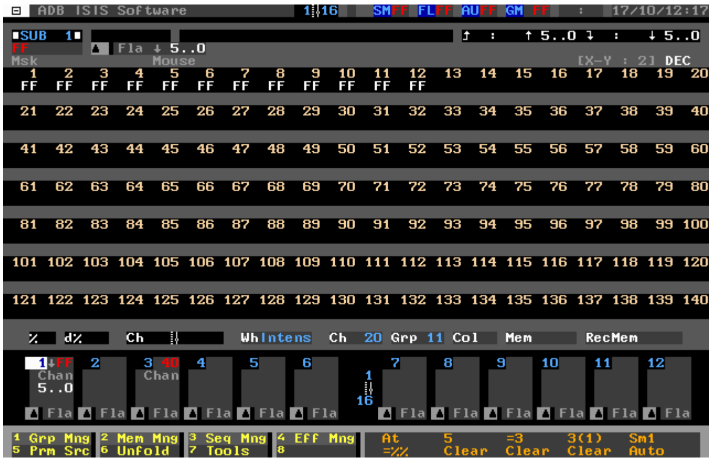
➔ Selects Auto mode for the selected submaster.

➔ Auto mode can also be selected from the submaster configuration dialogue box.

<Flashkey>

➔ Activates the automatic fade. Pressing the flashkey again reverses the fade.

Note: When a submaster is in Auto mode, the associated information box on-screen shows the contents of the submaster - channels, memory, chaser, or effect - the virtual fader level, and the fade time duration.



A submaster info box showing channels in submaster 1 and the autofade duration of 5 seconds.

11.6.6 Bypass

Bypass is a simple but powerful feature of *ISIS*®.

When channels are in a submaster in Bypass mode, their intensities cannot be modified at the Output from any other working field, or even by the Grand Master or Blackout functions. It is only the level of the submaster that controls these channels

Bypassed channels are also ignored by the sum function when recording memories.

For example: some lights need to be left on during plotting, but are not wanted in the memories. Putting them in a Bypassed submaster is the ideal solution. <u>This can be extremely useful for working lights, house lights, or illuminated music stands.</u>

As bypassed submasters are not affected by the Grand Master or Blackout functions, this can be a “safe” place for channels that must never be turned off, such as smoke machine or scroller power supplies, or discharge type luminaires.

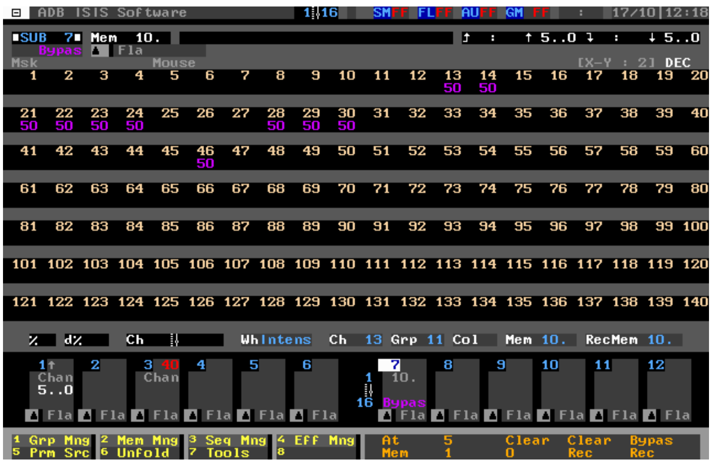
The channels in a Bypassed submaster are still proportional to the level of the submaster fader and so can be faded up and down manually, or by putting the submaster into Auto mode.

To avoid the bypassed submaster from being accidentally faded out, it can be set to full (or any level) by means of its virtual fader.

The output screen shows Bypassed channels in **purple** if there is an intensity value. If any channels in bypass mode are at zero, they are shown they are shown as « - - ». The double dash symbol indicates that the channels have been forced to zero due a special mode.

Note: When a submaster is in Bypass mode, the associated information box on-screen shows the contents of the submaster - channels, memory, chaser or effect - its fader level, and its mode: the word “bypass” in purple.

Bypass mode is selected through the submaster configuration dialogue box, or by using the submaster <BYPASS> mode key where available.



A submaster info box showing submaster 7 in Bypass mode, with the contents of memory 10.

11.6.7 Inhibit (sum correction)

Inhibit allows a submaster to work in a subtractive as well as additive way, acting on the channels it contains. The submaster itself does not contribute channels to the output of the desk, but it allows them to be increased or decreased proportionally at the Output if they are present from other working fields.
This cut and boost effect allows the selected channels to be increased or decreased in value by 100% of their *current* intensity.

Note: Inhibit mode does not affect channels that are in bypass mode, or are captured in Live.

Selected channels in an inhibited submaster are indicated as « II » in the working field and displayed in yellow colour. The Output screen shows inhibited channels in yellow if there is an intensity value, otherwise the « - - » double dash symbol will appear.

As the Inhibit function can increase or decrease channel intensities, setting the submaster fader at 50% will have no effect on the output level.
The lower half of the submaster fader (from 50% to 0%) controls the proportional cut in channel intensity; the upper half (from 50% to 100%) sets the proportional boost in channel intensity.

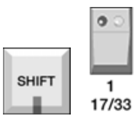
Note: Channels can be decreased from their *current* value to 0% (a cut of 100%). Channels can only be increased in value to 100% of their *current* value.

If the submaster fader is down when Inhibit mode is selected, there is no immediate change to the Output. The submaster level is shown as 50% in red because its virtual fader has been forced to 50% by the action of selecting the Inhibit mode. This prevents the channels from suddenly changing to 0%.

➔ A submaster in Inhibit mode must have its fader physically moved to the 50% position in order to “collect” control of the inhibited channels.

A submaster in Inhibit mode can be forced to the 50% setting, regardless of the physical position of the fader. This allows the inhibit action to be easily reset: any cut or boost at the output will be removed instantly. This is achieved by pressing <SHIFT> and the associated submaster flashkey together.

examples of keystrokes



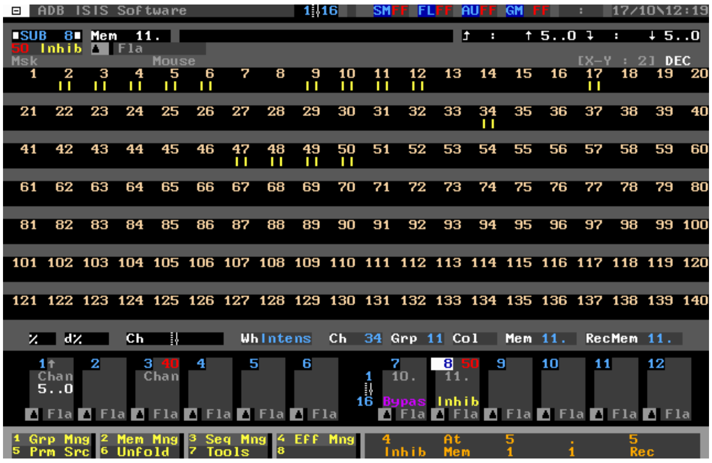
<SHIFT> <FLASH #>
➔ Forces the Inhibit function of submaster 1 to 50%, regardless of the physical fader position.

Fading the Inhibit submaster down from 50% (or up from 50%) proportionally fades its contents down (or up) at the Output, regardless of which other submasters and playbacks contain the same channels.
Inhibit does not affect channels captured in Live or set in Bypass.

Channels selected within an inhibited submaster can be set at any intensity, as it is only the level of the submaster fader that determines the output values of inhibited channels.
This allows the channels to be entered into an inhibitive submaster either by loading a memory, a group, or by entering channels directly at an intensity of full (any intensity can be used but full is quick and convenient).

The Inhibit submaster can work in manual (normal) mode, but it is also possible to set an inhibited submaster to Auto mode. The results at the Output are the same, although the changes will be made in the times associated with the Auto mode.

Note: When a submaster is in Inhibit mode, the associated information box shows the contents of the submaster - channels, memory, chaser or effect - its fader level, and the word “inhibit” in **yellow**.



A submaster info box showing submaster 8 in inhibit mode, with the contents of memory 11.

Inhibit mode is selected through the submaster configuration dialogue box, or by using the submaster <INHIBIT> mode key, where available.

11.6.8 Audio

Each submaster can be individually configured to respond to an input audio signal. This response can be set to correspond to the bass, mid-range, or treble frequencies, or to the average input signal.

Channels in an Audio submaster must be given intensities: their intensity at the desk Output will modulate with the audio signal. The maximum intensity at the Output will be proportional to:

- The channel intensities;
- The submaster level;
- The level of the submaster general fader (if configured);
- The audio input level as set in the setup menu;
- The audio input from the given piece of music at any time.

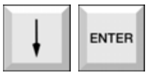
Audio mode is selected through the submaster configuration dialogue box, or by using the submaster <AUDIO> mode key, where available.

The audio input must also be enabled in the general configuration dialogue box*866*.

examples of keystrokes

<Menu> <F7 {setup}> <F6 {general}>

➔ Displays the General Configuration dialogue box*866*, giving access to all input options.



<↓> <Enter>

➔ Activate the audio input by checking the box.

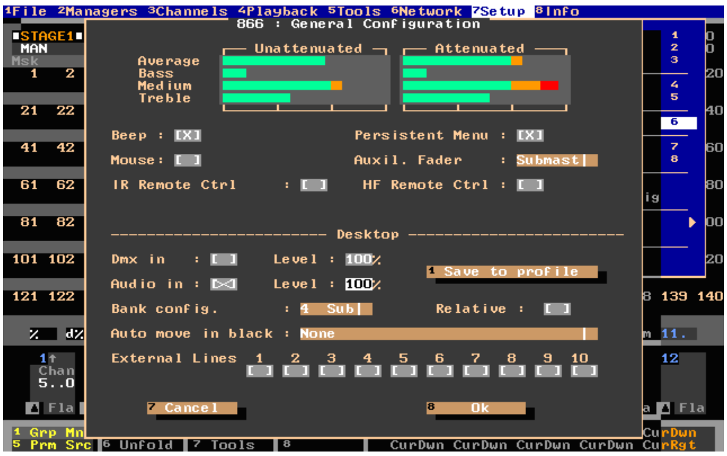
<↓> wheel

➔ Moves the cursor to the audio input level. The level can be set between 0% and 100%. The wheel can be used to set the input level, or it may be entered directly from the keypad.

➔ The audio input and the attenuated level is visualised on-screen via bargraphs when an audio signal is present. The optimum level allows the signal to peak occasionally, but not persistently.

<F8 {ok}>

➔ Confirms the operation and closes the dialogue box.



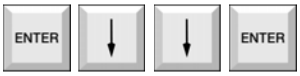
General Configuration dialogue box showing audio controls (Dialogue Box866)

11.6.9 To configure a submaster for audio

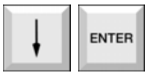
Individual or groups of submasters can be configured for Audio mode; the options chosen will be made to all selected submasters.

examples of keystrokes

<CONFIG>
➔ Displays the submaster configuration dialogue box.



<Enter> <↓> <↓> <Enter>
➔ Selects Audio mode for the selected submasters, if necessary.



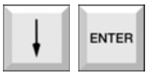
<↓> <Enter>
➔ Drops down the audio input options.

Average
Responds to the average level of the audio signal, across all frequencies.

Treble
Responds to the treble of the audio signal (high frequencies, approx 4kHz)

Medium
Responds to mid-range of the audio signal (approx 2kHz)

Bass
Responds to the bass of the audio signal (low frequencies, approx 200Hz)

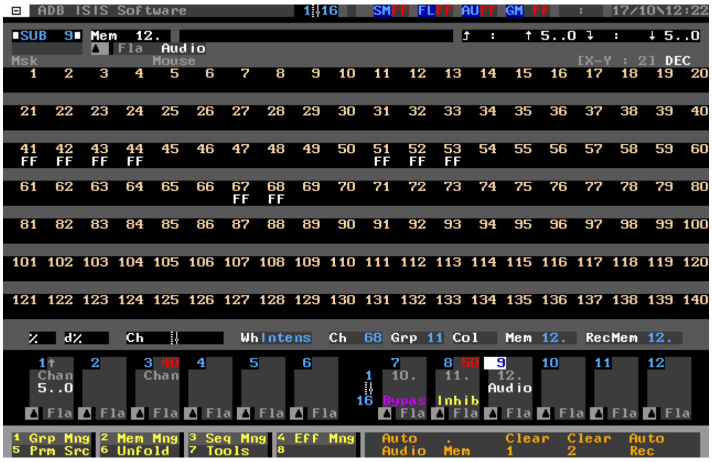


<↓> <Enter>
➔ Makes the required selection.

<F8 {ok}>
➔ Confirms the operation and exits the dialogue box.

Whenever a submaster in Audio mode is raised, and there is an audio input, the contents of that submaster are modulated in time to the music. This is the simplest way of using audio. It can also be used to much greater effect when used in conjunction with chasers and special effects. Please refer to the chapter 15 *Chasers & Effects* for full details.

Note: When a submaster is in Audio mode, the associated information box shows the contents of the submaster - channels, memory, chaser or effect - its fader level, and its mode: the word “Audio” in **white**.



A submaster info box showing submaster 9 in audio mode, with the contents of memory 12.

11.6.10 Submaster modes in banks

When a bank is recorded, the submaster mode of each individual submaster is stored within the bank.

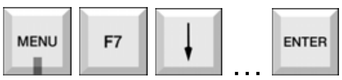
When the bank is re-loaded, the different modes are automatically selected. In this way, very complex bank sequences can be used without danger of the operator forgetting or miss-setting the modes for all the different submasters. For more details please refer to the chapter 12 *Banks*.

11.7 Default submaster configuration

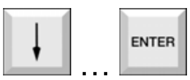
It is possible to specify the default submaster configuration options, which are implemented each time a submaster is cleared using the <ERASE> function. This allows the operator to define the settings, and have these implemented automatically, rather than having to change the submaster configuration manually each time a submaster is erased.

Submaster configuration options are defined in the setup menu.

example of keystrokes



<MENU> <F7 {Setup}> <Default sbm config>
➔ Displays the Submaster Configuration dialogue box*818*.



<↓> ... <Enter>
➔ Use the cursor keys and <enter> to make the required submaster mode selection.

<F8 {ok}>
➔ Confirms the selections, and exits the Submaster Configuration dialogue box.

When submasters are erased, these settings will be automatically applied.

11.8 Submaster priority

It is important to understand the way that the submasters interact with each other, and the other working fields. This output philosophy is different for generic lighting (spotlights with only an intensity attribute) and for motion control instruments (those with more than one adjustable parameter).

11.8.1 Priority of generic lighting: HTP

In this context, “generic” means non-moving lights, or only intensity parameters: a normal spotlight; the lamp of a luminaire fitted with a colour scroller; or the dimmer channel of a multi-parameter moving light.

When more than one submaster is in use at once, the output of the various submasters is mixed together at the Output, along with any Playback and Live contents.

Any generic channels that are in more than one working field will be sent to the Output on a highest-takes-precedence basis (HTP): the working field contributing the highest intensity value for a given channel will be the one sent to the desk Output.

Normal submasters and playback fields merge generic channels on an HTP basis. They have equal status and are lowest in the chain of output.

There are several other functions that override this output:

Submasters in Inhibit mode
An Inhibit submaster modifies the Output, thus overriding the other submasters and playbacks.

When an inhibited submaster is faded down from the 50% setting, its contents are subtracted proportionally from the current lighting state. When it faded up above 50%, the contents are proportionally increased at the Output if they are present from another working field.

If an inhibit submaster is set at 0%, the only way to control the inhibited channels is in the Live working field, or in a Bypassed submaster.

Live
Any channel, group, or memory manipulations can be made in the Live working field, but once channels are set an intensity in the Live field, they become “captured” and cannot be manipulated at the Output from any submaster or the playbacks.

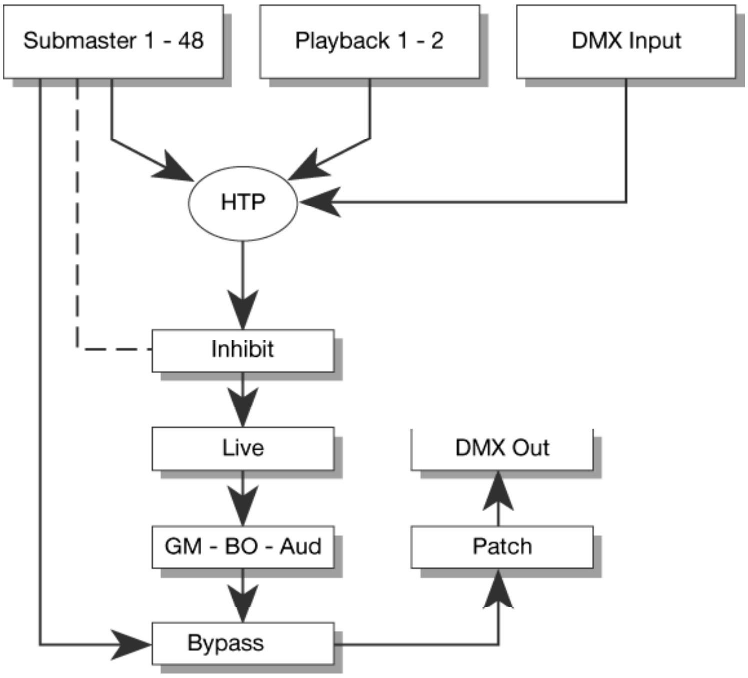
Note: captured channels in Live do follow the Grand Master and Blackout functions, and are also recorded when the Sum function is used. In The new software,this function can only be accessed by pressing SHIFT + LIVE.

Submasters in Bypass mode

A submaster in Bypass mode is the most powerful place of all - the highest part of the priority chain.

When a submaster is set to Bypass, the channels within it cannot be modified at the Output by any other area of the desk.

Note: Bypass content is sent directly to the system Output and even bypasses the Grand Master, Blackout, and Sum functions.



11.8.2 Priority of colour changer and moving light parameters

Whereas a generic channel has only an intensity attribute, a motion control instrument (such as a moving light or colour scroller) has many more parameters that can be adjusted from the control desk: this may be on an HTP basis, a first-takes-precedence (FTP) or latest-takes-precedence (LTP) principle.

Each motion control instrument can be set to respond in any of these three modes, selected by the operator. In addition, *each individual parameter* of an instrument may be set in an independent mode.

Note: The intensity parameter of any instrument is always configured to work on an HTP basis by default.

In any of these modes, the same rules for the Live field and submasters in Bypass mode apply when dealing with parameters as they do for intensities.

To learn more about priority, please refer to the chapter 29 *HTP FTP LTP Modes*.

11.9 Flashkeys

Flashkeys, also known as "bump buttons", are primarily used for momentarily flashing the contents of a submaster to full. However, flashkeys within *ISIS*® can also be used for starting and stopping chasers and special effects.

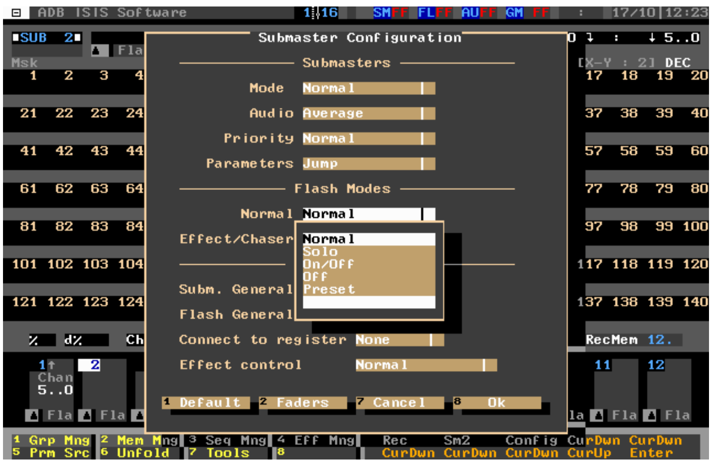
All flashkeys can be individually configured within *ISIS*® to give different characteristics. The mode of each flashkey is indicated by an abbreviation displayed on-screen for each submaster.

Type	Abbreviation	Description
Normal	Fla	Flashes the submaster contents to full, subject to the Flash Master level
Solo	Sol	Operates the same as in Normal mode, but kills all other channels
On / Off	O/F	The Flashkey becomes a toggle switch
Off	Off	Disables the flashkey
Preset	Pre	The output level of the submaster depends upon the physical value of the fader when the flashkey is pressed.

11.9.1 Configuring the flashkeys

Each submaster flashkey can be configured individually, or a list of submasters can be selected and the same flashkey mode given to all the selected submasters. They can also be individually configured to follow the level of the Flash Master level, which is a virtual fader within the software.

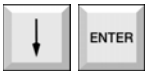
The flashkey modes can be selected from the submaster configuration dialogue box. The same dialogue box is also used to configure other submaster characteristics such as the priority and audio response.



Flashkey Settings in the Submaster Configuration Dialogue Box

examples of keystrokes

<Config>
➔ Displays the submaster configuration dialogue box for the selected submasters(s).
➔ Options will be applied to all the selected submasters.



<↓> <Enter>
➔ Use the cursor keys and <ENTER> to make the required flashkey mode selection.

<F8 {ok}>
➔ Confirms the selections, and exits the configuration dialogue box.

11.9.2 Setting the flashkey to respond to the Flash Master level

By default, the submaster flashkey is subject to the Flash Master level. This is a virtual fader within the software, the level of which controls the proportional output of the flashkey function.

The Flash Master level is normally set to full, meaning that channels will be flashed at the levels set in the submaster. If the flash master is set to 50%, the channels within the submaster will be flashed to half their values within the submaster.

It is possible to configure each submaster flashkey to ignore the Flash Master level and always flash to full (100%).

examples of keystrokes

<config>
➔ Displays the submaster configuration dialogue box. The submaster flashkey will be subject to the Flash General level when there is a cross in the associated box.

Flash General fader options		
	[X]	Flashkey is proportional to the General fader level
	[ ]	Flashkey ignores the General fader level

11.9.3 Setting the Flash Master virtual fader level

The Flash Master can be temporarily assigned to the wheel on all systems, to enable adjustments.

examples of keystrokes

<F7 {Tools}> <F6 {wheel}> <F3 {flash}> wheel
➔ Assigns the Flash Master virtual fader to the wheel.

<F7 {Tools}> <F6 {wheel}> <F1 {intens}>
➔ Re-assigns the wheel (or belt) back to intensity control.

It is also possible to control the Flash Master level via the alphanumeric keyboard, or it can be allocated to the Auxiliary fader (fitted on certain systems). Alternatively, one of the submaster faders can be configured in a special mode to control the virtual fader levels: please see the section *Menu / F7(setup) / F2 (Manual Table)* for further details.

11.9.4 Normal

Normal is the default flashkey mode. When a flashkey is momentarily pressed, the contents of the submaster flash to 100% of their intensities within the submaster and proportionally to the level of the Flash Master level, if configured. If the flashkey is manually held down, the flash will remain on until the flashkey is released.

Note: If more than one flashkey is operated at a time, any shared contents will be seen on a highest takes precedence basis.

11.9.5 Solo

In Solo mode, the submaster content is flashed in the same way as normal mode but all other channels at the Output are simultaneously flashed to zero. When the flashkey is released, the previous output is restored.

Note: This excludes channels captured in the Live field, or in any submasters in Bypass mode, but does include all other submasters.

11.9.6 On / off

In this mode, the flashkey becomes a toggle switch, turning the submaster's contents on and off. A red colour will indicate the flash position in the submaster information box on-screen: it will be red when the flash function is on.

Note: The "ON" level is proportional to the level of the Flash Master fader.

11.9.7 Off

Off disables the flashkey so that it is safe from accidental presses.

11.9.8 Preset

When a flashkey is momentarily pressed, the contents are sent to the Output at levels proportional to the submaster's fader value, and proportional to the level of the Flash Master virtual fader, if configured.

This mode is more usually used for moving lights: please see the chapter 19 *Motion Control Setup* for further details.

11.9.9 Flash modes in banks

When a bank is recorded, the flashkey mode of each individual submaster is stored in the bank.
If memories were loaded that needed to be solo flashed, for example, the solo flash mode is recorded and re-loaded with the bank.

Full details of using and configuring banks are given in the chapter 12 *Banks*.

12 BANKS

12.1 Introduction

A “bank” is a snapshot of the contents and all settings of a group of submasters. Submasters that have been recorded into a bank can be easily re-loaded in a single quick operation. All submaster contents - channels, memories, chasers or effects – and the submaster & flashkey modes are saved in a bank. *ISIS*® offers up to 99 Banks.

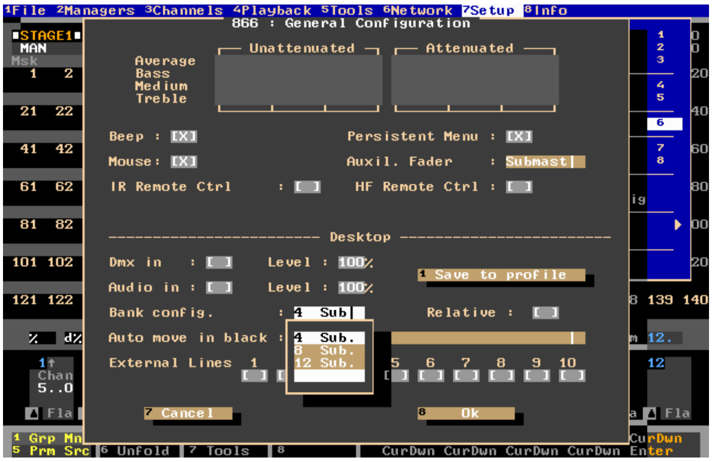
A bank always consists of 12 cells, for recording up to 12 submasters, but the bank length configuration determines which cells are included when the bank is recorded or loaded.

Twelve-cell banks can be used on any desk, and are a neat way of using up all the submasters in a row. Users of the Phoenix 2 platform may prefer to use 8-cell rather than 12-cell banks, as that hardware platform has two rows of eight submaster faders. However, 8-cell banks can also be useful on other desks to allow the last four submasters of a 12 cell selection not to be used when recording and loading banks.

If a 12-cell bank is loaded when the bank length is set to 8 cells, the first 8 cells are loaded and the last 4 ignored. The same theory also applies to bank lengths of 4-cells, unless “Relative” mode is selected in the General Configuration. In this case, the part of the bank to be loaded depends upon which submasters are selected for loading. Four-cell banks used in this way offer great flexibility, giving the operator freedom of choice over which cells of banks are used at what times.

12.1.1 Configuring the bank length

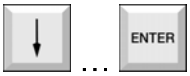
The number of submasters involved in any bank recording or loading is 4, 8, or 12; this is selected by the operator in the General Configuration dialogue box*866*. It is possible to change the bank length between recording and loading operations, but parts of the bank may be ignored in these circumstances.



Setting the Bank length from the General Configuration dialogue box (Dialogue box 866)

examples of keystrokes

<MENU> <F7 {SETUP}> <F6 {GENERAL}>
➔ Displays the General Configuration dialogue box*866*.



<↓> ... <ENTER>
➔ Use the down arrow to navigate to the “Bank Config” option.
➔ Select the required bank length from the available options.

<F8 {OK}>
➔ To confirm the changes and exit the dialogue box.

12.2 Recording banks

To record a bank, only one submaster within the logical group needs to be selected. The other submasters to be included in the bank are automatically selected by the software at the time of recording.

Although banks can include channels, memories, chasers and effects, for the sake of clarity the following examples only use memories 1 to 12, loaded into submasters 1 to 12 respectively.

12.2.1 Recording a twelve-cell bank

With the bank length is configured to 12-cells, the contents of all twelve cells of the bank are recorded.
Permissible logical groups of submasters for 12 cell banks are as indicated below.

1	Thru	12		49	Thru	60
13	Thru	24		61	Thru	72
25	Thru	36		73	Thru	84
37	Thru	48		85	Thru	96

examples of keystrokes

Load Mem 1-12 to Submaster 1-12

<SUB1> <BANK> <9> <REC>

➔ Records bank 9 as a 12-cell bank consisting (in this example) of memories 1 to 12. This bank can be re-loaded into any logical group of 12 submasters as described above.

12.2.2 Recording an eight-cell bank

When the bank length is configured to 8-cells, the contents of only eight cells of the bank are recorded, the others are recorded as empty. These are always eight consecutive submasters, and each “logical group” of eight submasters is separate from, and cannot overlap any other logical group

Permissible logical groups of submasters for 8-cell banks are as indicated below.

1	Thru	8		33	Thru	40		65	Thru	72
9	Thru	16		41	Thru	48		73	Thru	80
17	Thru	24		49	Thru	56		81	Thru	88
25	Thru	32		57	Thru	64		89	Thru	96

examples of keystrokes

<SUB1> <BANK> <7> <REC>

➔ Records bank 7 as an 8-cell bank consisting of memories 1 to 8. This bank can be re-loaded into any of the logical 8 submaster groups as described above.

Eight cell banks are of particular use to Phoenix 2 users, but can be flexible on the larger desks by allowing the contents of the first eight cells of each bank of twelve submasters to be changed during the show, while the last four cells of each bank of 12 remain constantly loaded.

12.2.3 Recording a four-cell bank

With the bank length configured to 4-cells non-relative, the contents of only four cells of the bank are recorded, the others are recorded as empty. These cells are always four consecutive submasters, and each logical group of four submasters is separate from, and cannot overlap any other logical group.

Permissible logical groups of submasters for 4 cell banks are as indicated below.

1	Thru	4		33	Thru	36		65	Thru	68
5	Thru	8		37	Thru	40		69	Thru	72
9	Thru	12		41	Thru	44		73	Thru	76
13	Thru	16		45	Thru	48		77	Thru	80
17	Thru	20		49	Thru	52		81	Thru	84
21	Thru	24		53	Thru	56		85	Thru	88
25	Thru	28		57	Thru	60		89	Thru	92
29	Thru	32		61	Thru	64		93	Thru	96

examples of keystrokes

<SUB1> <BANK> <1> <REC>

➔ Records bank 1 as a 4-cell bank consisting of submasters 1 to 4. This bank can be re-loaded into any of the logical 4 submaster groups, as described above.

12.2.4 Recording a four-cell relative bank

In a non-relative bank, it is just the contents of the logical group of cells that is recorded. In a relative bank, the position of the cells is recorded as well as their contents. This position is not submaster number specific, but bank position specific. If a relative bank is recorded in the 2nd logical group position, it can only be loaded into a 2nd logical group position of any list of 12 submasters.

examples of keystrokes

<SUB1> <BANK> <1> <REC>

➔ Records bank 1 as a 4-cell bank consisting of memories 1 to 4. This bank can only be re-loaded into any position 1 logical group, as described below.

Permissible logical groups of submasters for 4 cell relative banks are as indicated below:

Relative Position 1				**Relative Position 2**				**Relative Position 3**		
1	Thru	4		5	Thru	8		9	Thru	12
13	Thru	16		17	Thru	20		21	Thru	24
25	Thru	28		29	Thru	32		33	Thru	36
37	Thru	40		41	Thru	44		45	Thru	48
49	Thru	52		53	Thru	56		57	Thru	60
61	Thru	64		65	Thru	68		69	Thru	72
73	Thru	76		77	Thru	80		81	Thru	84
85	Thru	88		89	Thru	92		93	Thru	96

12.3 Loading banks

How banks are loaded depends upon which submaster is selected before the load, and the bank length in the General Configuration.

If the bank length is set to 12-cells, all cells of a bank will be loaded, but if the bank was recorded as 4- or 8-cells, the submaster contents of the last cells in the logical group of twelve will not be changed.
If the bank length is set to 4- or 8-cells, and a 12-cell bank is loaded, the final 8- or 4-cells of the bank will be ignored.
If a cell of a recorded bank is empty, the corresponding submaster's contents will remain unchanged when the bank is loaded.

The content of all other submasters will be replaced by the bank contents when it is loaded. However, if the submaster fader(s) are not at zero, the bank contents wait in a "preset" mode until the fader(s) are moved to zero.

This means that a bank can be loaded at any time, but the current submaster contents are safe until the bank content is "collected" by moving the submaster's fader to zero. This avoids "live" submasters from suddenly changing their contribution to the desk output.

When a bank, or part of a bank, is in preset mode, the bank number is displayed on-screen in green flashing text ‹B(ank)+No.› by the side of the associated submaster information box.

12.3.1 Loading a twelve-cell bank

If the bank length is configured as 12, all 12-cells are loaded. If the bank length is set to 8- or 4-cells, only the first 8- or 4-cells of a twelve-cell bank are loaded.

examples of keystrokes

<SUB1> <BANK> <9> <LOAD>

➔ Loads bank 9 into submasters 1 to 12.

➔ Any of the first 12 submasters could be selected before loading the bank.

12.3.2 Loading an eight-cell bank

When the bank length is configured to 8-cells, an eight-cell bank will be fully loaded. A 4-cell bank will be fully loaded and the remaining 4 submasters will remain unchanged, and the first eight cells of a 12-cell bank will be loaded, the last four cells being ignored. If the bank length is configured to 4 cells, only the first four cells of an eight-cell bank are loaded.

examples of keystrokes

<SUB10> <BANK> <7> <LOAD>

➔ Loads bank 7 into submasters 9 to 16.

12.3.3 Loading a four-cell bank

When the bank length is configured to 4-cells, a four-cell bank will be fully loaded and the remaining submasters left unchanged. If an 8- or 12-cell bank is loaded, the first four cells are loaded and the remaining cells ignored.

examples of keystrokes

<SUB1> <BANK> <1> <LOAD>

➔ Loads bank 1 into submasters 1 to 4.

➔ Any of the first four submasters could be selected before loading the bank.

12.3.4 Loading a four-cell relative bank

When relative mode is selected, the submaster cells are loaded relative to their original positions when recording. The bank cannot be loaded into a different relative group of submasters.

examples of keystrokes

In this simple example, bank 4 was recorded in one of the first relative positions.

<SUB1> <BANK> <4> <LOAD>
➔ Loads bank 4 into submasters 1 to 4: the cells' relative positions.
➔ Any of the submasters 1 to 4 could be selected before loading the bank.

<SUB5> <BANK> <4> <LOAD>
➔ ***No loading takes place because bank 4 was recorded in relative position 1 (cells 1 to 4).***

12.3.5 Notes on loading banks

When a bank is loaded, each submaster fader may need to be manually moved to "collect" the new contents of the submaster, depending on the status of its previous contents.

If a submaster is empty, and its fader is at zero when the bank is loaded the bank is loaded immediately.

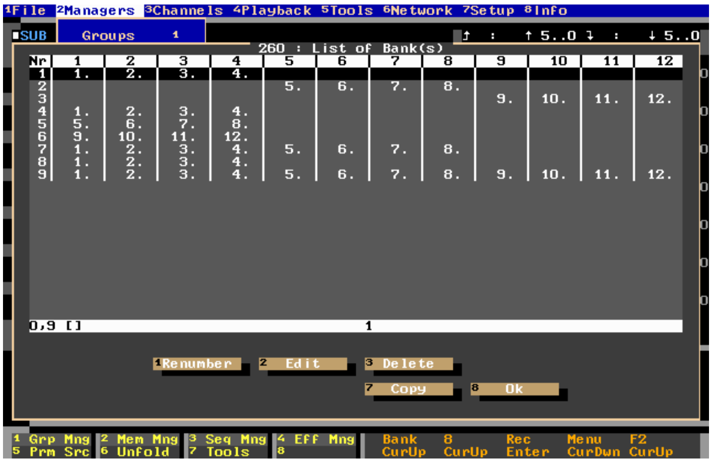
If a submaster already has contents but the fader is at zero, the new content from the bank is immediately loaded.

If a submaster fader is not at zero, the new content from the bank is loaded in a "preset" mode.
In this case, the old contents remain unchanged but the submaster information box shows the new bank number flashing in green, indicating that new content is waiting to be "collected".

The fader must be moved up to match the level of the submaster virtual fader, and then moved back down to zero. When the physical fader reaches zero, the new content from the bank is loaded into the submaster from its "preset" mode.

12.4 Bank Manager

The Bank Manager, similar in function to the group and memory managers, is a place for manipulating banks. Here they can be copied, deleted, re-numbered and named in one convenient location.



Banks Manager Dialogue Box (Dialogue box 260)

12.4.1 Naming a bank in the Bank Manager

It can be helpful to name banks for ease of identification in the banks manager and banks lists.

examples of keystrokes

<MENU> <F2 {MANAGER}> <F6 {BANKS}>

➔ Enters the Bank Manager.

 OR 

WHEEL OR <↓>

➔ Highlight the required group.

<F2 {EDIT}>

➔ Selects the edit facility; the title can be added using the alphanumeric keyboard.

<F8 {OK}>

➔ Confirms the bank naming and exits the edit facility.

<F8 {OK}>

➔ Exits the Bank Manager (do not exit if more work needs to be done in the manager).

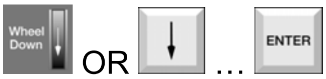
12.4.2 Deleting a bank from the bank manager

Any unused or unwanted banks can be deleted from the bank manager to make space for new ones.

examples of keystrokes

<MENU> <F2 {MANAGER}> <F6 {BANKS}>

➔ Enters the Bank Manager.



WHEEL OR <↓> ... <ENTER>

➔ Use <ENTER> to create a list of highlighted groups that are to be deleted.

<F3 {DELETE}>

➔ Selects deletion.

A WARNING IS ISSUED

➔ A warning is given:Delete element(s) - Are you sure?

<F8 {YES}> <F8 {OK}>

➔ Confirms the deletion and exits the Bank Manager, if required.

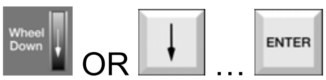
12.4.3 Re-numbering banks

If banks have been deleted, or recorded using non-consecutive numbers, it may be useful to re-number the remaining banks when all changes are complete.

examples of keystrokes

<MENU> <F2 {MANAGER}> <F6 {BANKS}>

➔ Enters the Bank Manager.



WHEEL OR <↓> ... <ENTER>

➔ Use <ENTER> to create a list of highlighted groups that are to be renumbered.

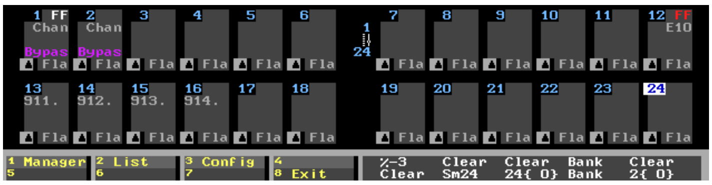
<F1 {RENUMBER}>
➔ Displays the re-number dialogue box.

TARGET
➔ Enter the new bank number, or the first number if a list of banks is to be renumbered.

DELTA
➔ Enter a delta offset value, if required. The default delta offset is one.

<F8 {OK}>
➔ Confirms the bank re-numbering and exits the dialogue box.
➔ If the new numbers allocated are the same as any existing banks, a warning is given and the operation cancelled.

Notes: similar functions can be accessed by pressing the key BANK, on the foot of the monitor 1. F1 for Bank Manager ; F2 for Bank List; F3 for General Configuration dialogue box *866* and F8 for exit.



13 RECORDING AND LOADING MEMORIES

13.1 Introduction

A memory (or cue) is a lighting state that is permanently recorded into the system memory, and it can be replayed whenever required. It may be a blackout, a state with channel intensities only, or it may include colour changers and moving lights. *ISIS®* allows up to 9999 available memories.

Memories can be recorded and loaded in any working field.
For example: If submaster 1 is selected, the memories will be created in submaster 1. If Stage 1 is selected, the memories will be created there – and so on.

There are two basic methods for recording memories: the first, using the <REC> command, records the contents of the selected working field – regardless of the position of its fader, the Grand Master fader, the Blackout function or the contents of the Live field. The second method, using the <SUM> command, records the intensities and parameters at the desk Output – excluding the contribution made by any submasters in Bypass mode.

- ➔ To record a memory as it appears “live” at the Output of the desk, the <SUM> command must be used.
- ➔ To record a memory “blind”, it must be created in a submaster with the fader at zero, the Preset side of a playback, the Stage side of a playback with its fader at zero, or in the Edit Memory working field, using the <REC> function.

Note: Some systems have a single keypad, operating on both channels and memories. In this case, memory numbers must be preceded with the <MEM> key.

13.2 Memory protection

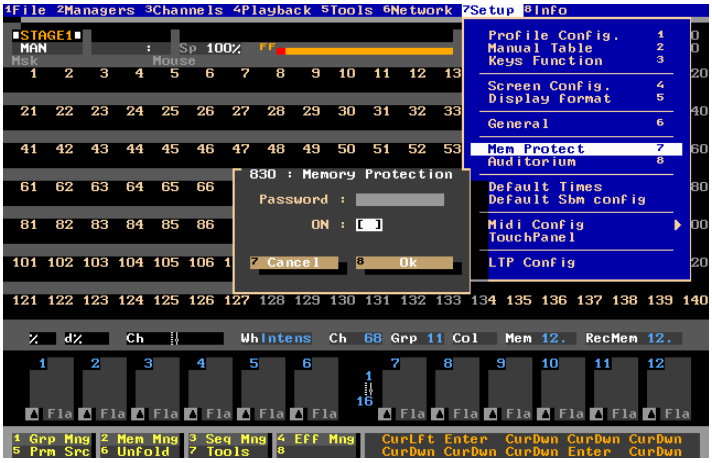
The memory protect function is used to prevent unauthorised modifications to the current show. The function prevents memories from being recorded or changed, but also protects the current show as a whole: disk operations are prevented, it is not possible to delete any recorded entity and chang the desk configuration.

By default, the memory protection is off, allowing memories to be created.

Note: If memory protection is enabled, a red flashing key symbol is displayed on monitor 1.

examples of keystrokes

<MENU> <F7 {SETUP}> <F7 {MEM PROTECT}>
➔ Displays the memory protection dialogue box*830*.



*Memory Protection (Dialogue box *830*)*

Enabling memory protection, by checking the 'ON' option, means that no memories can be recorded.

The password is optional. If no password is entered, the memory protection is enabled and disabled simply by selecting or deselecting the option in the dialogue box *830*. If a password is required it can be any combination of letters and numbers, up to 10 characters.

Note that the password is CASE SENSITIVE. If the memory is protected with a word in capital letters, it cannot be un-protected by the same word typed in lowercase letters.

To set a password, enter the word before turning the memory protection status on. The password must be re-entered each time the protection status is changed.

Note: If a password is active and, for any reason, must be disabled, the word «ADBADB» (in capital letters and without spaces) can be used as a universal key.

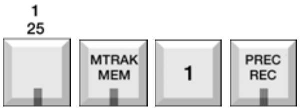
13.3 Recording memories

The method for most memory recording is to use the <REC> function: this records the contents of the selected working field, regardless of the position of its fader, the Grand Master, or the Blackout function. If only one working field is being used, and it is in an "active" condition - its fader raised to full - then the contents of the working field and the desk Output will be the same. In that case, either of the record functions <REC> or <SUM> can be used; but it is a good idea to get into the habit of using the two functions separately so that the correct one is used when necessary.
Any memory number between 0.1 and 999.9 can be used, but the total number of memories within the memory list cannot exceed a total of 1000 at any time.

13.3.1 Recording the contents of a single working field: «REC»

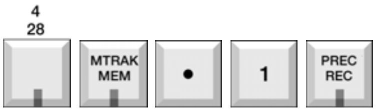
For most situations, the lighting state to be recorded as a memory will be the contents of a single working field; in this example, use <REC> function to record the contents from a single submaster.

examples of keystrokes



<SUB1> <MEM> <1> <REC>

➔ Records the contents of submaster 1 as memory 1.



<SUB4> <MEM> <.><1> <REC>

➔ Records the contents of submaster 4 as memory 0.1.

<SUB5> <MEM> <9><9><9><.><9> <REC>

➔ Records the contents of submaster 5 as memory 999.9

13.3.2 Recording the total output of the desk: «SUM»

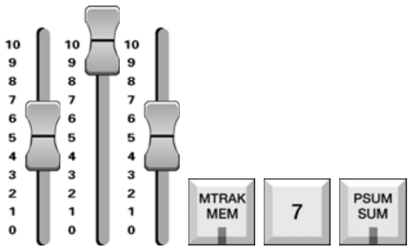
The <SUM> function records the current Output of the desk, except for the contents of any submaster in Bypass mode (see the chapter 11 *Submasters* for further information on submaster modes.) This is an easy way of recording a snapshot of the desk in a “What You See Is What You Get” fashion. It is used when the required memory is the combined output of several working fields.

Note: When a memory has been recorded in this way, it is stored in the memory list, but has not been loaded into any field yet.

examples of keystrokes

<MEM> <6> <SUM>

➔ Records the current Output of the desk as memory 6, except for the content of any submasters in bypass mode. Memory 6 is now in the memory list, but will not be seen in any working fields until it has been loaded (please see the section on loading memories, below.)



<SUB1 fader 70%> <SUB2 fader 80%> <SUB3 fader 35%> <MEM> <7> <SUM>

➔ Assuming no other working fields are in use, records the proportional output of submasters 1 to 3 as memory 7. Memory 7 is now in the memory list, but will not be seen in any of the working fields until it has been loaded.

13.4 Recording the DMX Input as a memory

Another DMX lighting desk can be connected to the DMX Input of any *ISIS*® system. The output of this desk is fed into the system via the DMX Input patch, and then sent to the Output. Any lighting states created on the external desk can be recorded as memories in *ISIS*®, or combined with lighting states in the submasters, playbacks, or Live fields.

This method provides a way of moving a show from the external desk to an *ISIS*® system if the information is not stored in an ASCII compatible format.

Another example is capturing the output from a sophisticated moving light desk. As the DMX Input patch of *ISIS*® allows moving lights to be patched, further modification of memories created in this way can be made by using the motion control functions - instead of each parameter taking up a separate control channel.

13.4.1 Recording the DMX Input blind

The Blind DMX Input is the DMX information coming into the *ISIS*® system, before the DMX Input virtual fader. The level of this fader is therefore not taken into consideration when recording. If it is set at zero, the incoming DMX values are still recorded in blind mode.

examples of keystrokes

<MENU> <F5 {TOOLS}> <F3 {RECORD DMXIN}>

➔ Selects the Record DMX input menu.

<F1 {BLIND}>

➔ Selects blind mode (values before the DMX Input virtual fader).

➔ A snapshot of the incoming DMX values is automatically loaded into the selected working field.

<MEM> <2><8> <REC>
➔ In the selected working field, records the new contents as memory 28.

Note: This example is shown under the condition that the “Persistent Menu” option is disabled in the General Configuration dialogue box. If this option is enabled, the Menu must be exited before a memory is selected for recording.

13.4.2 Recording the DMX Input live

The Live DMX input is the DMX information coming into the *ISIS®* system, but after the DMX Input virtual fader. The fader is therefore taken into consideration when recording: if it is set at 50%, the incoming DMX values are recorded at 50% of their values at the output of the source device.

examples of keystrokes

<MENU> <F5 {TOOLS}> <F3 {RECORD DMXIN}>
➔ Selects the Record DMX input menu.

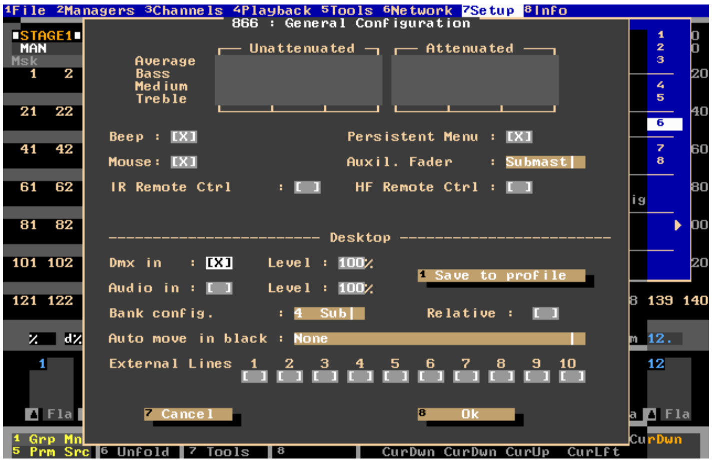
<F2 {LIVE}>
➔ Selects live mode (values after the DMX Input virtual fader).
➔ A snapshot of the incoming DMX values, subject to the value of the DMX Input fader, is automatically loaded into the selected working field.

<MEM> <2><9> <REC>
➔ In the selected working field, records the new contents as memory 29.

If there are no DMX Input values being shown, the DMX Input level may need to be set and enabled in the General Configuration dialogue box *866*.

examples of keystrokes

<MENU> <F7 {SETUP}> <F5 {GENERAL}>
➔ Displays the General Configuration dialogue box, giving access to all input options.



General Configuration dialogue box (Dialogue box *866*)

 … 

<↓> ... <ENTER>

➔ Navigate to the DMX Input option and use <ENTER> to enable or disable the function.

<↓> wheel

➔ Move the cursor to the DMX Input level box and use the fader wheel to set the proportional DMX Input level. The level can also be entered directly from the alphanumeric keyboard.

<F8 {ok}>

➔ Confirms the operation and closes the dialogue box.

13.4.3 Recording the DMX Input live without using a working field

Whenever there is a DMX Input, the values are sent directly to the Output and appear on the Output screen and the DMX Output screen. Because these values are present, it is possible to record them as a memory without using a submaster or playback field, simply by using the <SUM> function. However, as <SUM> records the entire desk Output, these DMX input values will be merged with channel levels from any other working fields currently contributing to the Output. If no other working fields are in use, this method is a true recording of the DMX input.

examples of keystrokes

<enable DMX input>

➔ DMX Input values are shown on the Output screen, labelled with the word “IN” in black.

<MEM> <8><7> <SUM>
➔ Records the current desk Output as memory 87 which, if no working fields are in use, is the DMX Input after the DMX Input virtual fader.

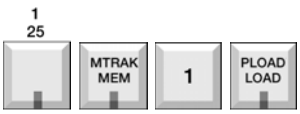
13.5 Loading memories

When a memory has been created by using <REC>, it remains in the working field where it was created , until that field is erased. When the field has been erased, the memory still exists in the memory list, along with the other memories that were created by using <SUM>, and can therefore be loaded into any working field at any time.
In submasters, the memory can be replayed manually or automatically, and when loaded into a playback, it can become part of a sequential memory list.

13.5.1 Loading a memory into one working field

Any memory can be loaded into any working field for playback purposes. Whether the loaded memory can be seen or not from the desk Output will depend on the chosen field, its mode, and the position of its fader.

examples of keystrokes



<SUB1> <MEM> <1> <LOAD>
➔ Loads memory 1 (which must have been previously recorded) into submaster 1. To see the memory on stage, the fader must be raised.

<P1> <MEM>< 3> <LOAD>
➔ Loads memory 3 (which must have been previously recorded) into the Preset side of Playback 1. To see the memory on stage, either move the faders manually, or press the <GO> key. A full description of the playback functions is given in the chapter 17*Playbacks & Playback Configuration*.

<SHIFT> <LIVE> <MEM> <4> <LOAD>
➔ Loads memory 4 (which must have been previously recorded) into the Live field, and captures all channels that the memory contains.

WARNING! This operation could result in a large number of circuits becoming live simultaneously!

Full details on the Live field and capturing and releasing channels are given in the chapter 18 *Live*.

13.5.2 Loading a memory into several working fields

If several fields are selected simultaneously, they will all be loaded in the same contents. Note that only one playback field can be selected at a time.

examples of keystrokes

<SUB1> <THRU> <SUB8> <MEM> <1><0> <LOAD>

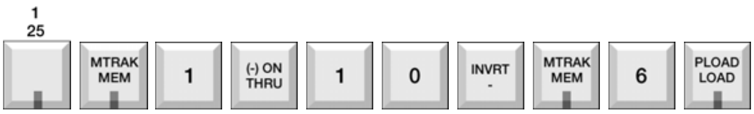
➔ Loads memory 10 (which must have been previously recorded) into submasters 1 to 8. All 8 submasters will have the same contents.

13.5.3 Loading several memories into one working field

Memory numbers can be combined on the keypad by using the <+>, <->, and <THRU> keys to form a list of memories. Once the list has been made, it can be loaded into an individual field or a list of submasters. It is not possible to select playback fields and submasters simultaneously. Live is also an exclusive field.

When several memories are loaded simultaneously, any channels that are used in more than one memory will be loaded with their highest used values. Times and parameters are loaded from the first memory in the list and no memory title is loaded.

examples of keystrokes



<SUB1> <MEM> <1> <THRU> <1><0> <-> <MEM> <6> <LOAD>

➔ Loads memories 1 to 10 (which must have been previously recorded), except memory 6 into submaster 1.

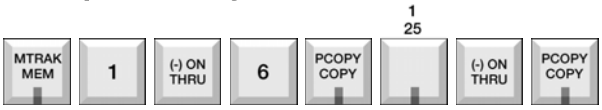
➔ The content of the memories is merged together on a highest takes precedence basis: any channel that is used in more than one memory will be loaded at it's highest recorded level in the selected memory range.

13.5.4 Loading a list of memories into a list of submasters

Loading lists of memories is sometimes called "gang loading". In the *ISIS®* software gang loading is performed either with the Copy function, or by loading a pre-recorded bank.

When using the Copy function, the list of memories can be loaded into all the selected submasters, or it can be used to gang-load in the true sense.

examples of keystrokes



<MEM> <1> <THRU> < 6> <COPY> <SUB1> <THRU> <COPY>

➔ Loads memories 1 to 6 (which must have been previously recorded) consecutively into submasters 1 to 6 respectively: One memory is loaded into each submaster, producing a gang load effect.

Note: Loading replaces all previous contents of a working field.

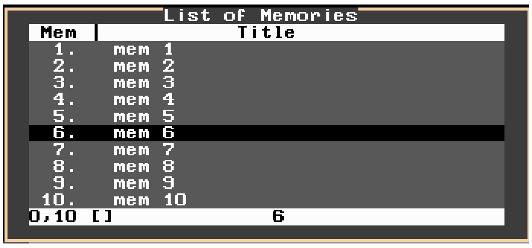
13.5.5 Direct Load of memories

It is possible to display the memories list on a monitor – but this information is not normally required all of the time: it would be far better to use the monitor for other purposes.
ISIS® offers a Direct Load function, which temporarily displays a list of existing memories and provides instant selection or intensity allocation of the highlighted memory.

examples of keystrokes

<MEM> <MEM>

➔ Displays the list of existing memories, together with their titles.

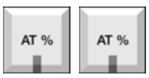


Memory Direct Load window

OR


WHEEL OR <↓>

➔ Highlight the required memory.

OR


<LOAD> OR <AT> <AT>

➔ Directly load the highlighted memory in the current working field, or assign an intensity level.

Note: As a precaution, the Direct Load function is disabled when out of context.

> Note: though P10/xt does not have the MEM key, this function still can be achieved by assigning a free key as MEM.

13.5.6 Combining a memory with other working field contents

Memories, channels, and groups can be combined together to create new lighting states. They can be entered with a definitive intensity or, in the case of memories and channel selections from memories, proportionally to their recorded levels.

examples of keystrokes

<MEM> <1> <AT> <AT>

- ➔ Adds memory 1 to the existing working field contents.
- ➔ If <LOAD> had been used instead of assigning an intensity, the existing contents of the field would have been replaced by loading the memory.

<1> <THRU> <6> <+> <MEM> <2> <AT> <5>

- ➔ Adds channels 1 to 6 at 50% and memory 2 proportionally at 50% of its recorded intensity.
- ➔ By using "+ memory" syntax, the memory is combined with the existing channel list.

<7> <THRU> <12> <+> <MEM> <3> Wheel

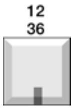
- ➔ Adds channels 7 to 12 and memory 3 at any intensity level to the existing contents.
- ➔ The proportional balance of intensities within the memory is retained.

<1> <THRU> <6> <+> <GROUP> <2> <THRU> <5> <+> <MEM> <4> WHEEL

- ➔ The selected channels, groups, and memory 4 are added at any intensity level to the existing contents of the active field.

A *selection* of channels from existing memories can also be loaded into a working field without replacing any existing contents. In this way, some channels from one memory can be added - at their recorded intensities - to the existing contents of the selected working field.

examples of keystrokes



<SUB12>
➔ Selects submaster 12, which already contains some channels with intensities.

<6><1> <THRU> <7><0>
➔ Selects channels 61 to 70.

<PLOAD>
➔ Selects the Part Load function.

<mem> <7><4><7> <PLOAD>
➔ Adds the intensities of channels 61 to 70 in memory 747 to the existing contents of submaster 12.
➔ For P10/XT, there is a dedicated PLOAD key.

13.6 Modifying memories

When a memory is loaded into a working field, it can be modified by changing the intensities, times, parameters, and so on.

A modified memory flashes its number on the monitor (and in the displays on the desk surface) to warn that changes have been made to this memory, but the changes have not yet been saved yet.
In this situation, there are several options available to the operator:
re-record it as the same memory complete with modifications;
record it as a new memory;
re-load the unmodified version of the memory.

When re-recording, the system assumes that the currently modified memory number in the selected working field is the one being worked on, unless it is told otherwise by entering a new memory number before the record function is made.
In a similar way, a memory accidentally modified can be re-loaded without having to enter its number again.

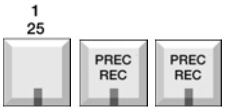
13.6.1 Re-recording an existing memory

When a memory has been modified, it can be re-recorded to update it in the memory list simply by pressing <REC> twice.

examples of keystrokes

<REC> <REC>

➔ Re-records the modified memory in the selected working field.
➔ It is not necessary to enter the memory number again before re-recording.



<SUB1> <REC> <REC>

➔ Re-selects the field containing the modified memory (in this example, submaster 1) and re-records the memory.
➔ It is not necessary to enter the memory number again before re-recording.

Note: If the memory is loaded into more than one working field, re-recording the memory in one field will cause the memory number to flash in the other fields. This is because the other working fields will still contain the unmodified memory. The flashing indicates that there is a difference between the memory loaded in the field and the current memory in the memory list.

13.6.2 Recording a modified memory as a new memory

When a memory has been modified, it can be re-recorded as a new memory. It is often easier to make new states by modifying a previous one, rather than starting each one from a blackout. In this case, when the old memory number is flashing, a new number must be entered before recording.

examples of keystrokes

<channel / time modifications> 

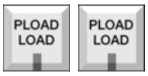
<channel / time modifications> <MEM> <8><7><3> <REC>

➔ Records the modified memory in the currently selected working field as memory 873.

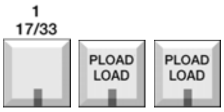
13.6.3 Re-loading a modified memory

When a memory has been modified but not erased from the working field, the original unmodified version can be re-loaded simply by pressing <LOAD> twice.

examples of keystrokes



<LOAD> <LOAD>
➔ Re-loads the modified memory number into the selected field, recovering its unmodified state.
➔ It is not necessary to enter the memory number again before re-loading.



<SUB1> <LOAD> <LOAD>
➔ Re-selects the field containing the modified memory (in this example, submaster 1) and re-loads the unmodified memory.
➔ It is not necessary to enter the memory number again before re-loading.

13.7 Memory times

Every memory can be recorded with its own set of times that are used in the playbacks in automatic mode, or in the submasters in Auto mode. If no times are entered by the operator when recording a memory, the system default times are used. Times are explained in more detail in the chapter 14 *Recording & Modifying Times*.

➔	➔ **Playback**	➔ **Auto Submaster**
➔ Up Time	➔ The rate at which the memory fades into the Stage side of the playback.	➔ The time taken for the fader to reach 100%.
➔ Down Time	➔ The rate at which the content is removed from the Stage side of the playback.	➔ The time taken for the fader to reach 00%.
➔ Wait Time	➔ Can be applied to the up or down times, putting a delay before the up or down action. Wait times do not create automatic follow-on cues. This done by a function called Autogo.	

Each of these four times are applied to the whole memory and are called “global times”. Any time between one 10th of a second and 99 minutes 59 seconds can be entered directly or by moving the wheel. The Up and Down times can be the same or can have different values.

ISIS® also allows each individual channel and every parameter to have its own times, which are different from the global times. These are called “special times” and can be used to create complex fade sequences all within one memory.

Note: See the chapter 14*Recording & Modifying Times* for further details.

13.7.1 Recording times and intensities simultaneously

Although times can be added or changed at any time, it can be useful to include the timings when the memory is first recorded. The method is to create the state with channel intensities (and parameter positions), and then assign up and down times before recording the memory.

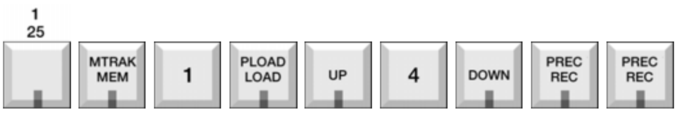
examples of keystrokes

<channel manipulations> <UP TIME> <7> <DOWN TIME> <MEM> <1> <REC>
➔ Creates a lighting state, to fade over 7 seconds, and records it as memory 1.

13.7.2 Recording times into an existing memory

If no time is allocated to a memory when it is recorded, the default times are used. If a memory is recorded without changing the default times, new fade times can be recorded later.

examples of keystrokes



<SUB1> <MEM> <1> <LOAD> <UP TIME> <4> <DOWN TIME> <REC><REC>
➔ Selects submaster 1, loads memory 1 and re-records it with times of 4 seconds.

Note: Times can also be changed in the Edit Memory field, or in the Memories Manager.

13.8 Using the Copy and Pcopy functions with memories

Memories can easily be copied, which can increase the speed of a plotting session if there are many repeated states. When a memory is copied, the channels, intensities, parameter values, times and title are usually all copied, although the Part Copy function allows intensities *or* parameters *or* a channel selection from an existing memory to be copied.

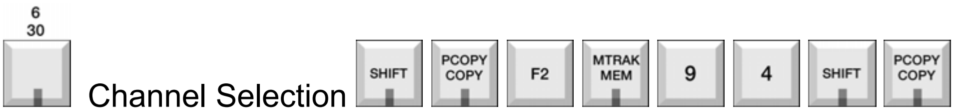
13.8.1 Creating a memory from working field contents

The contents of any working field can be recorded as a memory by using the Copy function. If a memory has been created (or re-loaded) in any working field, the Copy function can be used to create a new memory from the existing contents.

examples of keystrokes

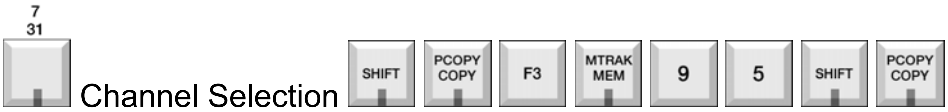
<SUB1> <COPY> <MEM> <1><6><3> <COPY>

➔ Copies the currently contents of submaster 1 to memory 163.
➔ All channels, intensities, times and title are copied.



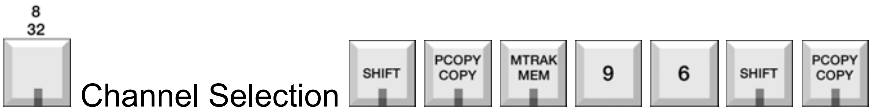
<SUB6> <Channel selection><PCOPY> <F2 {% ONLY}> <MEM> <9><4> <PCOPY>

➔ Copies the intensities - but not the parameters - of the contents of submaster 6 into memory 94.



<SUB7> <Channel selection> <PCOPY> <F3 {PARAM ONLY}> <MEM> <9><5> <PCOPY>

➔ Copies the parameters - but not the intensities - of the contents of submaster 7 into memory 95.



<SUB8> <Channel selection> <PCOPY> <MEM> <9><6> <PCOPY>

➔ Copies the intensities and parameters of the selected channels from submaster 8 to memory 96.

Note: The P10/XT has a dedicated PCOPY key.

13.8.2 Copying memories from the keypad

If lots of repeat states are required, a quick and easy way of creating the copies is to use the memories keypad. The memory list can be viewed on-screen at the same time so that copied memories are displayed instantaneously.

examples of keystrokes

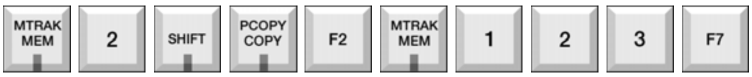
<MEM> <1> <COPY> <MEM> <1><0><1> <COPY>

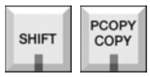
➔ Copies memory 1 to memory 101.

<MEM> <1> <THRU> <5> <COPY> <MEM> <1><0><1> <THRU> <COPY>
➔ Memories 1 to 5 are copied sequentially into memories 101 to 105 respectively.
➔ Five separate memories are created.

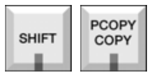
<MEM> <1> <THRU> <5> <COPY> <MEM> <1><0><1> <COPY>
➔ Copies the combined contents of memories 1 to 5 into memory 101.
➔ Any channels used in more than one memory will be copied at their highest lotted intensity.

<MEM> <1> <COPY> <MEM> <2><0><1> <+> <MEM> <3><0><1> <COPY>
➔ Copies memory 1 to memories 201 and 301.
➔ Any combinations of memory lists can be made in the same way as channel lists, using <+>, <->, <THRU>, <NEXT> and <PREV>.



or


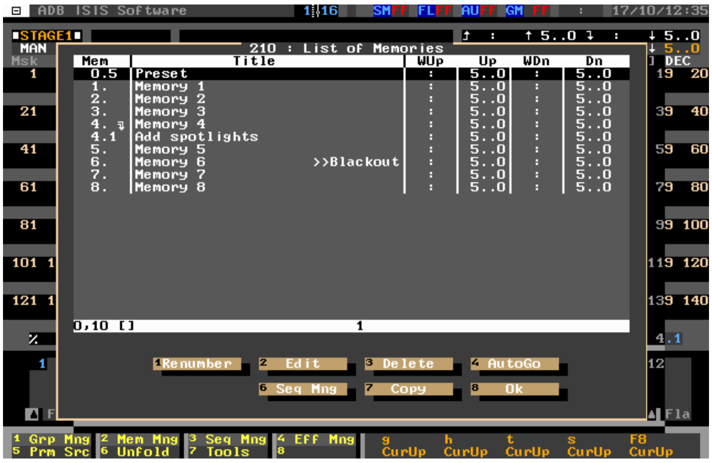
<MEM> <2> <PCOPY> <F2 {% ONLY}> <MEM> <1><2><3> <F7 {PCOPY}> or <PCOPY>
➔ Copies the intensities of all the channels in memory 2 to memory 123.

or


<MEM> <3> <PCOPY> <F3 {PARAM}> <MEM> <1><2><6> <F7 {PCOPY}> or <PCOPY>
➔ Copies the parameter values of all the channels in memory 3 to memory 126.

13.9 Memory Manager

In the Memory Manager, memories can be copied, deleted, edited, named, and re-numbered. The Memory Manager can be accessed from the Managers option of the menu, or is displayed directly using the F2 (Mem Mng)<MEM MNG> function key.



*Picture of Memories Manager screen (Dialogue box *210*)*

13.9.1 Assigning «Autogo» to a memory

The “Autogo” function creates an automatic follow-on cue between the one memory and the next memory or event. If Autogo is selected for a memory, the next memory or event in the playback sequence will automatically start when the memory with the Autogo has completed its fade time, when it is operated in auto sequence in a playback.

If the following memory has a wait time, there will be a delay before the autogo memory or event crossfade starts.

When working in the memory <F2> editing dialogue box ***Memory Header*** there is a check box for Autogo. Although the Autogo can be set in this way, there is also another, quicker way: using the Memories Manager.

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memories Manager.

OR


Wheel **or** <↓>
➔ Use the wheel or the arrow keys to highlight a memory. If this memory is assigned as an Autogo, the following memory or event will become an automatic follow-on cue.

<F4 {AUTOGO}>
➔ The select memory is assigned as an Autogo.

<F8 {OK}>
➔ Exits the memories manager.

Note: Any number of memories can be forced into Autogo mode in this way.

For example, take memories 1, 2, 2.5, and 3. Memory 2.5 has a wait time of 3 seconds and there is an autogo on memory 2. The operator presses the <GO> key to play memory one. The next time the <GO> key is pressed, memory 2 is played and three seconds after it completes, memory 2.5 is played as a follow-on cue. The <GO> key must be pressed again to play memory 3.

13.9.2 Naming a memory in the Memory Manager (Title)

It can be helpful to give memories their names, such as “Scene one: forest”, for ease of identification. The memory title is displayed within the memories manager, when a memory is loaded into a working field, and also when a playback display is selected as a monitor footer.

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memory Manager.

OR


Wheel **or** <↓>
➔ Use the wheel or the down arrow keys to highlight the memory to be named.

<F2 {EDIT}>
➔ Selects the edit facility. The title can be added using the alphanumeric keyboard.

<F8 {OK}>
➔ Confirms the new name and exits the edit facility.

<F8 {OK}>

➔ Exits the Memory Manager. (Do not exit the manager if other memories are to be edited.)

13.9.3 Editing memory times and Autogo status

As well as entering a title, memory times can also be edited in the memory manager, and the Autogo status can be assigned.

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memory Manager.

OR

Wheel or <↓>
➔ Use the wheel or the down arrow keys to highlight the memory to be changed.

<F2 {EDIT}>
➔ Type a title using the alphanumeric keyboard if required.

<↓> <ENTER>
➔ Select Autogo mode if required.

<↓> <1> <ENTER>
➔ Use the arrow key to select the wait up time box and enter a time of 1 second.

<7> <ENTER>
➔ Changes the up time to 7 seconds.

<ENTER> <20> <ENTER>
➔ Leaves the wait down time unchanged and enters a down time of 20 seconds.

<F8 {OK}>
➔ Confirms the changes.

<F8 {OK}>
➔ Exits the Memory Manager.

13.9.4 Copying memories in the Memory Manager

Memories can be copied in the memories manager. The advantage of this method over the <COPY> function is that the memory list is automatically displayed, and a delta function can be used so that lists of memories do not have to increment in steps of one.

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memory Manager.

OR


Wheel **or** <↓>
➔ Use the wheel or the down arrow keys to highlight the memory to be changed.
➔ Use<ENTER> to select a list of memories, if required.

<F7 {COPY}>
➔ Displays the copy dialogue box.

Target
➔ Enter the new memory number, or the first number if a list of memories is selected.

DELTA
➔ Enter a delta offset value if required (see below).

<F8 {OK}>

➔ Confirms the copy function and exits the dialogue box.

13.9.5 Deleting memories from the Memory Manager

Sometimes after rehearsals, some memories are no longer needed. They can easily be deleted in the memories manager, but the *ISIS®* software allows them to be recovered if they are needed later. (For more information, see section 13.10 Recovering deleted memories.)

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memory Manager.

 OR 

Wheel **or** <↓>
➔ Use the wheel or the down arrow keys to highlight the memory to be changed.
➔ Use <ENTER> to select a list of memories, if required.

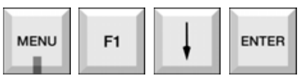
<F3 {DELETE}>
➔ Selects the delete function.

A WARNING IS ISSUED
➔ A warning is given:Delete element(s) - Are you sure?

<F8 {YES}> <F8 {OK}>
➔ Confirms the deletion process and exits the memories manager, if required.

ISIS® software allows the operator to delete all the memories through the Show Initialisation function. To delete all memories, a partial initialisation can be performed. A complete initialisation will delete all information but during a partial initialisation the user can select which elements are deleted.

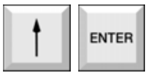
examples of keystrokes

 or 

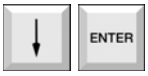
<MENU> <F1 {File}> <↓> <ENTER> Or <MENU> <F1{File}> <F7{SHOW INIT}>

➔ Use the alphanumeric keyboard, or the arrow and <ENTER> keys, to select <Show init> from the File options of the menu. The Show Initialisation dialogue box*195* is displayed.

<ENTER>
➔ Displays the drop down initialisation (cold start) menu.



<↑> … <ENTER>
➔ Use the arrow keys and <ENTER> to select the “User Defined” option.



<↓> … <ENTER>
➔ Use the arrow keys and <ENTER> to select “Memories” from the available options.

<F8 {OK}>
➔ Confirms the selection for partial initialisation.

A WARNING IS ISSUED
➔ A warning is given:You ask to delete some data! - Are you sure?

<F8 {Yes}>
➔ Confirms the deletion.

*Show Initialisation Screen (Dialogue box *195*)*

Note: A partial initialisation will delete any elements selected in the check boxes. This method can be used to combine the deletion of several elements. Please take care to select the correct boxes for deletion: memories and groups deleted by this method DO NOT move to the recoverable lists.

13.9.6 Renumbering memories in the Memory Manager

If a lot of point memory numbers or non-sequential links have been used, or if memories have been deleted, it can be helpful to re-number memories to a more logical sequence.

examples of keystrokes

<F2 {MEM MNG}>
➔ Displays the Memory Manager.

OR


Wheel **or** <↓>
➔ Use the wheel or the down arrow keys to highlight the memory to be changed.
➔ Use <ENTER> to select a list of memories, if required.

<F1 {RENUMBER}>
➔ Displays the renumber dialogue box.

target
➔ Enter the new memory number, or the first number if a list of memories is selected.

Delta
➔ Enter a delta offset value, if required (see below).

<F8 {OK}>
➔ Confirms the memory renumbering and exits the dialogue box.
➔ If the new numbers allocated are the same as any existing memories, a warning is given and the operation cancelled.

Delta
Delta is an option when renumbering the list. Normally, the delta setting is 1, meaning that the new numbers will increase in increments of 1 from the first number. If the delta quantity is changed, the new numbers will increment by the value entered.

Therefore if the delta is 2, the new numbers will skip every other number. If the delta is 10, the new numbers will increase in tens.

13.10 Recovering deleted memories

When a memory is deleted, it is transferred to a recoverable memory list. When a memory is re-recorded, the previous version of the memory is also transferred to the same list. Because of this feature, it is possible to recover deleted memories, and also old versions of existing memories.

The most recently deleted (or over-written) memory is always displayed at the top of the recoverable list, but all memories are date and time stamped at the point of deletion. In addition, all deletion times and dates are shown - so it is easy to find in the list!

Memories deleted by an initialisation routine cannot be recovered.

---

examples of keystrokes

MENU F5 F2 F2

<MENU> <F5 {tools}> <F2 {recover}> <F2 {MEMORIES}>
➔ Enters the recover memories function from the tools menu.

Wheel Down OR ↓ … ENTER

WHEEL **OR** <↓> ... <Enter>
➔ Select the group to be recovered.
➔ A list of groups can be created by using the <ENTER> key.

F1

<F1 {recover}>
➔ Selects the recover function.

A WARNING IS ISSUED
➔ A warning is given: Header # already exists - Overwrite?

F1 OR F7 OR F8 OR F2

<F1 {cancel}> or <F7 {no}> OR <F8 {Yes}> or <F2 {ALL}>
➔ <F1{Cancel}> cancels the entire recovery procedure.
➔ <F7{No}> prevents recovery of the memory number given in the warning.
➔ <F8{Yes}> confirms recovery of the memory given in the warning and overwrites the existing version.
➔ <F2{All}> allows all selected memory to be recovered without further warnings.

<F8 {ok}>
➔ Exits the memory recovery utility.

Note: There can be up to 1000 memories in the recoverable list, which may contain several versions of the same memory. This is why the recoverable memory list, unlike the actual memory list, will not be in numerically sequential order.

13.11 Using Edit Memory

The Edit Memory field has two functions:
1) to create new memories in “blind”,
2) to make modifications to a list of memories in one quick operation.

Note: Edit Memory can also be used to modify a list of Motion Control Libraries; see the chapter 22 *Motion Control Libraries* for more information on this feature.

13.11.1 Creating a new memory «Blind»in Edit Memory

New memories can be created with channel intensities, parameter values, global and special times in Edit Memory, without any of these modifications being seen at the Output.

examples of keystrokes

<EDIT MEM> ... <MEM> <8><4><2> <REC> <EDIT MEM>
➔ Records the lighting state created in the Edit Memory field as memory 842.
➔ Any functions used for creating a lighting state can be used in Edit Memory.

The Edit Memory working field recognises motion control instruments and allows special times to be defined for instrument parameters and Motion Control Libraries to be loaded, in the same way as any other working field.

examples of keystrokes

<EDIT MEM> <1> <Enter> <A GROUP> <MCLIB> <2> <Load>
➔ Applies the A Group settings of Library 2 to channel 1 in Edit memory.

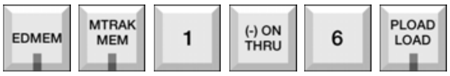
13.11.2 Editing a list of memories

If modifications need to be made for a list of memories, such as changing the times, or setting a certain channel to a definitive value, the Edit Memory field can save a lot of time, as a whole list of memories are updated as a single operation instead of re-recording all the memories individually.

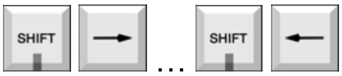
When a list of memories is loaded into Edit Memory, their numbers are displayed along the top of the working field monitor. Only one memory is displayed on-screen at a time: the contents of each memory can be viewed individually by using the <SHIFT> key in association with the left and right arrow keys to scroll through the list of loaded memories.

The number of the current memory is shown highlighted in the top part of the Edit Memory screen.

examples of keystrokes

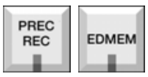


<EDIT MEM><MEM><1 ><THRU ><6 ><LOAD >
➔ Enters the Edit Memory field and loads all memories between 1 and 6.



<Shift + →> … <Shift + ←>
➔ The loaded memories are displayed separately, and can be viewed individually in the Edit Memory field using the <SHIFT> key in conjunction with the left and right arrow keys.

<channel & time modifications>
➔ Make modifications to channels, parameters and times.
➔ The modifications are made to **all** the loaded memories simultaneously.



<REC> <EDIT MEM>
➔ Records the memories and exits the Edit Memory field.

Note: If a memory selection is made on the keypad before entering Edit Memory, this memory selection is automatically loaded when <EDIT MEM> is pressed.

13.12 Memory tracking (conditional editing)

Conditional editing – if … then … – is achieved with the Memory Tracking facility. This function opens a dialogue box where the required channel attributes to search for can be entered, along with the action to take when the test condition is found.

Note: The whole memory list can be scanned, or a range of memories selected.

The Memory Tracking function provides a comprehensive range of test conditions. Channels to be tracked can be tested for one of the following conditions:

- ➔ if the channel value is lower than x%
- ➔ if the channel value is higher than x%
- ➔ if the channel value is equal to x%
- ➔ if the channel value is different from x%

When the memory range is scanned, the tracked channels will be checked for this test condition. If the test is found to be true, a set action will be taken. The action is chosen by the operator, and is selected from one of the following options:

- ➔ Set new value
  The channel intensity will be changed to a new value
- ➔ Increase absolute
  Increases the channel intensity to a definitive fixed value
- ➔ Increase relative
  Increments the channel intensity by a set amount
- ➔ Decrease absolute
  Decreases the channel intensity to a definitive fixed value
- ➔ Decrease relative
  Decrements the channel intensity by a set amount
- ➔ Send to Edit Memory
  The memory will be sent to the Edit Memory field for modification by the operator. This action will not make any automatic modification to the memory.

The Memory Tracking function can be configured to change all occurrences of the test condition, or the tracking can be set to stop at the first occurrence found. The selection is made from following options:

- ➔ Process the range
- ➔ Stop when false

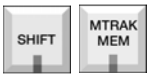
One other option that can be set is an important one: “Zero is a value”. This provides the operator with the option of selecting whether a channel intensity of zero (0%) should be included as ‘True’ in the test condition.

For example: if the tracking options were set to search for all intensities below 20% and change them to 40%, selecting the ‘zero is a value’ option would include memories where the selected channel was at zero. If the option was not selected, these zero values would be ignored, and hence not modified.

The Memory Tracking function can be selected by pressing the keys SHIFT + MEM, or directly using the <MTRACK> key where available.

examples of keystrokes

<channel selection(s)>
➔ Select the channel(s) to be modified.



or


<Memory Tracking>

➔ Displays the Memory Tracking dialogue box.

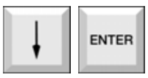
Memory Tracking dialogue box

For example, Memory Tracking could be used to search for channel 17 in memories 83 to 134. If its intensity is found at less than 60% in those memories, it can be changed to 70%: all the memories within the range are updated accordingly.

examples of keystrokes

<1><7>
➔ Selects the channel to be modified.

<MTRAK>
➔ Displays the memory tracking dialogue box.



<↓> <Enter>
➔ Use the down arrows and <ENTER> key to navigate the dialogue box.

The memory range in which to search must be set, as well as the test conditions and action to be taken. In this example, the following selections would be made.

- ➔ Memories: *from 83 to 134*
- ➔ Channel Value: *lower than 60%*
- ➔ Action: *set new value of 70%*
- ➔ Tracking: *process the range*
- ➔ Zero processed: *not selected*

<F8 (ok}>
➔ Confirms the selections and updates all the memories in the selected range.

13.13 Displaying a list of memories

The memory list can be displayed in a variety of ways. It is always shown when entering the Memory Manager, in the format of a list showing memory numbers, titles, and creation times.

If any of the playback displays are selected as monitor footers in the Screen Configuration dialogue box (set in the Screen Configuration selection from the Setup option of the menu), a scrolling sequence list is displayed. This list shows memory numbers, titles, and any events that are inserted in the sequence. This list is dynamic and changes to reflect playback operations. It always shows what is in the Stage and Preset fields, the next few memories in the sequence, and the previous memory that was in the playback.

If functions such as jump, go back, or alias events are used, the scrolling memory list follows these sequences.

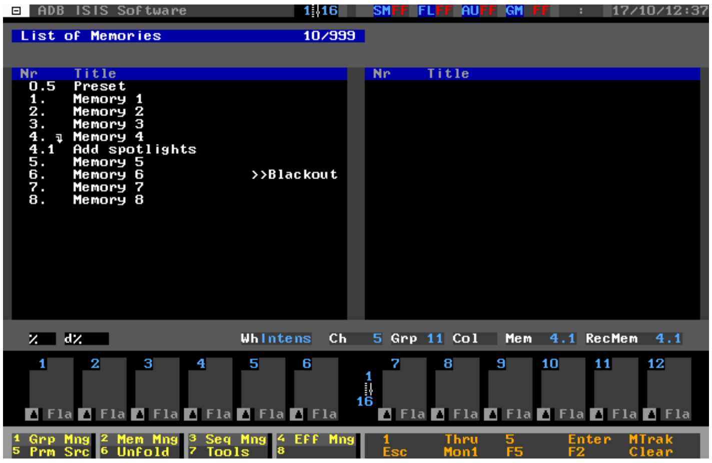
There is also a static memory list that shows more memories than the other lists, and can be displayed on any of the available monitors as required.

13.13.1 Displaying the memory list

The memory list, along with other lists such as groups, macros, or motion control libraries can be displayed temporarily on any monitor at any time. In installations with three of four monitors, these lists can be permanently displayed via the display configuration dialogue box.

examples of keystrokes

<MON1> <F5 {LISTS}> <F2 {MEMS}>
➔ Displays the memory list on the selected monitor, in this example is monitor 1.



Memory list screen

The monitor must be returned to the default display in order to view channel intensities.

examples of keystrokes

<MON#> <F1 {DEFAULT}>

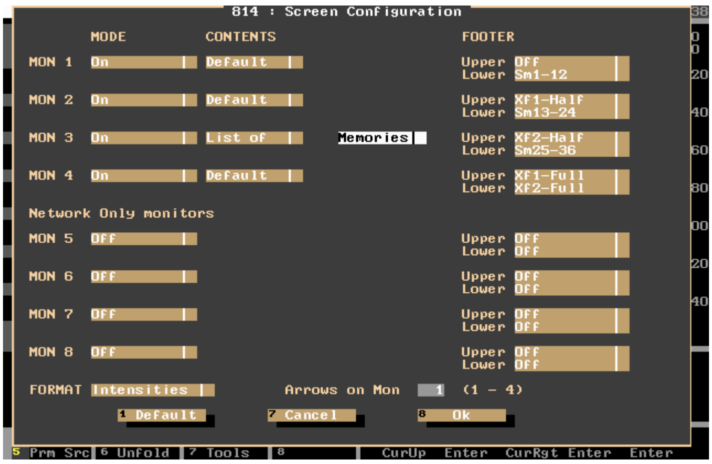
➔ Returns the selected monitor to its default display.

To permanently display the memory list, one of the monitors must be configured for this through the menu:

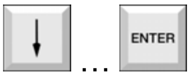
examples of keystrokes

<MENU> <F7 {SETUP}> <F4 {SCREEN CONFIG}>

➔ Enters the Screen Configuration dialogue box*814*.

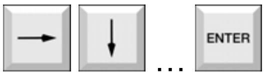


*Screen Configuration dialog box (Dialogue box *814*)*



<↓> ... <Enter>

➔ Use the down arrow and <ENTER> to select 'List Of' from the drop-down list of contents for the required monitor.



<→> <↓> ... <Enter>

➔ Use the cursor keys and <ENTER> to select 'Memories'.

<F8 {OK}>

➔ When the selection is correct, <F8 {OK}> makes the selections and exits the dialogue box.

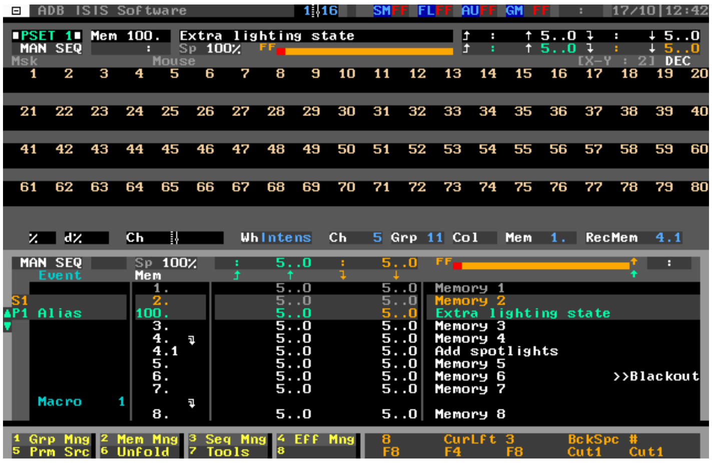
➔ If anything is wrong or uncertain, press <F7 {CANCEL}> to exit the dialogue box without making any changes.

13.13.2 Scrolling sequence lists in playbacks

The scrolling memory list is automatically displayed when any of the playback options are selected as footers in the screen configuration, and a memory list is loaded into the playback that is displayed. This list may not show all the memories because the Sequence Manager can determine which memories can be loaded into which playbacks.

The memories in the scrolling list may not appear sequentially as the list automatically follows links, aliases, and loops. As each memory is replayed in the playbacks, the list scrolls down to display the next memory in the list. Please refer to the chapter 17*Playbacks & Playback Configuration* chapter for further details.

The last used, currently on Stage, currently loaded in Preset, and next memories are always shown.
The number of "next memories in the sequence" displayed will depend upon the screen configuration.



Picture of scrolling playback display, including links, autogos, and events.

13.13.3 The Memory Manager list

Whenever the Memory Manager is selected, a simple memory list is shown. It displays memory numbers, names, and times. The Memory Manager always displays information in numerically sequential order, including point numbers, but does not insert non-sequential links.
The Memory Manager can be displayed by pressing <F2 {MEM MNG}>, or through the Managers option of the Menu.

14 RECORDING AND MODIFYING TIMES

14.1 Introduction

This chapter explains the allocation and recording of times for memories and submasters in Auto mode. It also provides an overview of times in chasers and effects, but for full details please refer to the chapter 15*Chasers & Effects*.

Specific Up, Down, and Wait times can be applied to a memory or Auto submaster: these are called **Global Times**. Different times can be applied to individual channels or parameters, independently of the global times: these are called **Special Times**.

To understand how times are used in the playbacks, please refer to the chapter 17 *Playbacks And Playback Configuration*.

14.2 Entering times with different methods

Times can be entered by the operator in a variety of ways. The usual method is to allocate times in seconds, although minutes and tenths of seconds can also be input.

14.2.1 Times in seconds

All times entered directly are interpreted by ISIS® as seconds, up to a maximum of 999. Any entered number above 59 is automatically converted into minutes and seconds.

Seconds can also be added to times in minutes by using <.> (the point key) to separate the minutes and seconds, as shown below.

examples of keystrokes

<xtime> <0> <xtime>
➔ Changes the selected time to zero: this is called a “cut” or a “snap”.

<xtime> <1><0> <xtime>
➔ Changes the selected time to 10 seconds.

<xtime> <6><0> <xtime>
➔ Changes the selected time to 1 minute.

<xtime> <9><0> <xtime>
➔ Changes the selected time to 1 minute, 30 seconds.

Note: The <XTIME> keypress in the examples can be the Up, Down or Wait time key.

14.2.2 Times in minutes

Fade times can be given in minutes or minutes and seconds, from 60 seconds to 99 minutes, 59 seconds.

Times in minutes are entered as #.## for minutes and seconds, or ### (up to three figures) as seconds only, which ISIS® automatically converts to minutes and seconds.

examples of keystrokes

<xtime> <1><.> <xtime>
➔ Changes the selected time to 1 minute.

<xtime> <1><.><3><0> <xtime>
➔ Changes the selected time to 1 minute, 30 seconds.

<xtime> <9><0> <xtime>
➔ Changes the selected time to 1 minute, 30 seconds.

14.2.3 Times in 10th second

To add greater flexibility to shorter fade times, 10th seconds can be added to times up to 1 minute.
Times can therefore vary between 0.1 second and 59.9 seconds, so times such as 2.5 seconds, or 47.6 seconds are possible.

Times in 10th second are created in the format of #..# (seconds, point, point, 10th second).

examples of keystrokes

<xtime> <7><.><.><5> <xtime>
➔ Changes the selected time to 7.5 seconds

14.2.4 Setting times using the wheel

The wheel can be used instead of the keypad to enter any time between 0.1 second and 99 minutes, 59 seconds.

examples of keystrokes

<xtime> Wheel <xtime>
➔ Changes the selected time by moving the wheel.

14.3 Global times

"Global" is the name given to times that apply to the whole memory, or to a Auto submaster. If global times are not entered by the operator, the ISIS® default times will be used. These are initially set as shown:

Time	Default setting
Wait Up	0 seconds (Cut)
Up	5 seconds
Wait Down	0 seconds (Cut)
Down	5 seconds

The default times can, of course, be changed to suit the operator's preference if a different time is preferred. This setting is made in the Default Times option of the setup menu.

14.3.1 Up time

The up time is the time that applies to channels that are increasing in intensity, or "incoming". In the playbacks, transitions are made by the contents of Preset replacing the contents of Stage. The up time is therefore applied to channels that have a higher intensity in the Preset than they do in Stage. The up time for an Auto submaster is the time taken for the virtual fader to be raised from zero.

examples of keystrokes

…


<up time> (time) <up time>

➔ Changes the up time only.

<rec> **or** <rec> <rec>

➔ Records the memory.

➔ The record key must be confirmed with a second press if the memory already exists.

14.3.2 Down time

The down time is the time that applies to channels that are decreasing in intensity, or "outgoing".
In the playbacks, transitions are made by the contents of Preset replacing the contents of Stage. The down time is therefore applied to channels that have a lower intensity in the Preset than they do in Stage. The down time for an Auto submaster is the time taken for the virtual fader to be lowered to zero.

examples of keystrokes

Time


<down time> (time) <down time>

➔ Changes the down time only.

14.3.3 Wait time

The wait time is the time that applies to a delay at the beginning of a fade (the transition from Preset to Stage, or the fader movement for an Auto submaster). There can be separate up and down wait times.

examples of keystrokes

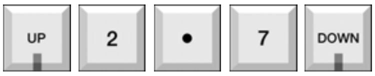
<wait> (time) <wait>
➔ Changes the wait time for incoming and outgoing channels.

14.3.4 Same up and down times

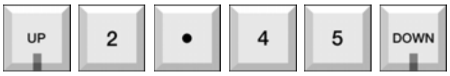
To create a straight forward crossfade, the same up and down times are used. The method for entering the same up and down time is to select one time direction, enter the time, and confirm the operation with the other time direction.

examples of keystrokes

<up time> <4> <down time>
➔ Changes both the up and the down times to 4 seconds.



<up time> <2><.><7> <down time>
➔ Changes the up and down times to 2.7 seconds.



<up time> <2><.><4><5> <down time>
➔ Changes the up and down times to 2 minutes 45 seconds.

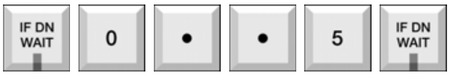
14.3.5 Same up and down wait times

To put a pause on the beginning of a fade, the same up and down wait times must be plotted. The wait time is just a delay to the start of the fade, it does not create an automatic link or follow-on cue. To achieve that, an Autogo is required.

A delay is not normally necessary for memories that are replayed by an operator, but they are useful for delaying a follow-on cue.

examples of keystrokes

<wait> <2> <wait>
➔ Changes both the up and down wait times to 2 seconds.



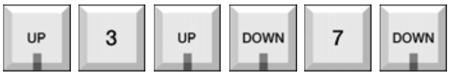
<wait> <0><.><.><5> <wait>

➔ Creates a delay of 0.5 a second on the up and down times.

14.3.6 Separate up and down times

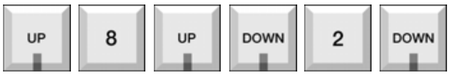
Many memories work better as “split timed fades”, meaning that the up and down times are different. When the up time is quicker, it can help to prevent a dip between the incoming and outgoing states. If the down time is quicker, a deliberate dip is created which can be useful when different stage areas are used, or to represent the passing of time.

examples of keystrokes



<up time> <3> <up time> <down time> <7> <down time>

➔ Changes the up time to 3 seconds and the down time to 7 seconds.



<up time> <8> <up time> <down time> <2> <down time>

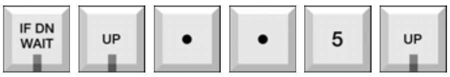
➔ Changes the up time to 8 seconds and the down time to 2 seconds, creating a dip in the transition.

14.3.7 Separate up and down wait times

Separate delays can be given to the up and down times. The method is Wait - Direction - Wait (or the same direction again).

In the previous examples, the same time direction key has been used to confirm the operation. With directional waits, either the wait, or the time direction key can be used to make the confirmation.

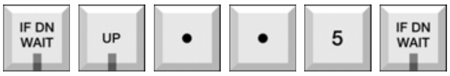
examples of keystrokes



<wait> <up time> <.><.><5> <up time>

➔ Changes the wait up time to 0.5 a second.

OR



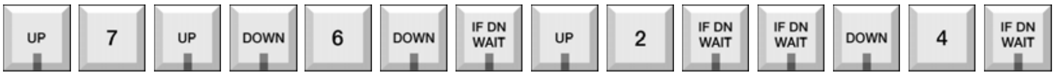
<wait> <up time> <.><.><5> <wait>
➔ Changes the wait up time to 0.5 a second.

The memory must be recorded or re-recorded when the times have been changed.

14.3.8 All four times different

The wait up, up, wait down, and down times can all be different if required.

examples of keystrokes



<up time> <7> <up time> <down time> <6> <down time>
<wait> <up time> <2> <wait> <wait> <down time> <4> <wait>
➔ The fade profile of this memory would be as follows:
  2 second delay followed by the start of the up fade,
  2 seconds into the up fade the down fade starts,
  5 seconds later the up fade completes, and
  1 seconds after that the down fade completes.
  Total crossfade length: 10 seconds.

14.4 Special times

Special times are a simple way of creating multi-faceted fade profiles. Some desks allow multi-part fades, but these are often limited to ten or fewer parts.

The Special Times function within ISIS® allows every single channel or parameter in a memory to have its own individual fade time.

➔ If 2048 channels are in use, they could all have their own special time, ranging from a cut (zero seconds) to 99minutes 59 seconds, thus creating a 2048 part cue!

As a safeguard, special times can only be programmed when the special times screen is selected. This prevents special times being given to channels that are still selected on the keypad instead of plotting global memory times.

Special times, like global times, can be recorded at the same time as intensities, or added later to a recorded memory. Special times can be programmed by using the same up, down, and wait time keys described above, but the specific channels or parameters are selected prior to assigning the times.

When plotting special times, either the <up time> or the <down time> keys can be used regardless of the channel intensity or parameter value.

This is because the special time is applied to a specific channel (or parameter) in a specific memory regardless of its actual value; so the direction of intensity change will depend upon the previous lighting state (which may not necessarily be sequential).

In the special times screen, there is only one column for fade times, and one column for wait times to demonstrate this.

14.4.1 Times for channels

Any individual channel in any memory can have its own special time. Special times can also be given to lists of channels or groups.

examples of keystrokes

<STIME>
➔ Selects the special times display.

<1><1> <THRU> <2><0> <UP TIME> <4><5> <DOWN TIME>
➔ Gives channels 11 to 20 special times of 45 seconds.

<STIME>
➔ Returns the display to intensities.

<STIME>
➔ Selects the special times display.

<GROUP> <1> <UP TIME> <8> <DOWN TIME>
➔ Gives the channels that are in group 1 special times of 8 seconds.

<2><4> <UP TIME> <0> <DOWN TIME>
➔ Gives channel 24 a cut (zero seconds) as its special time.

<2><6> <WAIT> <3><0> <WAIT> <UP TIME> <2><0><.> <DOWN TIME>

➔ Gives channel 26 a special wait time of 30 seconds and a special time of 20 minutes.

<STIME>

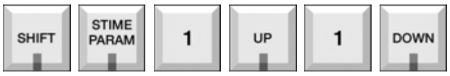
➔ Returns the display to intensities.

The example below demonstrates a memory with special times. Plot the memory and play it back by fading it from P1 to S1 by using the <go> key.

examples of keystrokes

<1> <THRU> <5> <AT><AT>

➔ Sets channels 1 to 5 at full.



<STIME> <1> <UP TIME> <1> <DOWN TIME>

➔ Selects the special times display and gives channel 1 a special time of 1 second.

<2> <UP TIME> <2> <DOWN TIME>

➔ Gives channel 2 a special time of 2 seconds.

<3> <UP TIME> <3> <DOWN TIME>

➔ Gives channel 3 a special time of 3 seconds

<4> <UP TIME> <4> <DOWN TIME>

➔ Gives channel 4 a special time of 4 seconds

<5> <UP TIME> <5> <DOWN TIME>
➔ Gives channel 5 a special time of 5 seconds

<MEM> < 9><0><0> <REC>
➔ Records this state as memory 900.

<STIME>
➔ Returns the display to intensities.

<P1> <MEM> <9><0><0> <LOAD> <GO>
➔ Loads memory 900 into preset 1 and starts the fade.
➔ Watch the Output screen: there are 5 different fade rates all within this one memory.

14.4.2 Times for parameters

When creating instrument definitions, each parameter is put into one of four parameter groups. These groups are used in many ways when working with moving lights, one of which is the ability to allocate special times to the selected parameter groups.
Quite often this is likely to be a wait time on a “jump type” parameter, such as a gobo change, so that the gobo changes in the middle or the end of the instrument movement, rather than at the beginning. Which individual parameters receive the special time will depend upon each instrument definition when selecting whole groups.

It is also possible to assign special times to individual parameters by using the parameter group keys in conjunction with the <shift> key, or more directly by using the <shift> key together with one of the rotary encoder wheels.

Note: For full details on parameter selection, please refer to the chapter 21*Using Moving Lights*.

Special times are allocated to selected parameters using the same methods described above for channels.

examples of keystrokes

<STIME>
➔ Selects the special times display.

<4><1> <THRU> <4><6> <A GROUP>
➔ Selects the azimuth group of instruments 41 to 46 (which must be moving lights).

<UP TIME> <2><0> <DOWN TIME>
➔ Gives the A group a special time of 20 seconds.
➔ The intensity and all other parameters follow the global memory times.

<STIME>
➔ Returns the display to intensities.

When assigning special times, the “If Down” function can be used to paste the combined global wait down and down times of the memory to the wait time of selected parameters special times. This makes the movement of the parameters wait until the intensity has faded out, to make the instrument “move when dark”.

Note: *ISIS®* offers a full tracking move in black (MIB) function for motion control instruments. This option means that instruments will automatically move to their next used position, when their intensity reaches zero. Move in Black options are discussed in detail in the chapter 21*Using Moving Lights*.

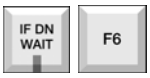
The If down function can be entered directly from the keypad, or selected from the function keys when assigning special times.

examples of keystrokes

<STIME>
➔ Selects the special times display

<instrument and parameter selection>

➔ Selects the required parameters of the selected instruments.

OR


<IF DOWN> **OR** <wait> <F6 {if down}>

➔ Selects the If Down function. The selected parameters now have a wait time the same as the combined global wait down and down times.

<STIME>

➔ Returns the display to intensities.

14.4.3 Removing special times

Special times can be removed from selected channels and parameters from the special times screen.

examples of keystrokes

<STIME>

➔ Selects the special times display.

<3><2> <UP TIME> <F5 {RMOV ST}> <DOWN TIME>

➔ Removes any previously allocated special times from channel 32.

<3><3> <UP TIME> <F1 {DEFAULT}>

➔ Returns any allocated special times on channel 33 to the default times.

<STIME>

➔ Returns the display to intensities.

14.5 Using the auxiliary times

There are some additional methods of applying times, instead of entering a value directly. These times are called Auxiliary Times, and can be used in memories and submasters. Auxiliary times are recorded by the operator during rehearsals, and then pasted on to the appropriate memory or submaster.

Whenever any of the time keys are pressed (<up time>, <down time> or <wait>), the function keys give access to these additional timings.

<F1 (Default)>
➔ Assigns the current system default time to the selected time function.

<F2 (Chrono)>
➔ Assigns the current value of the built-in chronograph (stopwatch) function to the selected time function.

<F4 (Memory)>
➔ Assigns the value of a selected memory to the selected time function.

<F8 (Exit)>
➔ Cancels the current time assignment.

Note: These auxiliary time options are context sensitive and may not all be available at all times. For example, the chrono value is only available after the Chrono function has been used.

Remark: F3(PbChro1) / F7(PbChro2) / DO NOT function!!!

14.5.1 Using the Chrono (stopwatch)

ISIS® has a built in stopwatch (chronometer) which can be used to time events. The elapsed time on this chrono function can then be pasted into the required times when needed.

The chrono feature is accessed via the function keys. Whenever the chrono is required, press the <F7 {tools}> function key to gain access to the chronometer option.

examples of keystrokes

<F7 {Tools}> <F1 {Chrono}>
➔ Displays the chrono options on the function keys.

<F1 {Start}>
➔ Starts the chrono running (displayed in 10th seconds at the top of the screen).

<F2 {Stop}>
➔ Stops the chrono running but retains its current reading.

<F5 {Resume}>
➔ Restarts the chrono at the point that it was stopped.

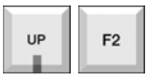
<F3 {Reset}>
➔ Resets the chrono reading to zero.

<F4 {Clear}>
➔ Resets the reading to zero, but if the chrono is running does not stop it.

<F8 {Exit}>
➔ Exits the chrono function.

To use the elapsed chrono time in a memory or submaster, the chrono function must be used when a time is being entered.

examples of keystrokes



<up time> <F2 {Chrono}>
➔ Assigns the elapsed chrono value to the up time.

<wait> <F2 {chrono}>
➔ Both wait times take the elapsed chrono time.

Note: The chrono value is only available after the chrono has been used. The value can only be assigned separately to the up and down times.

14.5.2 Using times from an existing memory

When entering a fade time, the times of an existing memory can be used. This feature is available on the function keys, whenever a time key is pressed.

examples of keystrokes

<up time> <F4 {memory}> <1> <UP TIME>
➔ The up time takes the recorded up time of memory 1.

<up time> <F4 {memory}> <2> <DOWN TIME>
➔ The up and down times take the recorded up and down times of memory 2.

<WAIT> <F4 {memory}> <5> <wait>
➔ The wait up and wait down times take the recorded wait times of memory 5.

14.6 Times for chasers and effects in submasters

Chasers and special effects (both types are included in the term ‘effects’) are created and run in submasters. If the submaster contains the effect with up, down, or wait times, these times can be applied respectively to the fade in and fade out the effect, and assigning a start delay.

The times associated with a submaster are only applied to an effect if the submaster is in Auto mode. It is not possible to use Auto mode if the effect is in Audio mode.

➔ Times given to a submaster only apply to a chaser or effect if the submaster is in Auto mode.

14.6.1 Time per step

Chasers can be assigned a “time per step” value, allowing finer control over the chaser. The chaser speed can be used to change the chaser’s rate, affecting all steps proportionally.

The default time per step is one second, however each step can be assigned a specific time by using the <SHIFT> key in association with the wheel. Full details are given in the chapter 15*Chasers & Effects*.

14.7 Event timings

An event cannot have a timing of its own, although it can include a wait time. If no timings are set, an event is triggered when the operator presses the <GO> key when the event is in the Preset, or immediately after the previous fade has completed, if an Autogo has been selected.

Events can be given a global wait (delay), or the parts within an event delayed by inserting a wait type event. Please see the chapter 16*Sequence Manager & Events* for more details.

15 CHASERS & EFFECTS

15.1 Introduction

There is a difference between a chaser and an effect within *ISIS®*, although they can both be considered under the term of special effects. Both chasers and effects can be repeated indefinitely, for a given number of cycles, or set to music through the audio input.

Chasers offer the operator a convenient way to repeatedly run a sequence of lighting states. The contents of each step of a chase (and hence the pattern) is set by the operator. In contrast, Effects operate a pre-programmed pattern on a given list of channels.

- ➔ A chaser is a sequence of lighting states that are defined by the operator. Values are entered for each channel or parameter in every step.
- ➔ An effect applies a pre-defined pattern to a list of channels that are provided by the operator. Intensities are not entered for each channel, as they obey the selected effect type.
- ➔ There is a specific type of effect used to create changes for moving light instruments; this is covered in the chapter 23 *Effect Generator*.

Creating a new chaser or effect in *ISIS®* is quick and simple, and there is plenty of scope within the 99 chasers and 99 effects available in every show.

Each chaser can have up to 99 steps (lighting states), but the number of channels per step is dynamic and depends upon the channel definitions and the number of steps. Each chaser can have a maximum of 10,000 channel "references": a reference being any part (or parameter) of a channel - intensity, pan, colour, and so on. The bigger the instrument, the more channel references it uses.

Each effect can contain up to 99 channels. It is not necessary to give intensities to the channels in effects because the intensities are determined by the effect type (the pattern), of which there are 20 to choose from.

15.2 Creating a chaser

A chaser is created, recorded and played back in a submaster. Once a chaser has been recorded, it can be replayed manually, with automatic timings, or incorporated into the sequential playbacks by using the Intelligent Link function.

To create a chaser it must first be loaded in its empty form into a submaster. Then, each lighting state – or "step" – is created, and the channel, intensity, parameter and time elements can be added and changed. Once a chaser has been created, it can be started by pressing the submaster's flashkey.

All of the channel and intensity tools can be used when creating chasers. In addition to channels, group and memory contents can be given intensities in chaser steps. A few examples are given below.

➔ Groups and Memories can be included in chaser steps, at a proportional intensity level.

When a chaser is loaded into a submaster, the working field display looks very different from the normal channel intensities screen. Although the screen appears unfamiliar, it is in fact showing the contents of the submaster, which just happens to be a chaser.

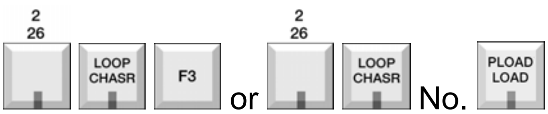
What is shown is a list of the chaser steps and their contents, rather than all the channels. This gives a good visualisation when a chaser is loaded.

The working field screen with a chaser loaded in submaster 2.

A few simple examples will demonstrate how a chaser is created and modified.

1) A SIMPLE 1 CHANNEL PER STEP CHASER

examples of keystrokes



<SUB2> <CHASER> <F3 {NEW}> OR <SUB2> <CHASER><NO.><LOAD>

➔ Loads a new (empty) chaser into submaster 2.

<SUB 2 FADER>

➔ Raise the fader to see the chaser being created step by step, if required.

<1> <AT> <AT>

➔ Step 1 of the chase is channel 1 at full.

<ADD STEP> <2> <AT> <AT>

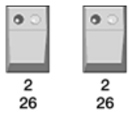
➔ Step 2 is channel 2 at full.

<ADD STEP> <NEXT> <AT> <5>

➔ Step 3 is channel 3 at 50%.

<ADD STEP> <NEXT> WHEEL

➔ Step 4 is channel 4 at any intensity set by the wheel.



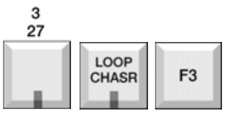
<SUB 2 FLASHKEY> <SUB 2 FLASHKEY>

➔ The flashkey “parks” the chaser ready to start, then starts the chaser running.

➔ It can be viewed and modifications made to the speed, direction and so on, as described in the following sections.

2) A CHASER WITH AN UNEVEN RHYTHM, CREATED BY EMPTY AND REPEATED STEPS

examples of keystrokes



<SUB3> <CHASER> <F3 {NEW}>

➔ Loads a new (empty) chaser into submaster 3.

<SUB 3 FADER>

➔ Raise the fader to see the chaser being created step by step, if required.

<1> <AT> <AT>

➔ Step 1 is of the new chase is channel 1 at full.

<ADD STEP> <ADD STEP>

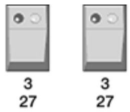
➔ Step 2 is left empty: and the chaser moved to the next step.

<2> <AT> <5>
- Step 3 is channel 2 at 50%.

<ADD STEP> <2> <AT> <5>
- Step 4 is channel 2 at 50%, the same as the previous step.

<ADD STEP> <3> WHEEL
- Step 5 is channel 3 at any intensity set by the wheel.

<ADD STEP>
- Step 6 is empty.



<SUB 3 FLASHKEY> <SUB 3 FLASHKEY>
- The flashkey parks and then starts the chaser running.
- It can be viewed and modifications made to the speed, direction and so on, as described in the following sections.

<REC>
- The chaser is recorded: the next available chaser number is allocated.

3) A CHASER USING COMBINATIONS OF CHANNELS AND INTENSITIES IN THE CHASER, AND WITHIN A SINGLE STEP

examples of keystrokes

<SUB4> <CHASER> <9><9> <LOAD>
- Loads chaser 99 (previously unrecorded) into submaster 4.
- Here, the operator has designated a specific chaser number to be used.

<SUB 4 FADER>

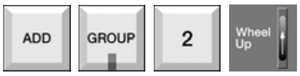
➔ Raise the fader to see the chaser being created step by step, if required.

<1> <THRU> <5> <AT> <AT>

➔ Step 1 is channels 1 to 5 at full.

<ADD STEP> <7> <AT> <8> <9> <AT> <AT>

➔ Step 3 is channel 7 at 80% and channel 9 at 100%.



<ADD STEP> <GROUP> <2> WHEEL

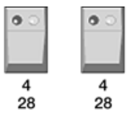
➔ Step 4 is group 2 at an intensity set by the wheel

<ADD STEP> <MEM> <8><8> <AT> <5>

➔ Step 4 is memory 88 at an intensity of 50%

<ADD STEP> <1> <+> <2> <AT> <7> <GROUP> <3> <AT> <2> <MEM> <6> WHEEL

➔ Step 5 is a mixture of channels, groups, memories and intensities.



<SUB 4 FLASHKEY> <SUB 4 FLASHKEY>

➔ The flashkey parks and then starts the chaser running.

<REC>

➔ Chaser 99 is recorded.

Note: The <STEP> keys can be used to step forward and backward through the chaser steps manually whilst the chaser is being created. Channels can be added to and removed from the highlighted step, or their intensities modified.

15.2.1 Using existing memories in chaser steps

ISIS® offers two ways to include a memory in a chaser: the first method of assigning an intensity has been demonstrated above. A memory can also be added in a chaser step by using the Part Load function.

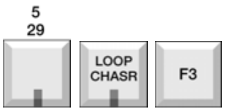
- ➔ First method: select the memory and assign an intensity.
- ➔ Second method: Part Load the contents of the memory.

By using Part Load, all memory information is included in the chaser step, including parameter settings for moving light instruments or colour scrollers. The Part Load function also allows the operator to select which channels or parameters are loaded from the selected memory into the chaser step.

Note: Once a memory has been inserted into a chaser, both remain independent: changing the contents of the memory will not change the contents of the chaser. There is no permanent link between chaser steps and memories.

Suppose a step is required, created out of an existing memory, memory 1.

example of keystrokes



<SUB5> <CHASER> <F3 {NEW}>

➔ Loads a new (empty) chaser into submaster 5.

<SUB 5 FADER>

➔ Raise the fader to see the chaser being created step by step, if required.

<MEMORY> <1> <PLOAD> <MEMORY1> <PLOAD>

➔ Memory 1 is loaded into the selected step.

➔ All information of each instrument (intensity and parameters) is loaded into the step.

Note: the normal Part Load functions remain available during this operation. If a specific part of a memory is needed, first select the channels and then use the Part Load function.

15.3 Creating an effect

Like a chaser, an effect is created, recorded and played back in a submaster. Once an effect has been recorded, it can be replayed manually, with automatic timings, or incorporated into the sequential playbacks by using the Intelligent Link function.

To create an effect, it must first be loaded in its empty form into a submaster. The channels required in the effect can then be entered, an effect type chosen, and other settings made. Once an effect has been created, it can be started by pressing the submaster's flashkey.

examples of keystrokes

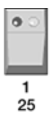
<SUB1> <EFFECT> <F3 {NEW}>
➔ Loads a new (empty) effect into submaster 1.

TYPE
➔ The Effect Type dialogue box is automatically displayed.

OR  … 

WHEEL OR <↓> … <ENTER>
OR USE THE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Select the effect type from the list by using the wheel or the arrow keys, and pressing <ENTER> or <F8 {OK}> to confirm. Channel intensities and patterns depend upon the effect type selected.
➔ The alphanumeric keyboard can be used to directly type in an effect type.

<CHANNEL LIST> <ENTER>
➔ Enter a list of channels to be included in the effect: a channel can be included more than once.
➔ The effect will operate on the channels in the order they are entered.



<SUB1 FLASHKEY>
➔ The flashkey starts the effect running.
➔ It can be viewed and modifications made to the speed, direction and so on, as described in the following sections.

<SUB1 FADER>
➔ Raise the fader to see the effect at the output.

15.3.1 Effect types

There are 20 different pre-defined effect patterns which can be selected when creating a new effect or changed by using the <TYPE> command. These patterns are used as the building blocks for effects. Attributes such as speed, direction, and so on can still be altered with some of the effect types.
The available effect types are listed below:

Effect Type	Description
Type 1	Basic effect
	Similar to a basic chaser in which each channel is played sequentially.
Type 2	Basic effect with audio speed control
	As type 1, but the step changes in time with an audio input.
Type 3	Symmetrical effect
	Like a chaser, but the effect starts from both ends of the channel list simultaneously.
Type 4	Symmetrical effect with audio speed control
	As type 3, but the step changes in time with an audio input.
Type 5	Build effect
	Starts at one end of the channel list and progressively adds all the other channels one by one.
Type 6	Build effect ,"VU meter" – bass response
	A build effect, but the build progress varies depending upon the strength of the bass frequencies of an audio input.
Type 7	Build effect ,"VU meter" – mid-range response
	As type 6 but responding to mid-range audio frequencies.
Type 8	Build effect ,"VU meter" – treble response
	As type 6, but responding to treble frequencies.
Type 9	Build effect ,"VU meter" – full range response
	As type 6 but responding to the average audio input.
Type 10	Wipe effect
	Starts like a build, progressively adding all the channels, but when they are all on, it progressively subtracts them again.
Type 11	Turning group
	Starts with one channel, adds the second, then adds the third but simultaneously removes the first. When the fourth is added, the second is subtracted, etc.
Type 12	Waving group
	Similar to a turning group, except that the channel intensities increase progressively with each step. The fade type is set to crossfade, and a wave effect is created.
Type 13	Audio wave
	As type 12, but the step changes with the audio input.
Type 14	Individual flickering A

	A random flicker effect, where each channel is independent of all the others and can have any intensity.
Type 15	Individual flickering B
	As type 14, but utilising a second random generator.
Type 16	Individual random triggering
	A random effect, but channel levels are either off or full.
Type 17	Global flickering
	Another flicker generator, but all the channels in the list have the same intensity at any one time.
Type 18	Flash effect
	A lightning simulator. All channels have the same intensity at any one time.
Type 19	Fire effect A
	A fire simulator. The channels are subjected to global flickering to emulate a typical fire flicker.
Type 20	Fire effect B
	As type 19 but utilizing a second random generator.
Type 21	Effect generator for motorised luminaries
	A special type of effect, designed for moving light instruments. See the chapter 23 *Effect Generator* for further details.

15.4 Recording chasers & effects

Once a chaser or effect has been created, it should be recorded. This allows the chaser or effect to be re-loaded into another working field, and included in the sequential playback by using the Intelligent Link function. Recorded chasers and effects can also be included in submaster banks.

Recording a chaser or effect is very simple: once it has been created, just press <REC> key.

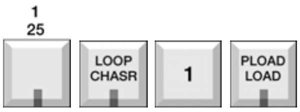
15.5 Loading chasers & effects

Once a chaser or effect has been recorded, it can be loaded into any other submaster field and can also be included in submaster banks.

The same rules apply to loading chasers and effects in submasters as to loading memories. If more than one submaster is selected for the load function, the chaser or effect is loaded into all the selected submasters.

Only one chaser can be loaded into a single submaster, but all the submasters can contain chasers simultaneously.

examples of keystrokes



<SUB1> <CHASER> <1> <LOAD>
➔ Loads chaser 1 into submaster 1.

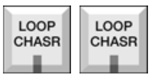
<SUB2> <THRU> <SUB8> <EFFECT> <1><0> <LOAD>
➔ Loads effect 10 into submasters 2 to 8.
➔ All eight submasters will have the same contents.

Note: Loading a chaser or effect replaces all previous contents of a submaster.

15.5.1 Direct load of chasers & effects

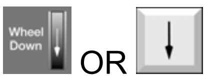
In the same way as groups and memories, chasers and effect can be loaded into a working field by using the Direct Load function. In this way, a temporary list of recorded chasers or effects is displayed on the monitor - from which the operator can load the required entity.

example of keystrokes



➔ Displays the list of existing chasers, together with their titles.

Chaser Direct Load window



WHEEL OR <↓>
➔ Highlight the required chaser.

<LOAD>
➔ Directly loads the highlighted chaser in the current working field.

Note: The Direct Load function is disabled when out of context.
For Mentor series, should first assign Chaser or Effect to one of the free hard keys or use the function from the touch screen.

15.6 Chaser & effect settings

In the examples given above, chasers and effects were created in their simplest form, with no regard to the speed, direction or fade type. They will have used the default settings shown below.

Setting	Value
Speed	1 second per step
Direction	Forward
Fade type	Cut (snap)
Mode	Positive
Cycles	Infinite

These settings can be changed by the operator, to customise the special effect. However, speed, direction, fade type and mode are not available for all types of effect. For example, there cannot be a “direction” for a flicker effect. These functions are automatically disabled if they are not compatible with the effect type selected.

Note: The following examples are taken from the Phoenix . For Mentor series, all these controls should be done through the touchscreen. Please refer to the section 15.15.

15.6.1 Speed

The default time of 1 second per step means that the chaser or effect will change once every second. This speed (sometimes called “rate”) is variable from 0.1 second to 60 minutes, in 10^{th} second intervals.

The Speed function affects all steps equally: it is the global rate of the chaser or effect. Note that chasers can have an independent time for each step, in which case the Speed function adjusts the time for each step proportionally. Chasers with individual step times are discussed in section 15.11.

➔ Speed can be changed whilst the chaser or effect is running.

Speed can be changed by pressing the <SPEED> key in the Special Effects area of the desk, and moving the fader wheel upwards to increase the speed or downwards to decrease it. Once the value has been set, the wheel should be re-assigned to intensity control by pressing <SPEED> a second time.

The speed value can also be changed by assigning the wheel to the ‘Effects Speed’ function.

examples of keystrokes

<F7 {TOOLS}> <F6 {WHEEL}> <F8 {OTHER}> <F1 {SPDEFF}>

➔ Assigns the Effect Speed function to the wheel.

WHEEL
➔ Adjusts the speed of the selected chaser or effect.

<REC> <REC>
➔ Re-records the chaser or effect when the speed is correct.

<F7 {TOOLS}> <F6 {WHEEL}> <F1 {INTENS}>
➔ Re-assigns intensity control to the wheel.

15.6.2 Direction

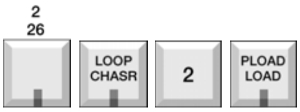
The direction of a chase or effect is the order in which the steps are replayed. Direction can be changed to alter the appearance of a chaser. Direction is changed using the <DIR> key, and can be changed whilst a chaser or effect is running. The current direction is shown next to 'Dir' in the information bar at the top of the working field monitor.

➔ Certain effect types (such as flickers) cannot have direction modifications.

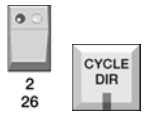
The available directions are listed below: the default direction is 'forwards'.

Setting	Display	Value
Forwards	>	Chasers run from the first step, down the list to the last step, then starts again at the beginning. Effects run through the channel list to the last channel, then starts again at the beginning.
Backwards	<	The direction is reversed so that chasers run from the last step, up the list to the first step, then starts again at the bottom. Effects run from the last channel in the list back to the first channel, then starts again at the end.
Bounce Pendulum	< >	The chaser or effect runs forwards from beginning to end, then backwards from end to beginning, then forwards again, and so on.

examples of keystrokes



<SUB2> <CHASER> <2> <LOAD>
➔ Loads chaser 2 into submaster 2.



<SUB2 FLASHKEY> <DIR>
➔ Starts the chaser and then changes the direction from forwards to backwards.
➔ Symbol on screen is: <

<DIR>
➔ Changes the direction from backwards to.
➔ Symbol on screen is: < >

<DIR>
➔ Changes the direction to forwards again.
➔ Symbol on screen is: < >

<REC> <REC>
➔ Re-records the chaser when the direction is correct.

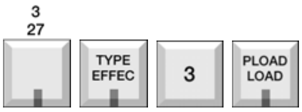
15.6.3 Fade type

Fade type is the profile, or attack envelope, used to move between steps of a chaser or effect. Fade type can be changed to provide a different transition between the steps of a chase or the channels of an effect. Fade type is changed using the <FADE> key, and can be changed whilst a chase or effect is running. The current fade type is shown next to ‘Fad’ in the information bar at the top of the working field monitor.

The available fade types are listed below: the default type is ‘cut’.

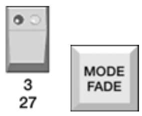
Setting	Display	Value
Cut (or square)	⊓	The step changes suddenly each time the step time expires. The channels going up and down in intensity snap as each step changes.
Triangle	Λ	Channels in each step fade up and down for the duration of the step time, meaning there are always channels changing in intensity.
Sawtooth 1	|\	Incoming channels snap in at the start of the step, then fade out over the duration of the step.
Sawtooth 2 Inv.Saw	/|	Incoming channels fade up for the duration of the step, then snap out.
Crossfade	X	Channels crossfade between steps: step two will fade in as step one fades out. No change in intensity is seen if a channel is at the same value in consecutive steps

examples of keystrokes



<SUB3> <EFFECT> <3> <LOAD>

➔ Loads effect 3 into submaster 3.



<SUB3 FLASHKEY> <FADE>

➔ Starts the effect and then changes the fade type.

<FADE>

➔ Toggles the effect to the next fade type.

<REC> <REC>

➔ Re-records the effect when the direction is correct.

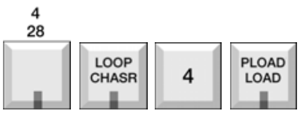
15.6.4 Mode

Mode describes the action of the chaser or effect on the channels in each step. The mode can be changed to produce a different look to the special effect.

Mode is changed using the <MODE> key in association with the function keys and can be changed whilst the chase or effect is running. The current mode type is shown next to 'Mod' in the information bar at the top of the working field monitor.
The available modes are listed below: the default mode is 'positive'.

Setting	Display	Value
Positive	+	The default mode sets the channels in each step to their intensities, while other channels in the other steps are turned off.
Negative	-	The negative mode turns the channels in the current step off, while all the other steps are on. The chaser becomes inverted in terms of intensities.
Audio Positive	Audio +	The audio mode can be selected from positive and negative, which are identical to the positive and negative modes described above, but in audio mode the step changes not according to time per step, but to the beat of an audio input. In this case, the <SPEED> control adjusts the audio response level: the value is displayed next to 'LVL' in the information bar at the top of the working field monitor.
Audio Negative	Audio -	
MIDI	Midi + Midi -	Steps will change in response to MIDI triggering. For full details of MIDI and the submasters, please refer to the chapter 28 *MIDI CONTROL*.

examples of keystrokes



<SUB4> <CHASER> <4> <LOAD>
➔ Loads chaser 4 into submaster 4.

<MODE> <F2>
➔ Changes the mode to negative.

<MODE> <F3>
➔ Changes the mode to audio positive (there must be an active audio input for the chaser to change).
➔ The audio trigger level is adjusted using the <SPEED> control.

<MODE> <F4>
- ➔ Changes the mode to audio negative (there must be an active audio input for the chaser to change).
- ➔ The audio trigger level is adjusted using the <SPEED> control.

<MODE> <F1>
- ➔ Changes the mode to back to positive.

<REC> <REC>
- ➔ Re-records the chaser when the mode is correct.

<SUB4 FLASHKEY>
- ➔ Starts the chaser with the selected mode

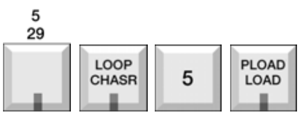
➔ Details of setting up the audio input are given in section 15.123 Responding to audio Input in this chapter.

15.6.5 Cycles

The default number of cycles is infinity, which means that the chaser or effect will run continuously until it is manually stopped. The Cycles function enables an absolute quantity of repetitions to be programmed, so that the chaser or effect has a limited time to run. Cycles can be set from 1 to 999, or infinity.

The number of cycles is changed using the <CYCLES> key, and can be changed whilst a chase is running.

examples of keystrokes



<SUB5> <CHASER> <5> <LOAD>
- ➔ Loads chaser 5 into submaster 5.

<CYCLE> <3> <F8 {OK}>
➔ Allocates 3 cycles to the chaser.

<SUB5 FLASHKEY>
➔ Starts the chaser: it now runs three times and then stops automatically.

<CYCLE> <F1 {INFINITE}>
➔ When the cycles dialogue box is displayed, <F1> is used to return the number of cycles to infinity.

<REC> <REC>
➔ Re-records the chaser when the cycles are correct.

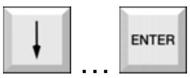
15.6.6 Viewing channel intensities as "bargraphs"

When working with chasers or effects, it can be useful to change the display mode for channel intensities from the normal "numeric" mode to "bargraphs". The bargraphs option displays the intensity of each channel pictorially, meaning that the action of the special effect can be visualised more easily.

Note: The bargraphs facility is a toggle function found in the Setup menu – it may be worth creating a macro for it!

examples of keystrokes

<MENU> <F7 {SETUP}> <F5 {DISPLAY FORMAT}>
➔ Enters the Display Format dialogue box *815* from the Setup option of the menu.



<↓> ... <ENTER>
➔ Move the cursor to the "Bargraphs" check box and make the selection.

<F8 {OK}>
➔ Confirms the changes and exits the dialogue box.

15.7 Chasers with moving lights

Chasers are a quick and simple way of making moving lights move! Chasers avoid some of the subtleties of using moving lights in the playbacks and also are ideal for creating simple repetitive movements or colour changes.

This section shows how to incorporate some of the moving light functions into chasers, but full details of these functions and how to use them extensively is given in the chapter 21 * Using Moving Lights*.

Chasers offer a quick way to make moving lights move - but are not the best method for creating movement shapes: for this it is better to use dedicated effects. Please see the chapter 23 *Effect Generator* for more information.

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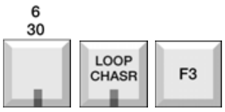
examples of keystrokes



<SUB6> <CHASER> <F3 {NEW}>
➔ Loads a new (empty) chaser into submaster 6.

<SUB6 FADER>
➔ Raise the submaster fader to see chaser being created, step by step.

<CHANNEL SELECTION, INTENSITY, PARAMETER MODIFICATION>
➔ Sets channel intensities and motion control elements.
➔ The moving light positions can be from pre-recorded motion control libraries, or memories.

<ADD STEP>
➔ Adds the second step of the chaser.

<CHANNEL SELECTION, INTENSITY, PARAMETER MODIFICATION>
➔ Sets channel intensities and motion control elements.

<ADD STEP>
➔ Adds the next step of the chaser.

<CHANNEL SELECTION, INTENSITY, PARAMETER MODIFICATION>
➔ Sets channel intensities and motion control elements.

<SPEED> <DIR> <FADE> <MODE>
➔ These functions are used to refine the chaser.

<REC>
➔ Records the chaser.

Note: Be careful with the speed control with moving lights: the chaser can run faster than moving light motors. If the instruments appear to be switching rather than moving properly, try slowing down the speed.

15.7.1 Viewing the “One Step” screen

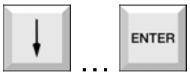
Working with motion control instruments within the conventional chasers display - showing all the steps and the channels that they contain - is not very useful when the chaser is being created. In this case the chasers screen can be changed from displaying “all steps” to only “one step” in which case all the parameter values can be displayed.

➔ The “one step” screen can also be used with intensity-only chasers if it is preferred, but it is particularly useful when working with moving lights.

Note: This facility is a toggle function found within the Setup menu – it might be worth creating a macro for it!

examples of keystrokes

<MENU> <F7 {SETUP}> <F5 {DISPLAY FORMAT}>
➔ Enters the Display Format dialogue box from the Setup option of the menu.



<↓> ... <ENTER>
➔ Move the cursor to the “One Step” check box and make the selection.

<F8 {OK}>
➔ Confirms the changes and exits the dialogue box.

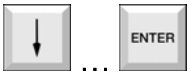
15.7.2 Viewing the parameters as a monitor footer

ISIS® offers the operator extremely flexible screen configurations, with each monitor being divided into a main section, and two footers. The information displayed in each area can be defined, and changed, as required.

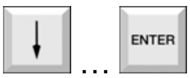
When working with moving lights, it may be useful to display the instrument parameters directly on one of the footers. In this case, it is not necessary to use the “one step” screen described above.

examples of keystrokes

<MENU> <F7 {SETUP}> <F4 {SCREEN CONFIG}>
➔ Enters the Screen Configuration dialogue box.



<↓> <ENTER>
➔ Use the down arrow to move the cursor to one of the Footer fields of the required monitor, and display the available options by pressing <ENTER>.



<↓> <ENTER>
➔ Select one of the ‘Parameter’ options.

<F8 {OK}>
➔ When the selection is correct, <F8 {OK}> applies the selections and exits the dialogue box.
➔ If anything is wrong or uncertain, press <F7 {CANCEL}> to exit the dialogue box without making any changes.

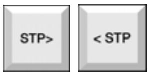
Note: Screen configuration is discussed in more detail in the chapter 6*Setup*.

15.8 Pausing a special effect & manual control

When a chaser or effect is running, it can be paused at any point by using the <PAUSE> key. The current step will be held indefinitely, until it is resumed by a second press of the key. When a chaser or effect is paused, the two <STEP> keys can be used to manually step forward or backward through the steps.

examples of keystrokes

<PAUSE>
➔ Pauses a running chase or effect at the current step.



<STEP→> OR <←STEP>
➔ Manually moves through the steps.

<PAUSE>
➔ Resumes a paused chaser or effect from the current step.

Note: To park (or stop) a running chaser press <SHIFT + FLASH>.

15.9 Autofade: times for chasers & effects

So far, chasers or effects have been operated entirely manually: using the submaster flashkey to start and stop each chaser. However chasers and effects can be given fade times and, because they are loaded into submasters, the submaster can be set to Auto mode.

In this case, the flashkey will start the chaser or effect running and fade its levels up in the up time entered. Pressing the flashkey a second time makes the chaser or effect fade out in the downtime entered, and stop running when the fade out is complete.

The times are only applied to a chaser or effect if the submaster is in Auto mode. If the submaster is not in Auto mode, no times are obeyed: the chaser or effect starts and stops manually by use of the associated flashkey.

Note: It is not possible to use Auto mode if the submaster is in Audio mode.

15.9.1 Up and down times

A special effect is started as soon as the flashkey is pressed, and obeys the speed value, but the intensities output by the chaser or effect fade up or down according to the times set.

15.9.2 Wait time

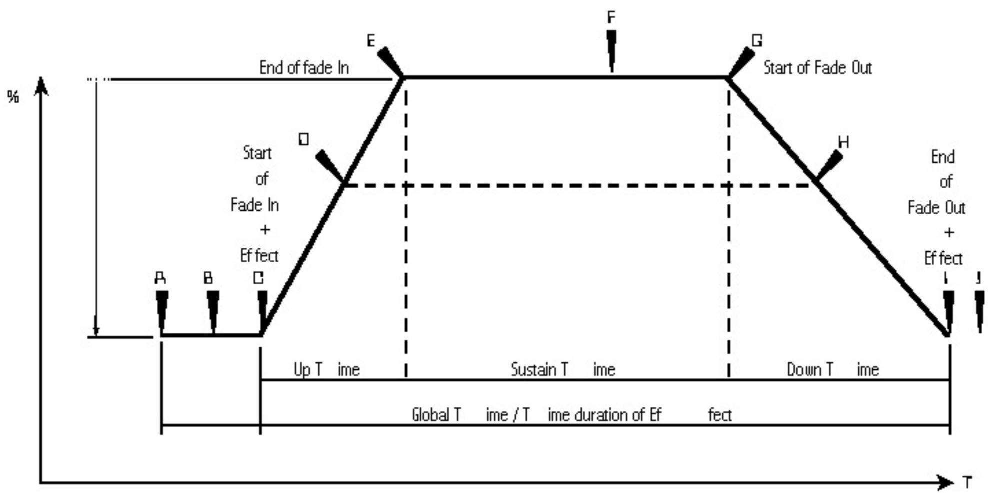
The wait time for a chaser or effect is a delay at the beginning of the effect, once the flashkey has been pressed. Separate wait up and wait down times cannot be plotted - because for special effects there is no such thing as a wait down.
When a chaser or effect is running, the time it takes between the completion of the fade up to the start of the fade down is called the sustain time, and this is calculated automatically by *ISIS®* when Auto mode is selected.

15.9.3 Sustain time

The sustain time is the duration of the chaser or effect from the completion of its up time to the beginning of its down time. The sustain value is automatically calculated by the system: this calculation considers the up and down times, the time per step, and the number of cycles.

Sustain time = (number of cycles x number of steps x time per step) - (up time + down time)
Global time = up time + sustain (wait down) + down time

The following diagram shows the different time elements associated to chasers and effects in Auto mode.



Points on the graph are explained in the tables below.

Wait Time	=	A to C
Up Time	=	C to E
Sustain Time	=	E to G
Down Time	=	G to I

A	=	Flashkey is pressed to start the sequence
B	=	Wait up delay
C	=	Start of the fade in + Effect running
E	=	End of the fade in
G	=	Start of the fade out
I	=	End of the fade out + Effect stopped
D	=	If flashkey pressed, jump to H
F	=	If flashkey pressed, jump to G
H	=	If flashkey pressed, jump to I
B	=	If flashkey pressed, jump to I

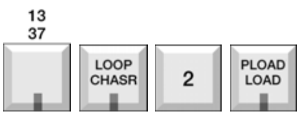
15.9.4 Parameter times in chasers

Parameters in chasers obey the time per step speed setting.

If they are fade-type parameters and the fade type is set to slope or crossfade, the parameter will fade for the duration of the step.
If it is a jump-type parameter and the fade is set to slope or crossfade, the parameter will change in the middle of the step.

If the fade type is set to jump or sawtooth, the parameter will change at the beginning of the step, the time per step acting as a pause between steps, rather than a step timing.

examples of keystrokes



<SUB13> <CHASER> <2> <LOAD>
➔ Loads chaser 2 into submaster 13

<AUTO>
➔ Sets the submaster to Auto mode.

<UP> <7> <UP> <DOWN> <1><5> <DOWN>
➔ Sets the up time at 7 seconds and the down time at 15 seconds.

<REC> <REC>
➔ Re-records the chaser.

<SUB 13 FLASHKEY>

- ➔ When the flashkey is pressed to start the chaser, the chaser begins but it takes 7 seconds to reach full intensity.
- ➔ If the flashkey is pressed again, once the chaser is running at full intensity, the channels fade out over 15 seconds. When the intensities are all at zero, the chaser stops running and sets itself back to ‘Park’ ready to run again.

Note: If the up time has not completed when the flashkey is pressed to start the down fade, the channels never reach full intensity - the sustain time is skipped.

15.10 Changing the flashkey mode

The above example required the flashkey effect mode to be in its default setting of “start-stop”. This mode can be changed to “start-pause” or “start-step” independently for each submaster. These modes are described below: the default mode is “start-stop”.

Setting	Description
Start-Stop	This mode can be considered as “normal”. The special effect is started the first time that the flashkey is pressed, and stopped and reset the second time when the flashkey is pressed again. In this mode, the chaser or effect is reset and parked so that the next time it is used, it begins from the first step.
Start-Pause	Begins the special effect as normal. However the second time the flashkey is pressed it stops running, and remains on the current step, with that step still ‘live’: it is not parked. If the flashkey is pressed again, the special effect resumes from the point of the pause.
Start-Step	Starts the special effect as normal. The second operation of the flashkey pauses it and subsequent presses manually change the step. This method allows the operator to be in full control of the step changes. Steps change to a manual rhythm determined by the operator and are not influenced by time per step or audio input.

The flashkey effects mode is set in the Submaster Configuration dialogue box, and applies to all selected submasters.

Submaster Configuration dialogue box: Special effect flashkey mode

Note: To park (or stop) a running chaser or effect press <SHIFT + FLASH>.

15.11 Chaser with individual step times – “Cue Stacks”

The “time per step” (T/S) of a chaser is the time taken from the start of the first step to the start of the second step: it is the rhythm of the effect. By default the step time is 5 seconds.
Section 15.6.1 demonstrated how the Speed function could be used to change the rate of a chaser, by increasing the time per step equally for all steps.

However, *ISIS®* allows the operator to assign an individual step time to each step of a chaser. This provides finer control over the look of a chaser. The Speed function can still be used to change the chaser’s rate, but it affects all steps proportionally.

If the fade type is set to ‘Crossfade’, a chaser with individual step times allows multiple crossfades to be created. If memories are used to create the chaser steps, the action of the chaser is similar to that of the playbacks. This action is sometimes referred to as a “stack” or “cue-list”.

15.11.1 Setting individual step times

A chaser with individual step times is created in the same way as a conventional chaser in *ISIS®*, however each step is assigned an individual time using the <SHIFT> key in association with the wheel.

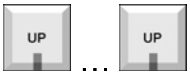
example of keystrokes

<SUBMASTER 24> <CHASER> <1><0> <LOAD>

➔ Chaser 10 is loaded in submaster 24: the first step is automatically selected.

<CHANNELS / INTENSITIES>

➔ Enter the channels and intensities for the first step.



<up time> (time x) <up time>
- The step time for this step is set by inputting the up time from the keypad.

<CREATE OTHER STEPS AS REQUIRED>
- Use the <ADD STEP> function to create additional steps.
- Set each step time by the same ways of inputting Memory times.

<REC>
- The chaser is recorded.

The Speed function can still be used to change the overall rate of the chaser. In this case, the function will affect the time of each step equally, maintaining the proportional difference between step times.

15.11.2 Using a chaser with individual steps

Using a chaser with individual steps is identical to a standard chaser. However, use of the submaster flashkey becomes more important. The flashkeys have 3 different modes for chasers:

- Start - Stop
- Start - Pause
- Start - Step

For a chaser with individual step times, the Start–Step mode can be considered as the Start button of a playback list. Each time the flashkey is pressed, the chaser moves to the next step. Depending on the fade type of the chaser, different fades between steps are possible. If ‘Crossfade’ mode is selected, then the chaser will act as a crossfade between two steps.

The flashkey mode is set in the Submaster Configuration dialogue.

Important: To park (or stop) a running chaser press <SHIFT + FLASH>.

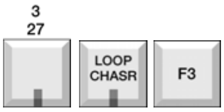
15.12 Cue List

A Cue List is a special chaser composed by a sequence of memories. ISIS® allows up to 96 Cue List within one chaser.

Like the ordinary chasers, the Cue List is created, recorded and played back in a submaster.

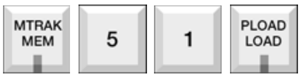
Once a Cue List has been recorded, it can be played back manually with automatic timings or incorporated into the sequential playbacks by using the Intelligent Link function.

Examples of Keystrokes



<SUB3> <CHASER> <F3 {NEW}>

➔ Loads a new (empty) chaser into submaster 3.
➔ Automatically the first step is selected



<MEM> <5> <1><LOAD>

➔ Loads the memory 51 as the first step

<ADD>

➔ Add another step

<MEM> <5> <2><LOAD>

➔ Step 2 of this Cue List is memory 52

<ADD>

➔ Add another step

<MEM> <5> <3><LOAD>

➔ Memory 53 is the step 3 of this Cue List

The chaser(Cue List) is recorded.

To play the recorded Cue List, press the Flashkey or the GoOne from the touchscreen.

Editing a Cue List:

During the course of creating a cue list, or later during modification, it may be necessary to change the memory. A memory can be modified inside a cue list or in any other possible working field (e.g. Submasters, Playbacks or EDMEM area).

Working inside the CUE LIST modifications are only possible when the CUE LIST is stopped. With STEP+ and STEP- ,it is possible to edit each step: each memory. REC function will re-record the selected step.

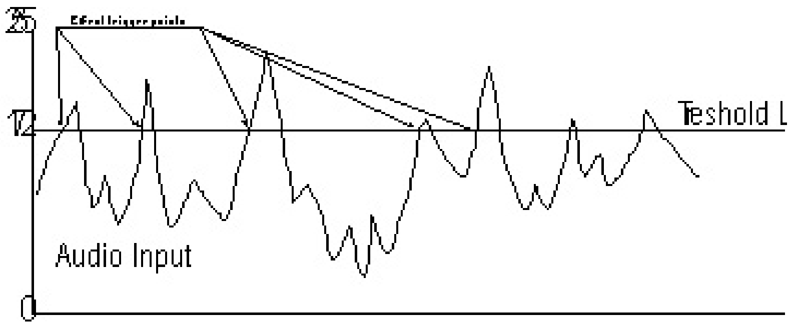
Modifying (rerecording) a memory in a CUE LIST will also modify the memory in the pool and vice versa.

Note: deleting a memory of the pool will also delete the memory inside the CUE LIST. The CUE LIST will have an empty step.

15.13 Responding to audio Input

If the mode of a chaser or effect is set to Audio+ or Audio-, the step will change in response to an audio input. The point of each step change is not necessarily a steady rhythm: it changes when the bass frequency of the audio input crosses a user-definable “threshold level”.

The higher the threshold level the fewer the audio trigger points, and so the slower the step change. The trigger point is on the up slope of the audio signal, the down slope has no effect (please see diagram).

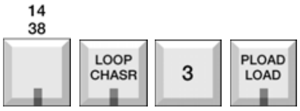


Note: An audio mode chaser will only run when there is an audio source connected which has been enabled in the Setup menu.

The threshold level is changed by using the special effect Speed function. When a chaser or effect is set to either of the Audio modes, the “T/S” box changes to “LVL” and displays the current trigger level.

To get the best results from audio chasers, it is likely that this threshold level will be different for each piece of music used. For that reason, when a chaser is working well with one piece of music, it should be recorded to include the threshold level and a new chaser created for another piece of music. (These can be copies of the initial chaser with just a minor modification to the threshold level).

examples of keystrokes



<SUB14> <CHASER> <3> <LOAD>
➔ Loads chaser 3 into submaster 14.

<MODE> <F3>
➔ Changes the mode to Audio+.

<SUB14 FLASHKEY>
➔ Starts the chaser.

<SPEED> WHEEL
➔ Adjusts the threshold level.

<REC> <REC>
➔ Re-records the chaser when it is working well with the audio input.

For audio effects to work, the audio input must be enabled and supplied with a good input level. The audio input is configured in the General Configuration dialogue box*866*. It is best to configure the audio with the actual piece of music that will be used.

If there is no response to the audio signal, check that audio is enabled in the General Configuration options from the Setup menu.

15.13.1 Effect response to audio input

In a similar manner to chasers, effects can respond to an applied audio signal. The following table shows how the different effect types use the audio input.

Type	Description	Transitions	Effect of Audio Signal
1	Basic effect	+ – +Audio –Audio	Step changes by threshold trigger
2	Basic effect with audio speed control	+ –	Speed changes by full-range threshold trigger
3	Symmetric effect	+ – +Audio –Audio	Step changes by bass threshold trigger
4	Symmetric effect with audio speed control	+ –	Speed changes by full-range threshold trigger
5	Build effect	+ – +Audio –Audio	Step changes by bass threshold trigger
6	Build effect, VU meter (Bass)	+ –	Channels are added and subtracted as the audio signal modulates – bass response
7	Build effect, VU meter (Mid)	+ –	Channels are added and subtracted as the audio signal modulates – mid-range response
8	Build effect, VU meter (Treble)	+ –	Channels are added and subtracted as the audio signal modulates – treble response
9	Build effect, VU meter (Full-range)	+ –	Channels are added and subtracted as the audio signal modulates – full-range response
10	Wipe effect	+ – +Audio –Audio	Step changes by bass threshold trigger
11	Turning group	+ – +Audio –Audio	Step changes by bass threshold trigger
12	Waving group	+ – +Audio –Audio	Step changes by bass threshold trigger
13	Audio wave	+ –	The wave shift occurs each time a new audio sample is taken. The speed control changes the sampling rate
14	Individual flickering A	+ –	No audio
15	Individual flickering B	+ –	No audio
16	Random triggering	+ –	No audio
17	Global flickering	+ –	No audio
18	Flash effect	+ –	No audio
19	Fire effect A	+ –	No audio
20	Fire effect B	+ –	No audio

15.14 Modifying chasers & effects

Any existing chaser or effect can be loaded and modified at any time. The modifications remain in the selected submaster until the submaster is erased. The next time the chaser or effect is loaded it will revert to its last recorded version. Of course, after the modifications, the chaser or effect can be re-recorded, or recorded as a new entity.

When a chaser or effect is modified, its number flashes to indicate that the changes made have not been recorded, in the same way that a memory number flashes when a memory has been modified.

15.14.1 Changing speed, direction, fade type and mode

The speed, direction, fade type and mode can be changed as described above. Each function can be changed while the chaser is running, if required.

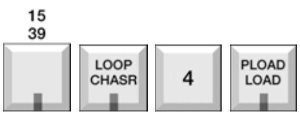
Not all modifications are allowed on all effect types; direction, for example, cannot be changed on flickers. The table below shows which attributes can be changed for each type of effect.

Type	Description	Speed	Fade	Dir	Mode	Audio Threshold
1	Basic effect	Yes	Yes	Yes	Yes	No
2	Basic effect with audio speed control	No	Yes	Yes	Yes	Yes
3	Symmetric effect	Yes	Yes	Yes	Yes	No
4	Symmetric effect with audio speed control	No	Yes	Yes	Yes	Yes
5	Build effect	Yes	Yes	Yes	Yes	No
6	Build effect, VU meter (Bass)	No	Yes	No	No	Yes
7	Build effect, VU meter (Mid)	No	Yes	No	No	Yes
8	Build effect, VU meter (Treble)	No	Yes	No	No	Yes
9	Build effect, VU meter (Full-range)	No	Yes	No	No	Yes
10	Wipe effect	Yes	Yes	Yes	Yes	No
11	Turning group	Yes	Yes	Yes	Yes	No
12	Waving group	Yes	Yes	No	Yes	No
13	Audio wave	No	Yes	No	Yes	Yes
14	Individual flickering A	Yes	No	No	No	No
15	Individual flickering B	Yes	No	No	No	No
16	Random triggering	Yes	No	No	No	No
17	Global flickering	Yes	No	No	No	No
18	Flash effect	No	No	No	No	No
19	Fire effect A	No	No	No	No	No
20	Fire effect B	No	No	No	No	No

15.14.2 Adding or deleting channels from chaser steps

During the course of creating a chaser, or later during modification, it may be necessary to add or remove channels from steps. Channel intensities can be modified, or the contents of an entire step can be removed.

examples of keystrokes



<SUB15> <CHASER> <4> <LOAD>

➔ Loads chaser 4 into submaster 15.

<SUB15 FADER>

➔ Sends the chaser contents to the Output for visible modification, if required.

<STEP→>

➔ Moves the cursor to the required chaser step.

<1><3> <AT> <6>

- Adds channel 13 at 60% to the selected step.
- All channel intensity methods can be used for setting intensities in chaser steps.

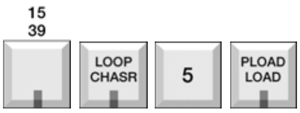
<STEP→> <4><7> <AT> <0>

- Removes channel 47 from the selected step.

15.14.3 Adding or deleting chaser steps

During the course of creating a chaser, or later during modification, it may be necessary to add or remove entire steps from chasers.

examples of keystrokes



<SUB15> <CHASER> <5> <LOAD>

- Loads chaser 5 into submaster 15.

<STEP→>

- Moves the cursor to the required chaser step.

<ADD STEP>

- Adds a step after the selected one.
- The step is empty until channel modifications are made.

<STEP→> <STEP→>

- Moves the cursor to the required chaser step.

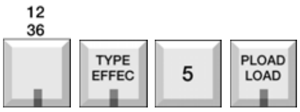
<DEL> <DEL>

- Pressing <DEL> once deletes the contents of the step but not the step itself.
- Pressing <DEL> a second time deletes the whole step and subsequent steps are re-numbered accordingly.

15.14.4 Adding or deleting channels from an effect

Channels can be added to, or subtracted from, the channel list of an effect by using the <+>, <->, <NEXT>, <PREV> and <THRU> keys.

examples of keystrokes



<SUB12> <EFFECT> <5> <LOAD>
➔ Loads effect 5 into submaster 12.

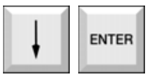
<+> <1><2> <-> <1><3> <ENTER>
➔ Adds channel 12 and removes channel 13 from the effect.
➔ The effect operates on the channel list in the order they are entered.

15.14.5 Changing the effect type

The effect type can not be changed when the effect is running.

examples of keystrokes

<TYPE>
➔ Displays the Effect Type dialogue box.

OR


WHEEL OR <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Select the effect type from the list by using the wheel or the arrow keys, and pressing <ENTER> or <F8 {OK}>. Channel intensities and patterns depend upon the effect type selected.
➔ The alphanumeric keyboard can be used to type in a memory number directly.

15.14.6 Re-recording an existing chaser or effect

When modifications have been made to a chaser or an effect, its number flashes to warn that the modifications have not been saved. The changes are kept whilst the chaser or effect remains loaded, but once the submaster is erased the modifications will be lost unless it is re-recorded.

To re-record the chaser or effect with the same number, press <REC> twice. This action will make the modifications permanent.

15.14.7 Recording modifications as a new chaser or effect

A modified chaser or effect can be recorded as a new entity. Often it is quicker to make a new special effect based on an existing one rather than by building it from scratch.

When an existing chaser or effect has been modified it can be given a new number and recorded.
The new number replaces the original one in the selected submaster, but the original entity still exists and can be reloaded into any submaster when required.

examples of keystrokes

<CHASR> <1><7> <REC>
➔ Records the modified chaser in the currently selected submaster as chaser 17.

15.15 Chaser or Effect operations from the touchscreen of MENTOR

As MENTOR series have the multifunction touch screen, instead of pressing hard keys such as CHASER / EFFECT / ADD /DIR / MODE / TYPE / SPEED / <STP / > STP / PAUSE from the front desk, all these operations are accessed from the touch screen. For more information about the touch screen, please refer to the chapter 30 *Touchscreen Control *.

A	B	C	D	Param
Unsel	Off	Grab	Fill	
Home	Open	Ignit	UnLink	Reset
				Mclib
				List
Macro	Group	Chaser	Effect	Memory
list	list	list	list	list

Touch screen display in Static mode

Selecting Chaser or Effect from the touch screen in STAT(ic) mode to enter into the chaser display or effect display . The touch screen display changes as bellow:

1	2	3	Config.	All Condens
4	5	6	Step +	Step –
7	8	9	Add Step	Del Step
10	11	12	Rec	Load
13	14	15		Speed
16	17	18		
▲▲	▼▼	Home	End 1/99	ESC

Chaser display mode

1	2	3	Config.	All Condens
4	5	6	Step +	Step –
7	8	9		
10	11	12	Rec	Load
13	14	15		Speed
16	17	18		Type
▲▲	▼▼	Home	End 1/99	ESC

Effect display mode

Here, the chaser or effect number can be selected, new chaser or effect can be created , recorded or loaded in the similar ways described in the sections 15.2 (Creating a chaser) /15.3 (Creating an effect) /15.4 (Recording chasers & effects) /15.5 (Loading chasers &effects) . ▲▲ / ▼▼ are the keys to turn to another page. The used chaser or effect has a *next to its number.

It is also very simple to modify the settings of a chaser or an effect from the touch screen: pressing Config(uration) key from the display window above. Once in the configuration window, the Mode / Direction / Fade / Cycle can be modified whenever it is necessary.

Mode	Dir	Fade	Cycle	
+	Right	Square	Infinite	
–	Left	Triangle	Input	
Audio +	Pendulum	Saw		
Audio –		Inv Saw		
Midi +		Cross		
Midi –				Back

Chaser & effect configuration

1	Basic Effect			
2	Basic Effect with Audio Speed			
3	Symmetric Effect			
4	Symmetric Effect with Audio Speed			
5	Build Effect			
6	Build Effect with Audio Speed			
▲▲	▼▼	Home	End	Back

Effect type selection (Basic Effect selected)

15.16 Chaser & effect Managers

The Managers can be accessed from the Managers menu, or more directly from the Chaser or Effect keys followed by <F1 {MANGER}>. In the manager, chasers or effects can be copied, deleted, edited, named, and re-numbered in a similar fashion to memories and groups.

15.16.1 Viewing the chasers or effects list

The relevant list is automatically displayed whenever the manager is selected.

examples of keystrokes

<CHASER> <F1 {MANAGER}>

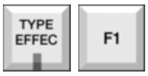
➔ Displays the Chaser Manager,dialogue box*230*: List of Chasers. Initially a list of recorded chasers is displayed. However, chasers can be renumbered, edited, copied, and deleted in the chasers manager.

*Chaser Manager (Dialogue box *230*)*

15.16.2 Editing chasers & effects (title and times)

A title can be added for ease of identification in the manager and in the lists, and global times can be added. These times are the fade in and fade out times, and only work when the submaster containing the chaser or effect is in Auto mode.

examples of keystrokes



<EFFECT> <F1 {MANAGER}>

➔ Displays the Effect Manager.

OR


WHEEL OR <↓>

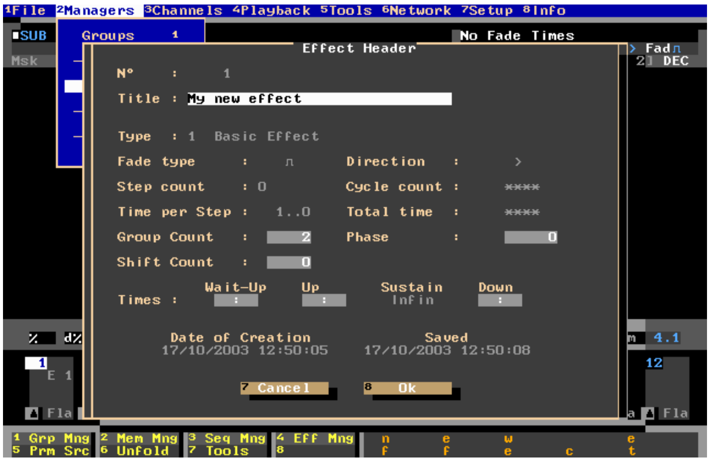
➔ Use the wheel or the down arrow to highlight the effect to be edited.

<F2 {EDIT}>

➔ Displays the Effect Header information: type a title and set the times, if required.

<F8 {OK}> <F8 {OK}>

➔ Confirm the changes and exit the dialogue box.



Editing an effect

Note: The effect header dialogue box contains all information about the effect, but only the parts in the highlighted boxes, such as title and times can be edited in this way.

15.16.3 Renumbering chasers & effects

Just like memories and groups, chasers and effects can be re-numbered if they have been created out of numerical sequence, or some items have been deleted.

examples of keystrokes

<CHASER> <F1 {MANAGER}>

➔ Displays the Chaser Manager.

OR


WHEEL OR <↓>

OR USE ALPHANUMERIC KEYBOARD DIRECTLY

➔ Use the wheel or the down arrow to highlight a chaser to be renumbered, or enter a number directly using the keyboard.

➔ Use <ENTER> to select a list of chasers or effects for renumbering.

<F1 {RENUMBER}>

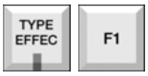
➔ Enter the new number into the ”Target” box.

- If more than one chaser is being renumbered, a delta offset can also be entered.

<F8 {OK}>
- Confirms the renumbering operation.

15.16.4 Copying chasers & effects

Chasers or effects can be copied in the relevant manager.



<EFFECT> <F1 {MANAGER}>
- Displays the Effect Manager.

OR


WHEEL OR <↓>
- Use the wheel or the down arrow to highlight an effect to be copied.
- Use <ENTER> to select a list of effects for copying.

<F7 {COPY}>
- Enter the new number into the ”Target” box.
- If more than one effect is being copied, a delta offset can also be entered.

<F8 {OK}>
- Confirms the copy operation.

<F8 {OK}>
- Exit the effect manager (do not exit if more effects are to be edited).

15.16.5 Deleting chasers & effects

If a special effect (or list of special effects) is no longer required, they can be permanently deleted. Deleted chasers and effects CANNOT be recovered.

examples of keystrokes

<CHASER> <F1 {MANAGER}>

➔ Displays the Chaser Manager.

WHEEL OR <↓> OR USE ALPHANUMERIC KEYBOARD DIRECTLY

➔ Use the wheel or the down arrow to highlight a chaser to be renumbered, or enter a number directly using the keyboard.

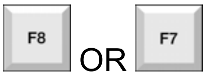
➔ Use <ENTER> to select a list of chasers or effects for renumbering.

<F3 {DELETE}>

➔ Selects the delete function.

A WARNING IS ISSUED

➔ A warning is given: Delete element(s) - Are you sure?



<F8 {OK}> OR <F7 {NO}>

➔ Confirms or cancels the deletion.

IMPORTANT: Deleted chasers and effects CANNOT be recovered.

15.17 Incorporating chasers & effects into banks

A bank can contain chasers and effects in its cells as well as memories and other contents. There is no difference in the method used for recording and loading banks containing chasers. Please see the chapter 12 *Banks* for full details.

examples of keystrokes

<SUB1> <BANK> <1> <REC>

➔ Records the contents and settings of submasters 1 to 12 as bank 1.

➔ The bank can contain chasers, memories, channels or effects.

15.18 Intelligent Link for chasers & effects

Chasers and effects can be incorporated into the playback sequence, and run by the operator with a simple pressing of the <GO> key. In this way a complicated playback list can be built up with the integration of different events.

The creation of this playback sequence has been considered as hard work in the past, but *ISIS®* offers the operator the Intelligent Link function. This simple utility creates the necessary instructions required to run a chaser or effect within the playback sequence, making the whole process simple and transparent.

Using the Intelligent Link, all information and status of a submaster can be linked automatically to the playback list by means of an event. The event can easily be edited if changes are necessary. For more details, please refer to the chapter 16 *Sequence Manager and Events*.

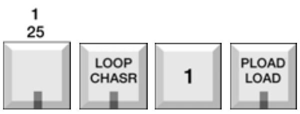
15.18.1 Creating an event with Intelligent Link

<u>Before an Intelligent Link is created, the operator must load the required submaster with the chaser or effect to be linked. Note that only a submaster that contains recorded contents can be used</u>.

In effect, the Intelligent Link function takes a snapshot of the contents and settings of the selected submaster, and uses this information to create an event in the playback sequence. Therefore the submaster's fader level and mode must be set by the operator, and the chaser or effect started if required, before the Intelligent Link function is used.

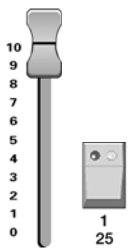
Note: If an effect is created with the Effect Generator and Auto mode is used, do not forget to configure the Effect Control parameter in the submaster configuration menu (fader control set to Normal, Size, Speed or Size/Speed).

examples of keystrokes



<SUB1> <CHASER> <1> <LOAD>

➔ Loads chaser 1 into submaster 1.



<SUB1 FADER> <SUB1 FLASHKEY>

➔ Start the chaser and set the required fader level.

<SUB1> <LINK> <MEM> <5> <LINK>

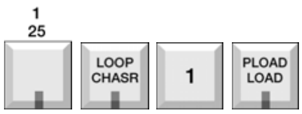
➔ Creates an event in the playback sequence, linking submaster 1 after memory 5.
➔ All settings of submaster 1 are recorded in the event.

When the operator plays back the sequence, the event after memory 5 will load chaser 1 in to submaster 1, set the virtual fader level and start the chaser running – all in a single press of the <GO> KEY.

Any existing contents of the submaster will be erased and replaced by this action.

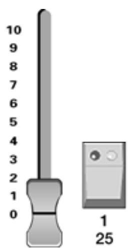
Of course, the Intelligent Link function could be used to stop a chaser or effect running in a submaster if required.

examples of keystrokes



<SUB1> <CHASER> <1> <LOAD>

➔ Loads chaser 1 into submaster 1.



<SUB1 FADER> <SUB1 FLASHKEY>

➔ Set the fader level to zero and stops the chaser if required.

<SUB1> <LINK> <MEM> <6> <LINK>

➔ Creates an event in the playback sequence, linking submaster 1 after memory 6.
➔ All settings of submaster 1 are recorded in the event.

15.18.2 Editing an event created by Intelligent Link

Events created by the Intelligent Link function can be modified by editing the event in the usual way. This allows the submaster fader level and mode, Autogo setting of the event and the chaser or effect status to be changed.

examples of keystrokes

<F3 {SEQUENCE MANAGER}>
➔ Displays the Sequence Manager.

OR


WHEEL OR <↓>
➔ Use the wheel or the down arrow to highlight the event to be edited.

<F2 {EDIT}>
➔ Enters the edit facility for the selected event.

<F2 {EDIT}>
➔ Displays the contents and settings of the selected event.
➔ Make any required changes.

<F8 {OK}>
➔ Confirms the changes and returns to the Sequence Manager.

<F8 {OK}>
➔ Exits the Sequence Manager

16 SEQUENCE MANAGER AND EVENTS

16.1 Introduction

The "playback sequence" is the ordered list of actions that will run in succession through the playbacks; usually it is a list of memories. The Sequence Manager allows the playback sequence to be manipulated and edited, allows links and other events to be created and inserted. Events allow many different functions to be triggered simply by pressing the <GO> key.

Contents, information and status of submasters can be easily linked by using the Intelligent Link function. This automatically creates and configures the required events, making the creation of complex playback sequences extremely quick and simple.

16.2 Links

The playback sequence normally lists memories in numerical order. A non-sequential memory number can be inserted into the sequence list if required; this process is called a "Link".

Inserting a high memory number can give an indication in the sequence list of something unusual: if the sequence list is 1, 2, 3, 999, 4, it could imply that memory 999 is rather special; or perhaps all the point numbers have been used but another memory is still required: 1, 2, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 998, 999, 3, 4....

The linked memory must be within the range defined for the playback being used: if the sequence is to run in playback 1, and playback 1 is configured for memories 1 to 500 only, then the linked memory must be within that scope. A link to memory 600, for example, will not work - and the sequence will terminate at the memory prior to the link. When the link is within the playback configuration range, the sequence continues numerically from the linked memory number.

16.2.1 Creating a link using the Link function

The Link function can be used to create a link between existing memories. This method is quicker than using the Sequence Manager.

Some *ISIS*® systems have a dedicated <LINK> key, other platforms can be configured so that the Link function is available on one of the available programmable keys. The Link function can also be accessed via the alphanumeric keyboard using the keystrokes "**/LK**".

A link created in this way can be performed in any working field.

examples of keystrokes

<MEM> <4> <LINK>
➔ Select the memory number to link from.

<MEM> <1><0><1> <LINK>
➔ Select the memory number to link to.

A message *Cue 4.0 linked to Cue 101.1* is displayed confirming that the memory has been successfully linked in the playback sequence. In the example above, the sequence will jump from memory 4 to memory 101, then continue numerically until the last memory in the list.

If the sequence must return to memory 4 after memory 101, another link must be created after memory 101. Alternatively, an Alias type event could be used: see section 16.4.1 below.

16.2.2 Creating links in the Sequence Manager

Links can also be created in the Sequence Manager.

examples of keystrokes

<F3 {Seq Mng}>
➔ Displays the Sequence manager.

 OR 

WHEEL **or** <↓>
or use alphanumeric keyboard directly
➔ Use the wheel or the down arrow to select the memory before the required event.
➔ The alphanumeric keyboard can be used to type in a memory number directly.

<F1 {Event}>
➔ Enters the Editing Event dialogue box.

OR 

 OR SHIFT-TAB

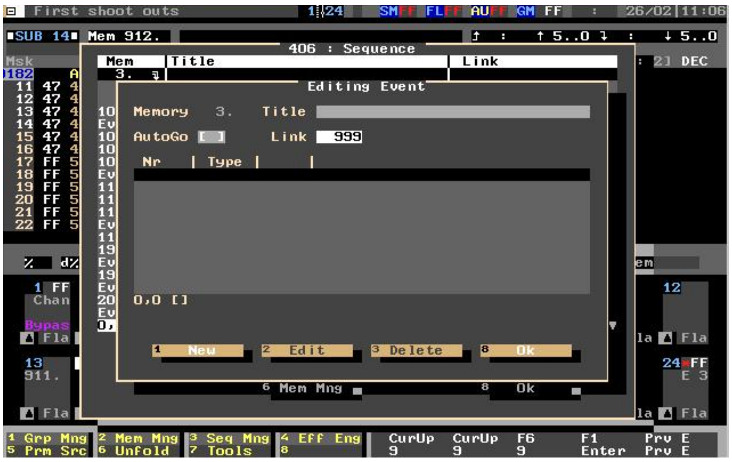
<PREV> **OR** <SHIFT><↑>
or <SHIFT-TAB> on alphanumeric keyboard
➔ Move the cursor to the ‘Link’ box.

<9><9><9>
➔ Enter the memory number to link to.

<F8 {ok}>
➔ Exits the Editing Events dialogue box.
➔ The new Link event is displayed in the Sequence Manager.

<F8 {ok}>
➔ Exits the Sequence Manager.

In the example above, the sequence will jump from memory 3 to memory 999, and then end. If the sequence must return to memory 4, another link must be created.



Creating Links in the Sequence Manager

16.3 Intelligent Link

Creating a complicated playback sequence with the integration of different events has been considered as hard work in the past. However ISIS® offers the operator the Intelligent Link function, making the construction of detailed events easier and much simpler.

The Intelligent Link function can be used to link the contents, information and status of a submaster to the playback list, automatically creating and configuring the required event type. In this way, linking a submaster to the playback sequence becomes as simple as linking memories using the <link> key.

The Intelligent Link function can be used to:

- Link a chaser to the playback sequence;
- Link an effect to the playback sequence;
- Link a cue-list/stack (chaser with individual step times) to the playback sequence;
- Link a memory controlled by a submaster to the playback sequence.

All information contained within the linked submaster field is automatically transferred to the playback list: content, values and submaster configuration are placed into an event. The event can be edited if any changes are necessary.

16.3.1 Creating an event using the Intelligent Link function

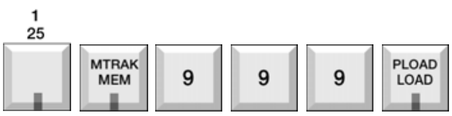
Before the Intelligent Link function is used, the operator must load the required submaster with the chaser, effect or memory to be linked. Note that the submaster must contain a recorded entity to be linked.

- Note that changing the recorded entity will also change the event: the chaser, effect or memory used is linked to the event.

In effect, the Intelligent Link function takes a snapshot of the contents and settings of the selected submaster, and uses this information to create an event in the playback sequence. Therefore the submaster's fader level and mode must be set by the operator, and start a chaser or effect if required, before the Intelligent Link function is used.

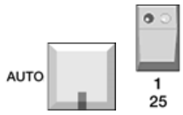
Note: It is necessary to save the content (effect/chaser/memory) of the selected submaster before using the Intelligent Link function.

examples of keystrokes



<SUB1> <MEM> <9><9><9> <LOAD>

→ Loads memory 999 into submaster 1.



<Auto> <SUB1 flashkey>
➔ Sets the submaster mode to Auto, and sets the output to FF.

<SUB1> <Link> <Mem> <5> <Link>
➔ Automatically creates an event in the playback sequence, linking submaster 1 after memory 5.
➔ All settings of submaster 1 are recorded in the event.

A message is displayed
➔ Confirmation is given: Submaster 1 linked after Cue 5.0

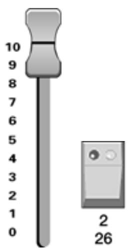
When the operator plays back the sequence, the event after memory 5 will load memory 999 in to submaster 1, set the submaster mode to Auto, and trigger the submaster. This will cause memory 999 to fade up in its recorded time to the desk Output – all in a single press of the <GO> key.

Any existing contents of submaster 1 will be erased and replaced by this action.

The Intelligent Link function can be used to link a chaser or effect running in a submaster to the playback sequence. See the chapter 15 *Chasers & Effects* for further examples.

examples of keystrokes

<SUB2> <EFFECT> <9><9> <LOAD>
➔ Loads effect 99 into submaster 2.



<SUB2 FADER> <SUB2 flashkey>
➔ Set the required fader level and start the effect.

<SUB2> <Link> <MEM> <6> <Link>
➔ Creates an event in the playback sequence, linking submaster 1 after memory 6.
➔ All settings of submaster 1 are recorded in the event.

A message is displayed
➔ Confirmation is given: Submaster 2 linked after Cue 6.0

When the operator plays back the sequence, the event after memory 6 will load effect 99 in to submaster 2, set the virtual fader level and start the effect running – all in a single press of the <go> key.

Any existing contents of submaster 2 will be erased and replaced by this action.

Of course, the Intelligent Link function could be used to stop a chaser or effect running in a submaster if required. Simply stop the chaser or effect (or set the submaster fader to zero), and use the Intelligent Link function to create a new event in the playback sequence. See the chapter 15 *Chasers & Effects* for an example.

16.3.2 Editing an event created by the Intelligent Link function

Events created by the Intelligent Link function can be modified by editing the event in the Sequence Manager.
Editing the event allows the submaster fader level and mode to be changed, the Autogo status to be set, and any loaded chaser or effect can be started or stopped.

examples of keystrokes

<F3 {sequence manager}>
➔ Displays the Sequence Manager, dialogue box*406*.

 OR 

wheel **or** <↓>
➔ Use the wheel or the down arrow to highlight the event to be edited.

<F2 {Edit}>
➔ Enters the edit facility for the selected event.

<F2 {edit}>
- ➔ Displays the contents and settings of the selected event.
- ➔ Make any required changes.

<F8 {ok}>
- ➔ Confirms the changes and returns to the Sequence Manager.

<F8 {ok}>
- ➔ Exits the Sequence Manager.

16.4 Event types

Events are inserted into the sequence after an existing memory and can be activated either manually in the same way as a memory, or automatically by putting an Autogo on the preceding memory.

Each event can have multiple parts: the complete event might consist of two or more different event types. There are 10 pre-defined types of events: they are listed below.

Alias
An alias event is a reference to an existing memory which does not need to be within the range of the active playback configuration. An alias jumps to a single memory, then returns to the original position in the playback sequence.

Macro
A macro type event will trigger a pre-recorded macro (which may contain any functions of the system).

Loop
Inserting a loop type event will trigger a pre-recorded loop of memories.

Wait
The wait event simply puts a pause between the parts of a multiple event.

Enable Move in black (all off)
Turns on the Move In Black function, which automatically pre-positions motion control elements prior to their use in the playbacks. This event type selects the ‘All Off’ option which pre-sets all parameters of an instrument to their next recorded values, if the intensity is zero (off).

Enable Move in black (unconnected)
Turns on the Move In Black function and selects the 'Unconnected' option. This presets only disconnected parameters of an instrument to their next recorded values, if the intensity is zero (off).

Stop Move In Black look ahead
This event type will turn off the Move In Black function. All parameter changes will be made with the crossfade, allowing movements to be seen live instead of being preset.

Load submaster
This event loads a recorded memory, chaser or effect into a submaster, erasing any previous content. The event type also allows a virtual fader value to be assigned, the submaster configuration to be changed, the flashkey setting to be assigned and, optionally, a loaded chaser or effect can be set to run.

Control submaster fader
This event allows the virtual fader level of a submaster to be set. In addition, the submaster configuration and flashkey setting can be set.

Control submaster flash
This event sets the status of the flashkey, and allows the submaster configuration to be changed.

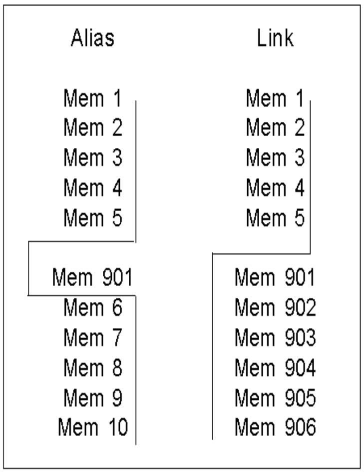
Event Types

16.4.1 Alias

An alias is a reference to a single existing memory: alias number 101 refers to memory 101. If this alias is inserted after memory 3, the sequence will run: 1, 2, 3, 101, 4, 5…

An alias has a different function to a link because a link inserts the remainder of the new cue list whereas an alias merely refers to the single memory. If the above example were a link, the sequence would be: 1, 2, 3, 101, 102, 103… and memories 4 to 100 would never be played in the sequence.

Because an alias simply refers to a single existing memory, rather than actually inserting it into the sequence, it is possible to replay an alias that is a memory number not out of the range of the selected playback. If a playback is configured for memories 1 to 500, memory 600 could be included in the sequence as an alias, but not as a link. Similarly, an alias to memory 901 is permitted, but a link is not possible.



The difference between an Alias event, and a Link

➔ A link must obey the playback configuration settings but an alias is free to be inserted in any sequence.

Note: Remember to put an Autogo on the memory prior to the event, if the event is to be triggered automatically. A memory must exist before it is inserted as an alias event.

16.4.2 Macro

A macro is any series of key manipulations that has been recorded as a single entity. Macros can be replayed from the dedicated macro keys or keypad, or can be incorporated into an event.

The macro itself can be virtually any combination of possible functions, and could be used to load a submaster bank, for example. For details on how to record macros, please turn to the chapter 24 *Macros and Learn Profile*.

Note: The macro must exist before it is inserted as an event.

16.4.3 Loop

A loop of memories can be incorporated into the playback sequence. The loop must be made from existing memories and then an event containing the loop inserted into the sequence.

The loop can run once, or repeat up to 99 times. For example, a loop containing 3 repetitions of memories 11.1 to 11.5 could be inserted between memories 134 and 135.

➔ Before a loop type event is inserted in the sequence, the loop itself must be created.

examples of keystrokes

<menu> <F2 {Manager}> <F5 {Loops}>
➔ Enters the Loop Manager from the menu.

<F4 {New}>
➔ Selects a new loop.
➔ Enter into the New ID No. Dialogue box

Use the keypad or the alphanumeric keyboard to enter the new ID No.

<F8 {ok}>

<F2 {Edit}>
➔ Select the new loop for editing.

TITLE
➔ Enter a title for the loop using the alphanumeric keyboard.

Cycles
➔ Enter the number of repetitions.

<F8 {ok}>
➔ To confirm the changes and return to the Loop Manager.

<F5 {content}>
➔ Display the contents of the loop (this will be empty for a new loop).

<F2 {add}>
➔ To add contents to the loop.

<mem #> <Enter>
➔ Enter the first number of the memory range to loop (memory 15 in this example).

<mem#> <Enter>
➔ Enter the last number of the memory range to loop (memory 19 in this example).

<F8 {ok}>
➔ Confirm the selections and return to the Loop content dialogue box.

<F8 {ok}> <F8 {OK}>
➔ Exit the Loop content dialogue box and the Loop Manager.

Note: The loop must exist before it is inserted as an event.

When a loop event is triggered from the playback sequence, the memories contained within the loop will be repeated for the number of times specified, either manually of automatically. However it is possible to exit a running loop at any point and continue with the list of memories in the playback sequence.

examples of keystrokes

<Shift><Go>
➔ Exits a running loop.

This procedure will stop the loop at its current point, and fade to the next memory (or event) in the sequence list.

16.4.4 Wait

A wait type event is simply a delay between other event types (see multi-part events, below). If an event is in Autogo mode, it is quite likely that a delay between it and the preceding memory will be required to get the timing correct.

Note: Remember to put an autogo on the memory prior to the event, if the event is to be triggered automatically.

16.4.5 Enable Move In Black (all off)

An event can include setting the Move In Black function. This can be useful in the playback sequence, as the operator can trigger the change in mode by using the <GO> key. It becomes especially important during a complicated show.

The Move in Black function is specifically for motion control instruments, and is used to automatically pre-set parameters to their next used settings, if the fixture intensity is zero (off).

ISIS® looks ahead through the playback sequence, following any links or events, until a change in parameter values is located. If the instrument intensity is zero, the parameters are automatically adjusted so that the settings are correct when the memory containing the fixture is reached. This prevents unwanted changes during a crossfade, as parameters are pre-set while the fixtures are dark.

The operator can select a Move in Black mode where *all* parameters are changed in this way. This is referred to as “All Off” in the events creation dialogue box.

Note: The Move In Black function is described in more detail in the chapter 19 *Motion Control Setup*.

16.4.6 Enable Move In Black (unconnected)

The operator can also select a Move In Black mode where only *unconnected* parameters are pre-set to their next recorded values. This is referred to as “Unconnected” in the events creation dialogue box.

16.4.7 Stop Move In Black look ahead

The Move In Black function automatically pre-set parameters to their next recorded settings, when the fixture intensity is zero (off). Sometimes, however, it is required to see the changes live during a crossfade, or for the operator to choose the exact instant to execute a change in the parameters. In this case, the Move In Black function must be disabled.

The automatic Move In Black function can be turned off by way of an event inserted into the sequence: this option is referred to as “Stop Move In Black look ahead”.

Note: For details on the Move In Black function, please turn to the chapter 19 *Motion Control Setup*.

16.4.8 Load submaster

This event will load the selected submaster with a memory, or a recorded chaser or effect. Any previous content will be erased. The event can also be used to set the virtual fader level of the submaster and to set the configuration.

If the submaster is loaded with a chaser or effect, the event can also start the special effect running. If the submaster is in Auto mode, the memory or special effect will fade in to the virtual fader level.

The load submaster event can also be used to set the LTP configuration of the selected submaster.

- AUTO: Force to LTP if an LTP action is taken
- ON: Force the submaster into LTP (as Shift Field)
- OFF: No LTP action took

Note: The load submaster event is automatically created by the Intelligent Link function. For more details, see section 16.3.

16.4.9 Control submaster fader

This event can set the virtual fader value and configuration of a submaster, and set the status of the flash button.

16.4.10 Control submaster flash

This event sets the status of the flash button. It also allows the submaster configuration to be changed.

16.5 Sequence Manager

The Sequence Manager can be selected directly by pressing the default <F3 {SEQ MAN}> function key. The manager shows the ordered playback sequence, and allows events to be created and edited.

*The Sequence Manager window (Dialogue box *406*)*

The Sequence Manager also allows the operator to set the Autogo status of each memory or event, and provides a link to the Memory Manager F6(Mem Mng), should memory times or titles need to be modified.

16.5.1 Creating an event

Events are created in the Sequence Manager, and can include any of the event types described previously. All event types are configured from the same dialogue box, the only difference is in which options can be changed for each type.

➔ Events are always inserted immediately after the selected memory in the Sequence Manager.

The example below demonstrates the creation of an alias type event.

examples of keystrokes

<F3 {Seq mng}>
➔ Displays the Sequence Manager.

OR

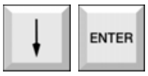

WHEEL **or** <↓>
or use alphanumeric keyboard directly
➔ Use the wheel or the down arrow to select the required insertion point. The event is inserted after the selected memory.
➔ The alphanumeric keyboard can be used to type in a number directly.

<F1 {Event}> <F1 {New}>
➔ Enters the Sequence Event dialogue box, used to create the event.

<Enter>
➔ Displays the event type drop-down menu.

<Enter>
➔ Selects “Alias” from the options.

<↓> <mem#> <Enter>
➔ Enter the number of an existing memory (memory 999 in this example).



<↓> <Enter>
➔ Check the Autogo box (if required).

<F8 {ok}>
➔ Exits the Sequence Event dialogue box.

<F8 {ok}> <F8 {ok}>
➔ Exits the Editing Event dialogue box and the Sequence Manager.

16.5.2 Creating a multi-part event

Each event within the sequence can contain up to 10 parts, each part can use one of the available event types. By creating a multi-part event, it is possible to trigger a whole series of functions and actions from a single press of the <GO> key.

To create a multi-part event, the <F1 {NEW}> function in the event editor is used to add each part in turn. Each part of the event can be assigned an Autogo to make them run automatically, or they can be triggered independently by the operator.

examples of keystrokes

<F3 {Seq mng}>
➔ Displays the Sequence manager.

OR

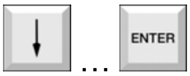

WHEEL **or** <↓>
or use alphanumeric keyboard directly
➔ Use the wheel or the down arrow to select the required insertion point. The event is inserted after the selected memory.
➔ The alphanumeric keyboard can be used to type in a number directly.

<F1 {Event}> <F1 {New}>

➔ Enters the Sequence Event dialogue box, used to create each part of the event.

<Enter>

➔ Displays the drop-down event type menu.

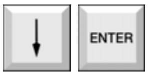


<↓> … <Enter>

➔ Select a “Loop” type event.

<↓> <loop#> <Enter>

➔ Enter the number of an existing loop (loop 1 in this example).



<↓> <Enter>

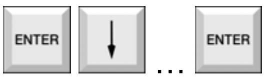
➔ Check the Autogo box (if required).

<F8 {ok}>

➔ Exits the Sequence Event dialogue box.

<F1 {New}>

➔ Creates the second part of the event.



<Enter> <↓> … <Enter>

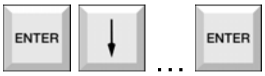
➔ Select “Wait” from the available options in the event type menu.

<↓> … <4> <Enter>
➔ Move down to the ‘Wait Time’ option and enter the required wait (4 seconds in this example).

<Enter>
➔ Check the Autogo box (if required).

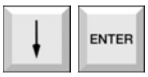
<F8 {ok}>
➔ Exits the Sequence Event dialogue box.

<F1 {New}>
➔ Creates the third part of the event.



<Enter> <↓> … <Enter>
➔ Select “Macro” from the available options in the event type menu.

<↓> <Macro#> <Enter>
➔ Enter the number of an existing macro (macro 1 in this example).



<↓> <Enter>
➔ Check the Autogo box (if required).

<F8 {ok}>
➔ Exits the Sequence Event dialogue box.

<F8 {ok}> <F8 {ok}>
➔ Exits the Editing Event dialogue box and the Sequence Manager.

In this example, the event is triggered at the end of the preceding memory, and consists of a loop event followed by a wait event, followed by a macro event. The sequence will then continue according to the sequence list.

16.5.3 Naming an event (Title)

It can be helpful to give each event a title, such as “Run loop 4 and macro 1”, for identification. The event title can be entered whilst the event is being created, or it can be added at a later point.

examples of keystrokes

<F3 {Seq mng}>
➔ Displays the Sequence Manager.

OR 

WHEEL **or** <↓>
➔ Use the wheel or the down arrow to select the required event.

<F2 {Edit}>
➔ Displays the event for editing.

OR 

OR ‘SHIFT-TAB’

<PREV><PREV><PREV> **OR** <shift><↑>
or <SHIFT-TAB> on alphanumeric keyboard
➔ Move the cursor to the Title box.

TITLE
➔ Use the alphanumeric keyboard to enter the title.

<F8 {ok}> <F8 {ok}>
➔ Exits the Editing Event dialogue box and Sequence Manager.

16.5.4 Editing or deleting part of an event

Each part of an event can be edited or deleted by the operator, using the same dialogue box used when creating the event.

examples of keystrokes

<F3 {Seq mng}>
➔ Displays the Sequence Manager dialogue box*406*.

OR


WHEEL **or** <↓>
➔ Use the wheel or the down arrow to select the required event.

<F2 {Edit}>
➔ Displays the event for editing.

OR


WHEEL **or** <↓>
or use alphanumeric keyboard directly
➔ Use the wheel or down arrow to select the.
➔ The alphanumeric keyboard can be used to type in a number directly.

…


<F2 {Edit}> … <F8 {ok}>
➔ The settings of the highlighted event type are displayed and can be changed.

<F3 {Delete}> <F8 {ok}>
➔ The highlighted event type is deleted.

<F8 {ok}> <F8 {ok}>
➔ Exits the Editing Event dialogue box and Sequence Manager.

16.5.5 Deleting an entire event

An entire event is deleted from the Sequence Manager: deleted events cannot be recovered.

examples of keystrokes

<F3 {Seq Mng}>
➔ Displays the Sequence Manager.

OR

…


WHEEL **or** <↓> … <Enter>
➔ Use the wheel or the down arrow to select the required event.
➔ Use <ENTER> to select a list of events, if required.

<F3 {Delete}>
➔ Select deletion.
A WARNING IS ISSUED
➔ A warning is given: Are you sure? –Deleting Event Item(s)

<F8 {Yes}>
➔ Confirms the deletion.

<F8 {Ok}>
➔ Exits the Sequence Manager.

16.6 Exiting a running loop

When a loop event is triggered from the playback sequence, the memories contained within the loop will be repeated for the number of times specified, either manually of automatically. It is possible to exit a running loop at any point and continue with the list of memories in the playback sequence.

examples of keystrokes

<Shift><Go>

➔ Exits a running loop.

This procedure will stop the loop at its current point, and fade to the next memory (or event) in the sequence list.

17 PLAYBACKS AND PLAYBACK CONFIGURATION

17.1 Introduction

Memories can be recorded in the playback fields - but more importantly, they can be played back sequentially, or in any random order. Using the playbacks in conjunction with the Sequence Manager makes flexible and structured lighting replay.

ISIS® has two independent playbacks, although on the smaller operating platforms playback 2 is entirely virtual. This may seem a strange concept, but a virtual playback can be very useful - as it is safe from accidental manipulations. In complicated sequences involving events and motion control, the second playback could be used purely for the events, or moving light sequences. Although playback 2 is protected from accidental use in this way, it is not easy to regain control of elements in virtual playbacks, so this method is best for those shows which require a lot of automation and always run in strict time and sequence.

The virtual playback is controlled by a series of key commands from the alphanumeric keypad. These keyboard operations are detailed in the chapter 31 *Using The Alphanumeric Keyboard*.

For MENTOR, by pressing the keys SHIFT +K3, the playback changes to P2/S2, press K3 key again, returns to P1/S1.
For MENTOR XT, by pressing the keys SHIFT+XF2/XF1, the playback changes to P2/S2, press the key XF2/XF1 again, goes back to P1/S1.

17.2 Stage and Preset working fields

Each playback has two sides: S for Stage, which is effectively live (seen at the desk Output), and P for Preset, which is effectively blind (not seen at the Output).

Note: The following points are written on the basis that both playbacks have their fader pairs on the lower end-stop of fader travel.

Each side of the playback is a working field, making a total of four playback fields. All channel and memory control manipulations described in previous chapters can be carried out in any of the four fields, but only those in S1 and S2 will be seen at the Output. Unlike submasters, only one playback field can be selected at a time. Selecting any playback field automatically de-selects a previous field.

Channels can be selected and given intensities in the playbacks, and special times can be set. All moving light and colour control parameters can also be adjusted.

Groups can be manipulated in the playbacks in the same way as individual or lists of channels, and can be combined with other channels or memories. All of the methods described in the chapter 10 *Groups* can be used to manipulate groups in the playbacks.

Memories can be proportionally added to, or subtracted from, existing playback contents. All of the methods described in the chapter 13 *Recording And Loading Memories* can be used to manipulate memories in the playbacks.

Using the intensity tools, channels, groups and memories can all be combined within a playback field. Once a lighting state has been created, it can be recorded, re-loaded and replayed in either playback at any time.

17.3 Memories in playbacks

17.3.1 Recording and loading memories

Memories can be recorded and loaded in the playback fields by using the same methods as recording and loading memories in submasters. These procedures are covered in detail in the chapter 13 *Recording And Loading Memories*.

Many operators prefer to work almost entirely in the S1 field, which sends its contents directly to the Output (subject to the Grand Master and Blackout functions), and it is easy to load other memories into the preset field to check or change the transition between them.

Note: If the <SUM> function is used instead of <REC>, any output from the submasters and other fields will be included in the memory, as <SUM> records the total system Output (except for the contents of any submaster in Bypass mode).

examples of keystrokes

Channel Modifications


<S1> <Channel modifications> <MEM> <1> <Rec>

➔ Records the contents of Stage 1 as memory 1.

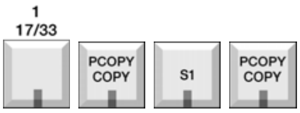
<P1> <MEM> <3> <Load>

➔ Loads memory 3 into Preset 1.

17.3.2 Copying a memory between the playback and another field

If a lighting state has been created in one of the working fields, whether or not it has been recorded as a memory, it can be transferred to one of the playback fields by using the Copy command. If a memory is copied, the intensities, parameters, times and title are all copied.

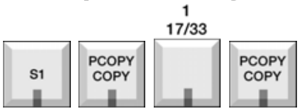
examples of keystrokes



<sub1> <copy> <s1> <copy>
➔ Copies the contents of submaster 1 into Stage 1

The contents of the playback can also be copied into other fields, in the same way.

examples of keystrokes



<s1> <copy> <sub1> <copy>
➔ Copies the contents of Stage 1 into submaster 1

17.4 Erasing the playbacks

When the contents of a playback are no longer required, or the playback needs to be emptied to make way for new work, they must be erased.

If the content of the playback is a recorded memory, the Erase function removes it from the playback, but does not delete it from the system memory. After a memory has been erased from a playback, it is still in the memory list.

The <ERASE> key must be pressed twice to clear the selected playback field. This is to prevent accidental erasing. If the <ERASE> key is pressed once, its LED flashes as a warning. Pressing <CLEAR> cancels the erase command, and prevents the selected working field from being erased.

➔ To erase the selected playback field, the <ERASE> key must be pressed twice.

examples of keystrokes

<S1> <Erase> <Erase>
➔ Erases the contents of the Stage 1 field.

17.5 Playback configuration

The playbacks can be configured in a way that suits the operator. Playback configuration is made per show, and the settings stored with the show data. The settings can be reset to the default configuration via a Show Initialisation. Playback options are selected in the Playback Configuration dialogue box*440*, accessed through the Playback option of the menu.

The available Playback Configuration options are described in the following sections.

*Playback Configuration settings (Dialogue Box*440*)*

17.5.1 Allowed memory range

Each of the two playbacks can be configured to accept a certain range of memories only.

For example, playback 1 could be set to operate only with memories 1 to 500, whilst playback 2 could be configured for memories 501 to 999. This is a good way of keeping generic and moving light cues separate.

Alternatively, a list of “working memories” that have been used in submasters, banks, chasers, etc could be disabled from the playbacks altogether. Modification to these memories can be made in the submasters, but they are prevented from being part of the sequential playback except as part of an event. In this case, the configuration for both playbacks would be the same: memories 1 to 900, say. Memories 901 to 999 would then be the “working memories”.

If no playback configuration is made, the default setting allows all memories to be loaded into either playback. The memory range for each playback is set in the Playback Configuration dialogue box.

examples of keystrokes

<menu> <F4 {playback}> <F2 {configuration}>
➔ Displays the Playback Configuration dialogue box*440*.

Playback 1
➔ Allows the range of memories for playback 1 to be set.

Playback 2
➔ Allows the range of memories for playback 2 to be set.

Ignore autogo

➔ Enabling this option temporarily disables all autogos plotted in the Sequence Manager. Autogo makes a memory or event automatically follow-on from the previous one in sequential playback mode, but sometimes it can be useful to disable this for rehearsal purposes, making all cues operated manually (either by manual fades, or by pressing the <GO> key for every memory and event).

<F8 {ok}>

➔ Confirms the configuration and exits the dialogue box.

If the playback is configured to prevent an entered memory number from being recorded or loaded, the message “incorrect cue range for current playback” is shown. In this case, another memory number must be used, or the playback reconfigured.

17.5.2 Fader directions

To suit the preferences of all users, the playback fader pairs can be configured to work in three different ways when operating the playback manually:

➔ Bottom to Top (Lower to upper end-stop)

➔ Top to Bottom (Upper to lower end-stop)

➔ Both directions (Bi-directional)

In bi-directional mode, a manual fade is executed by moving the pair of faders from one end stop to the other, in either direction. The next fade is executed by moving the fader pair in the opposite direction.

In bottom-top mode, moving the fader pair upwards actuates the fade. Moving the faders back down has no effect. They must be moved down in anticipation of the next fade, perhaps on the stand-by cue.
Top-bottom is the reverse of action: crossfades only being actuated when the playback faders are moved from the upper to the lower endstop.

The fader direction mode is set in the Playback Configuration dialogue box*440*, and applies to both playbacks.

*Playback Fader Configuration (Dialogue Box*440*)*

17.5.3 Stage fader to preset

This function provides the ability to control the behaviour of a manual crossfade. Normally, as the Stage fader is reduced, the level of all channels contained in the Stage field will drop – eventually reaching zero. If no other field is contributing to the desk Output, a blackout will have been achieved manually. As the level of the Preset fader is increased, the contents of the Preset field will be gradually faded in.

However, it may be useful to have a different behaviour during a manual crossfade, where the contents of the Preset are taken into account when the Stage fader is decreased.
In this case, as the level of the Stage fader is reduced, channels that also have a value in the Preset field will only decrease if they have a lower value. Channels that have a higher or equal value in the Preset will not decrease. *In this mode, a blackout will not necessarily be achieved.*

In effect, a split manual crossfade (where the faders are not moved together or at the same rate) can be achieved without a dip in the output channel levels.

This operating mode is set in the Playback Configuration dialogue box, and applies to both playbacks. The default setting is disabled (allowing a blackout during manual crossfades).

17.5.4 Load only to preset

When enabled, this option prevents any memory from being directly loaded to either Stage field. Memories will always be loaded to the Preset field, even if Stage is selected.

This option is set in the Playback Configuration dialogue box, and applies to both playbacks. The default setting is disabled, allowing memories to be loaded to Stage.

Note: This function always loads memories into the Preset field. This means that the sequential memory list will be followed if the playback is in Sequence mode.

17.6 Playback modes

17.6.1 Non-sequential

In non-sequential mode, the playback will repeatedly fade between the two states that are loaded in the Stage and Preset fields. If one of the fields is empty, the fade will alternate between one lighting state and a blackout. The lighting states do not have to be recorded memories: they could just be channel selections that were created in the playback field.

Alternatively, any memory number can be manually selected and loaded into the Preset as required, so that the sequence of playback is always changing. In this mode "**MAN**" is displayed on any monitor that is showing the associated playback display.

examples of keystrokes

<seq> (Playback 1)

➔ Selects non-sequential mode for playback 1.
➔ The LED in the <SEQ> key is off when in non-sequential mode, and "MAN" is shown on any monitor showing the playback 1 display.

17.6.2 Sequential

Most theatrical shows which are strictly rehearsed will require sequential playback of memories and events - either manually or automatically. When sequential mode is selected, the memories are played back in numerically sequential order, including any point cue numbers (such as memory 27.5), but subject to any links or events that have been programmed in the Sequence Manager.

Each time the faders are moved full travel, or the <GO> key is pressed, the contents of Preset are transferred to Stage. The previous contents of Stage are removed from the playback and the next memory in the sequence is automatically loaded into the Preset field when the fade completes.

When in sequential mode, the LED in the <SEQ> key is lit (but not flashing) and "**MAN SEQ**" is displayed on any monitor showing the associated playback display.

examples of keystrokes

<seq> (Playback 1)

➔ Selects sequential mode for playback 1.
➔ The LED in the <SEQ> illuminates, and "MAN SEQ" is shown on any monitor showing the playback 1 display.

17.7 Playback with manual fades

Playbacks can be operated manually by moving the fader pairs. Manual fades can be made in sequential or non-sequential mode.

To operate manually, the fader direction should be configured for operator preference, as described above. Manual fades are timed and profiled by the operator each time they are played. The look of the fade follows the fader movements.

- ➔ If both faders are moved together at an even pace, a straight crossfade results.
- ➔ If one fader is moved before the other, a split crossfade occurs.
- ➔ If the preset fader only is moved, the content of the Preset field are added to the Stage, as a Pile.
- ➔ If only the Stage fader is moved, the Stage content is removed from the playback, thus resulting in a blackout (unless there is some output from other working fields or the Stage fader to Preset option is enabled).

Careful manipulation of the faders can result in a profiled fade where the fade rate changes throughout its duration. For example, the crossfade could be started slowly and increased in speed as the fade progresses.

Many operators prefer working in this way, and the use of high quality faders ensures maximum response from this method.

17.7.1 Continuing a manual fade automatically

A fade that is started manually can be taken over automatically by pressing the <GO> key at any point during the fade. When this occurs, the system calculates the remaining fade time relative to the position of the faders, and uses that as the automatic fade time.

For example, if a memory has a time of 10 seconds and the <GO> key is pressed when the faders are exactly half-way through their travel, the fade will automatically complete in 5 seconds - half of the original fade time.

Both faders must be returned to one of the end-stops before the next memory can be played back manually.

17.8 Playback with auto fades

Playbacks can be operated automatically by pressing the <GO> key. Auto fades can be made in sequential or non-sequential mode.

An automatic fade transfers the contents of the Preset to the Stage field, following the fade times of the memory, or using the default times if none were plotted. The times used in an auto crossfade are those of the memory in Preset. The previous contents of Stage are removed from the playback and the next memory in the sequence is automatically loaded into the Preset when the fade completes.

➔ Using auto fades ensures that the look of the transition is the same for every performance, and helps to tie the lighting change in with action or music.

Each time the <GO> key is pressed, the contents of Preset are transferred to Stage. If <GO> is pressed a second time, while a fade is still running, the incoming memory changes to the next in the list, and the combination of the first and second (unfinished) fades are faded out in the times recorded in the third memory.

examples of keystrokes

<P1> <MEM> <1> <LOAD>

➔ Loads Memory 1 into the Preset field of playback 1.

<Go> (Playback 1)

➔ Starts a crossfade into memory 1.

<go> (Playback 1) when memory 1 is complete

➔ Performs a crossfade into memory 2.

<Go> (Playback 1) before memory 2 is complete

➔ Stops the progress of the fade from memory 1 to memory 2.

➔ Starts a crossfade from this unfinished state in to memory 3, in the global times of memory 3.

The Multiple Go command has no limit to the number of fades that can be executed.

17.8.1 Pausing a running fade

A running auto crossfade can be paused and resumed as required. Alternatively, after the pause, the next memory in the list can be played instead. Crossfades are paused using the <HOLD> key; if a fade is paused in this way, the LED in the <HOLD> key flashes to indicate this.

examples of keystrokes

<P1> <MEM> <1> <LOAD> <GO> (Playback 1)
➔ Starts a crossfade into memory 1.

<HOLD> before memory 1 is complete
➔ Pauses the progress of the fade into memory 1.
➔ The LED in the <HOLD> key flashes to indicate the pause.

<HOLD>
➔ Resumes the progress of the fade into memory 1.

<GO>
➔ Starts a crossfade into memory 2.

<HOLD> before memory 2 is complete
➔ Pauses the progress of the fade into memory 2.

<GO>
➔ Starts a crossfade into memory 3, from the unfinished state of memory 2.

17.8.2 Continuing an automatic fade manually

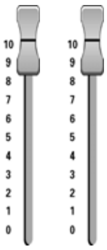
A fade that is running automatically following its memory times, can be completed manually to change its look, or to alter its timing.

examples of keystrokes

<P1> <MEM> <1> <LOAD> <GO> (playback 1)
➔ Starts a crossfade in to memory 1.

<HOLD> before memory 1 is complete

➔ Pauses the progress of the fade into memory 1.



<pb faders>

➔ Manually move the playback fader pair. There will be no change to the output of the playback until the position of the faders matches the elapsed progress of the fade (shown on-screen).

➔ Once the position of the faders has “collected” the progress of the fade, the fade is under manual control. Any pending wait times are not included in the manual fade: the lighting state will change as soon as the fade is collected.

17.8.3 Cut

Cut is a function that either instantaneously completes a running fade, or immediately loads the memory that is in Preset directly into Stage, thus turning it from a timed fade into a snap.

➔ CUT immediately transfers the contents of Preset to Stage.

17.8.4 Pile

In normal operation, the playback is a crossfade device. The lighting state that is in Stage is completely replaced by the next memory when the crossfade is executed. Sometimes, it is desirable to add the next memory to the one on stage, rather than replacing it. In this case, the Pile function can be used instead of the Go command.

<PILE> can be used again before a previous pile has completed, but the playback is <u>limited to 10 Multiple Piles</u> rather than the unlimited Multiple Go.

17.8.5 Go back

A fade in progress can be reversed, or the memory list can be played in reverse order by using the <BACK> key instead of <GO>. The Back command can also be used in conjunction with <CUT> and <PILE>.

When the beginning of the memory list is reached, the first memory remains in the Preset field, and there is nothing in Stage.

17.8.6 Jump

Jump allows the memory currently loaded in the Preset field to be manually incremented through the memory list, taking into consideration any links and events. If a cue in a sequence has been missed, using <JUMP> is a simple way of lining up the next required memory in Preset, without having to select the Preset field and load the required memory.

17.8.7 Back Jump

As its name implies, this command is the reverse of the Jump function. Back Jump allows memories and events to be re-loaded into the Preset field in reverse order. This function is accessed by pressing the keys SHIFT + BJUMP/JUMP.

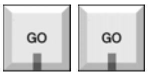
17.8.8 Back Jump during a crossfade

If an automatic crossfade has been started by mistake, the Back Jump command is a simple way of correcting this error. Using Back Jump during a crossfade, the first memory remains on Stage and the crossfade contents are faded back out without having to select the Preset field and load the required memory.

This operation produces a different result from that using the <BACK> key. It is especially useful when a Multiple Go has been initiated by mistake.

examples of keystrokes

<P1> <MEM> <1> <LOAD> <CUT>
- ➔ Loads Memory 1 into the Preset field of playback 1.
- ➔ Memory 1 is Cut to Stage; memory 2 will be loaded into Preset.



<GO> <GO>
- ➔ A crossfade into memory 2 is started. Before this is complete, a crossfade into memory 3 is begun.
- ➔ We now have a running crossfade between the contents of Stage (a mix of memories 1 and 2) and the contents of Preset (memory 3).

<BJUMP>
- ➔ When Back Jump is pressed, memory 2 is re-loaded into the Preset.
- ➔ The running crossfade completes, but as the Preset now contains memory 2, the result is a crossfade from the current contents of Stage into memory 2. The status of the crossfade into memory three is faded out during this operation.
- ➔ Memory three is loaded into the Preset field when the crossfade is complete.

17.8.9 Modifying the speed of an automatic fade

The rate of a crossfade can be modified to speed up or slow down the fade, if the plotted times are not suitable. The Speed function can be used to modify the fade times before a crossfade is started, or it can be used 'live' to change the fade rate in real time.

In both cases, the playback speed function is assigned to the wheel. Recorded memory times can be modified proportionally between 5000% (fastest) and 2% (slowest).

examples of keystrokes

<go>
➔ Starts a crossfade

OR


<speed> wheel
➔ The <SPEED> key of the playback is pressed to assign the function to the wheel.
➔ Moving the wheel upwards speeds up the fade, moving it downwards slows down the fade.

Speeds modified in these ways are displayed in two ways: as a modification factor (in percentage terms), and as real-time duration. This information is displayed in the top line of the playback field screen, and in the playback footer display when selected.

Alternatively, if the required new speed is a known finite quantity, as opposed to a variable rate change, the time of the memory currently loaded in the Preset can be changed by use of the time function keys.

examples of keystrokes

<down time> <1><2> <down time>
➔ Changes the down time of the state in Preset to 12 seconds.
➔ If this change is temporary, the memory should not be re-recorded.

17.8.10 Exiting a running loop

When a loop event is triggered from the playback sequence, the memories contained within the loop will be repeated for a specified number of times, either manually of automatically. It is possible to exit a running loop at any point and continue with the list of memories in the playback sequence.

examples of keystrokes

<SHIFT> <GO>
➔ Exits a running loop.

This procedure will stop the loop at its current point, and fade to the next memory (or event) in the sequence list.

17.9 Autogo

Part or all of a sequence list can be made to “Autogo” - self execute without operator intervention. For selected parts of the memory list to autogo, the autogo function is allocated to the memories concerned, in the Memory or Sequence Manager.

For the whole sequence list to autogo, the playback itself can be put into Autogo mode.

17.9.1 Autogo playback

An autogo playback means that the whole playback sequence will be automatically replayed, each fade beginning as soon as the previous one has competed, subject to any wait times. The operator only needs to press the <GO> key once to activate the whole sequence.

➔ This can be used as an easy way to operate a whole sequence within a show that is strictly timed, or to provide continuously changing ambient lighting throughout the day for public areas such as foyers or bars.

Autogo for each playback is selected by using the <SHIFT> key, because the autogo playback function is shared with the <SEQ> key. * AUTO GO * is showed on any of the monitors which has the associated playback display.

examples of keystrokes

<p1> <mem> <1> <load> <autogo> <go>
➔ Memory 1 is loaded into the Preset field of playback 2, Autogo mode is selected and the whole sequence starts with a single press of the <GO> key.

The sequence will stop running when the last memory is reached, or it can be manually stopped by pressing <SEQ> to deselect the autogo mode.
Alternatively, a link can be created between the last memory in the sequence and the first (or any other) so that the sequence runs in continuous cycles.

17.9.2 Autogo memory or event

Autogo is used for chaining two or more memories (or events) together to create an automatic follow-on cue. The Autogo is assigned to the memory before the follow-on cue.

examples of keystrokes

OR


<F2 {Mem mng}> **OR** <F3 {seq mng}>
➔ Displays the Memory Manager (dialogue box*210*).
➔ or the Sequence Manager(dialogue box*406*).

OR

…


WHEEL **or** <↓>
or use alphanumeric keyboard directly
➔ Use the wheel or the down arrow to select the memory or event prior to the required follow-on.
➔ The alphanumeric keyboard can be used to type in a memory number directly.
➔ Use <ENTER> to select a list of memories and events, if required.

<F4 {autogo}>
➔ Assigns the highlighted memory(s) and event(s) an Autogo.

<F8 {ok}>
➔ Exits the manager.

The Autogo function can also be set for each memory in the memory editing dialogue within the Memory Manager.

17.10 Memory links and other events

Sometimes it is necessary that the playback sequence does not follow a strict numerical order of pre-recorded memories. A non-sequential memory number may be inserted into the sequence list if required: this is usually achieved with a Link.

In more complicated shows, it may be required to have a special effect start and stop automatically, or a pre-recorded macro run, simply by the operator pressing the <GO> key. This is achieved by inserting an event into the playback sequence, either through the Sequence Manager, or using the Intelligent Link function.

Links and Events are covered in the chapter 16 *Sequence Manager And Events*.

17.11 Using both playbacks simultaneously

Usually the two playbacks are completely independent of each other.
If they are used simultaneously, intensities are merged at the Output on a highest-takes-precedence (HTP) basis. Motion control parameters are prioritised dependent on the mode that has been selected for each instrument: this can be HTP, FTP or LTP.

All memories can be loaded, recorded, modified, or replayed in both playbacks, and a sequence in one playback can trigger a sequence in the other one by a macro type event.

Which playback is used is entirely the choice of the operator, and some operators like to use both playbacks to separate generic and moving lights.

As described above, the playbacks can be configured to accept only a specific range of memories so that there are two entirely separate cue lists. Each cue list can only be played in the specified playback and cannot be loaded, played, or modified in the other one.

The playbacks can handle all playback functions simultaneously or even run Autogo sequences together.
Pressing both <GO> or <PILE> keys simultaneously allows both playbacks to execute fades together.

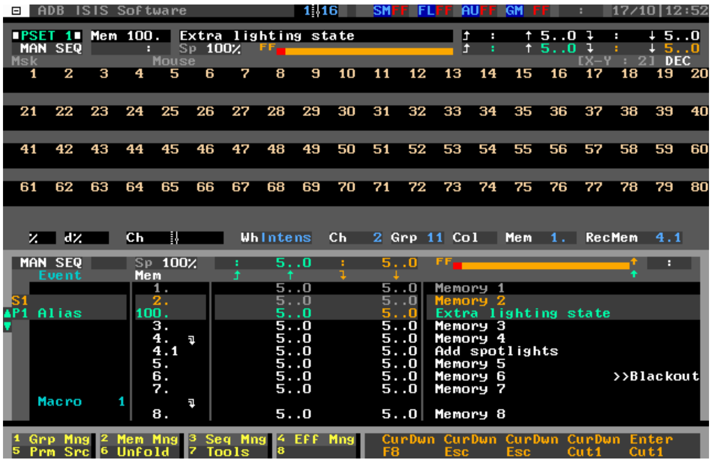
➔ All combinations of playback manipulations on both playbacks simultaneously are permitted.

17.12 Displaying the playback status

When working in sequential playback mode, the playback status is automatically updated as each memory or event is replayed. If a playback display is selected as a footer in the Screen Display configuration, this memory list is shown and can be seen scrolling through the memories as each one is played.

The difference between this playback sequence display and the other memory lists is that the playback display follows the playback sequence, rather than numerical order of the memories.

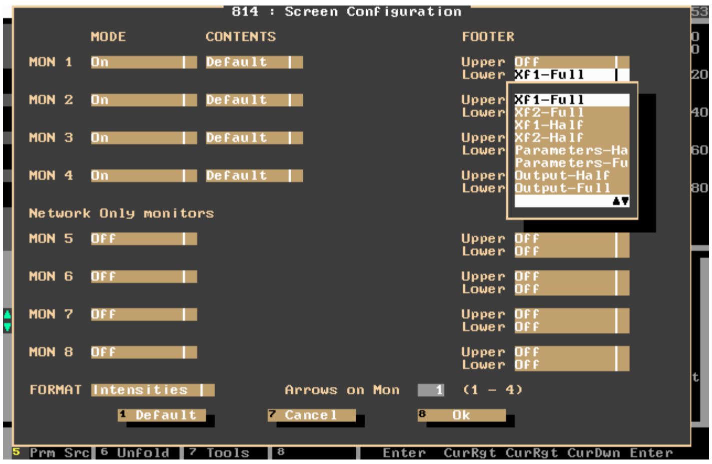
Most of the time the memories will be in numerical order, but the scrolling memory list shows the insertion of non-sequential links, and events. This allows the operator to see at a glance the memory currently on Stage, the memory loaded in Preset, and the following memories, complete with links, events, autogos, and fade times.



A playback display footer showing autogos, links and events.

To display the playback sequence, the Display Configuration must be changed; this selection can be made via the Setup Menu.

Some hardware platforms have one or more <MON> monitor keys on the desk. Pressing one of these monitor keys displays a list of options on the function keys, and <F4 {CONFIG}> is a shortcut to the Screen Configuration dialogue box*814*.



*Screen Configuration settings (Dialogue Box*814*)*

The required playback must be selected as one of the monitors’ footer for it to be displayed on-screen.

examples of keystrokes

<Menu> <F7 {Setup}> <F4 {Screen Config}>

➔ Displays the Screen Configuration dialogue box*814*.

 … 

<↓> … <enter>
- ➔ Use the arrow keys to move to the footer section of the required monitor.
- ➔ Use <ENTER> to display a drop-down list of available footer options.

 … 

<↓> … <enter>
- ➔ Use the arrow keys and <ENTER> to make a selection.
- ➔ The playback sequence can be displayed by selecting one of the options given below.

Option	**Display**
Xf1 – Full	Playback 1 in a full size footer (upper & lower areas)
Xf2 – Full	Playback 2 in a full size footer (upper & lower areas)
Xf1 – Half	Playback 1 in a half size footer (upper or lower areas)
Xf2 – Half	Playback 2 in a half size footer (upper or lower areas)

<F8 {OK}>
- ➔ Confirms the selection.

17.12.1 Displaying the playback status on the LCD touchscreen

The LCD touchscreen, available on certain hardware platforms, can be used to display the playback status. In this configuration, the display is similar to that shown in the monitor footer when one of the playback options is selected.

The playback status can be displayed at any time by using the <(X)FADE> function key.

Note: This function may need to be assigned to one of the available keys on some platforms.

18 LIVE

18.1 Introduction

Live is another working field; it is like a special submaster but without a physical fader. Memories can be created and loaded in it and channels or moving light parameters can be manipulated.

The Live field is special in that any manipulated channels or parameters are captured in the field, preventing other working fields from affecting their values. The captured levels can be released when they are no longer required in the Live field by a number of subtle, and not so subtle, methods.

Channels in Live take precedence over other submasters and playbacks, but are conditional to the value of the Grand Master, and the Blackout function.

For the safety concerns, in the new software, only by pressing the key SHIFT together with the key LIVE can access the Live function. Otherwise this key stays in COPY LIVE function.

18.2 Capturing channels and parameters

Whenever a channel or parameter is manipulated in the Live field, it becomes captured. Further manipulations on captured channels or parameters can take place in Live, but no other fields can control channels or parameters that have been captured. Captured intensities remain constant before the Grand Master.

- ➔ Live over-rides all other working fields, except a submaster in Bypass mode.
- ➔ Live is proportional to the Grand Master, Auditorium, Blackout, and Override values.

Live is useful when certain channels or parameters should not change. Parameters can be captured to prevent modification of important functions. For example, a reset parameter can be captured in Live mode, or the fan speed of a colour scroller captured at a quiet level.

The Live field is selected by pressing the <SHIFT> + <LIVE> key. While Live is selected, any channels or parameter values that are modified will be captured. Live is deselected either by pressing the <SHIFT>+ <LIVE> key again to return to the previously selected field, or by selecting any other working field.

If any channels or parameters are captured in Live their values are shown in red, and a red “LIVE” is shown in the information strip at the top of the working field.

18.2.1 Intensities

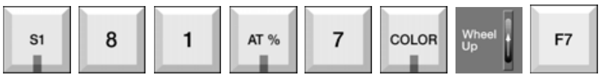
All channel and intensity tools described in the chapter 9*Channel Control* can be used to capture channels in Live. Once channels have been selected, they must be assigned an intensity to capture them in Live.

18.2.2 Parameters

Full details of selecting and adjusting motion control parameters are given in the chapters 20 *Using Colour Changers* and chapter 21*Using Moving Lights*, but below is a simple example of how to capture a scroller fan speed in Live.

This example works with channel 81, which has been defined as a scroller with parameter 1 = colour, parameter 2 = fan speed.

examples of keystrokes



<Stage1><8><1> <at> <7> <color> Wheel <F7(Ok)>

➔ Sets channel 81 to 70% in Stage and changes its colour by using the wheel.
➔ Use the function key <F7 {OK}> to exit the colour function once the value has been set.

<SHIFT><live> <8><1> <COLOR> <F3 {Spd}> Wheel <F7(Ok)> <SHIFT><live>

➔ Selects Live, allocates the fan speed parameter to the wheel by using <COLOR> and <F3 {SPD}>, and then sets the fan speed. The Live field is then de-selected.

Note: The fan speed parameter may be assigned to any of the function keys F3 to F7, depending on the number of parameters the colour changer has.

In this example, the intensity and colour are set in the Stage field, and can therefore be modified at any time. The fan speed setting is captured in Live and can only be further modified in Live, or in a submaster in bypass mode.

Note: Colours can also be selected by frame number, from a list of colour names, or by using the parameter encoder wheels. Please see the chapter 20*Using Colour Changers* for more details.

18.3 Freeing captured channels and parameters

When captured channels and parameters are no longer required in Live, they must be released via the Free command before they can be controlled by other working fields.

There are 3 ways of using the Free command:

FREE method	Action
Free Instantly	Immediately frees captured channels. Their intensity will snap to zero if they are not in use, or to the highest output level from other working fields.
Free to the Wheel	Releases captured channels to the wheel. They can be manually faded to match the output value from other working fields.
Free to the Playback	Releases captured channels to one of the playbacks. No change in intensity will occur until the next crossfade or pile is executed.

If only some of the captured channels or parameters are selected, only the selection will be released by Free operations. If no channels or parameters are selected, all the captured channels and parameters are released together.

➔ Live does not have to be selected for Free to work: <FREE> can be used at any time.

18.3.1 Free Instantly

Pressing the <FREE> key twice is the easiest way of releasing captured channels. The Live field does not have to be selected to use the Free function. In this case, the channels and parameters are released instantaneously and their levels will snap to their highest level in any other working field.

This method is useful in focusing and rehearsal situations, but perhaps not acceptable for performance situations. The <FREE> key, like <ERASE>, must be pressed twice in order to avoid accidents!

examples of keystrokes

<channel / parameter selection>
➔ Selects a list of channels and parameters to be released.

<Free> <Free>
➔ Releases the *selected* captured channels and parameters only.

Or

<clear> <clear>
➔ Clears any selection on the keypads.

<Free> <Free>
➔ Releases *all* captured channels and parameters.

18.3.2 Free to the wheel

Transferring the captured channels to the wheel allows them to be manually released. They are faded until they reach their highest value in any other working field contributing to the Output.

The wheel can be moved in either direction and the channel levels will increase or decrease as required. The wheel is working not to set a finite level, but to change the difference in levels. The direction of wheel movement is the operator’s choice, and can even be changed half way through the operation.

For example, if some channels are captured at 50% in Live but they are at intensities ranging from 20% to 80% in the S1 field, the wheel can be moved in one direction only – but the intensities will increase or decrease to match their levels in S1.

When the levels have been matched, they change from red to white on the monitor to indicate that they are no longer captured in Live but have been transferred to the field contributing to the Output.

Each time a channel’s intensity is matched in this way, it is automatically cleared from the selection, so when all channels are matched, the error message “Empty channel list” is given – because there are no longer any channels selected and under control by the wheel.

examples of keystrokes

<channel / parameter selection>
➔ Selects a list of channels and parameters to be released.

<Free> <F3 {WHEEL}> wheel
➔ Releases the *selected* captured channels and parameters only, at the rate wheel movement.

Or

<clear> <clear>
➔ Clears any selection on the keypads.

<Free> <F3 {WHEEL}> turn on the wheel

➔ Releases *all* the captured channels and parameters, at the rate of wheel movement.

18.3.3 Free to the playback

In a performance situation, it can be useful to transfer captured channels and parameters to the active playback. When transferred, there is no change to the levels of the captured channels until the next fade is executed. At that moment, the levels change to those of the state in Preset, in the times of that fade.
Captured channels can be transferred to either playback in this way.

Note: Channels captured in Live that have a value in a submaster field will snap to their released values when this mode is used.

examples of keystrokes

<channel / parameter selection>

➔ Selects a list of channels and parameters to be released.

<Free> <F1 {>S1}> … <Go>

➔ Transfers the *selected* captured channel levels only to S1.These channels will fade to their levels in the incoming memory in its fade times.

Or

<clear> <clear>

➔ Clears any selection on the keypads.

<Free> <F1 {>S1}> … <Go>

➔ Transfers *all* captured channel levels to S1. These channels will fade to their levels in the incoming memory in its fade times.

Note: The <F2 {>S2}> function key can be used to free the channels to the second playback.

18.4 Loading memories in Live

Memories can be loaded into the Live field in the same way that they can be loaded into any other field. When a memory is loaded in Live, *all channels* are captured at the levels in the memory. This includes capturing all the zero intensity channels at zero.

Channels captured at zero are displayed with a red double dash (- -) symbol as an intensity. In this case, to make intensity changes these channels must be further modified in Live, or in a submaster in Bypass mode. No other manipulations will have an effect at the output.

examples of keystrokes

<SHIFT><Live> <mem> <1> <load>

➔ Memory 1 is loaded in Live: *all* channels are captured, no matter what their intensity.

Loading a memory in Live will capture the intensity values of ALL channels, even those at 0%.

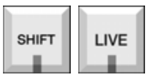
18.5 Recording memories in live

When intensities and parameters have been set in Live, they can be recorded as a memory using the same methods for recording in other working fields.

Remember that the Live field is before the Grand Master value, so there is a difference between recording in Live with <REC> and recording in Live with <SUM>.

The channels and parameters in the new memory remain captured in Live until they are released with the Free function. Channels that have zero intensity are not captured by this method.

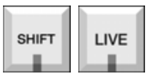
examples of keystrokes



Channel Manipulations


<SHIFT><live> <channel manipulations> <mem> <9><2><1> <REC>

➔ A lighting state in the Live field is created, and recorded as memory 921, regardless of the position of the Grand Master fader.



Channel Manipulations

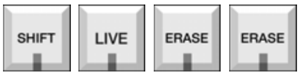

<SHIFT><Live> <channel manipulations> <MEM> <9><2><2> <sum>

- A lighting state in the Live field is created. This state along with contributing channels from other fields is recorded as memory 922, proportional to the Grand Master fader.
- Memory 922 is not loaded in any field, but exists in the memory list. However, channels and parameters that were manipulated in Live remain captured.

18.6 Erasing Live

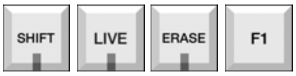
In the new software, the Erase function is quite the same as the Free Instantly. Pressing the Erase key twice, all the channels and parameters are released instantaneously and their level will snap to their highest level in any other working field.
This method is useful in focusing and rehearsal situations, but perhaps not acceptable for performance situations.

examples of keystrokes



<SHIFT><Live> <Erase><Erase>

- Empty the Live field, all the captured channels and parameters are released.

Or 

- <SHIFT><Live> <Erase> <F1>

19 MOTION CONTROL SETUP

19.1 Introduction

Complex DMX devices, such as moving lights and color changers have multiple parameters need to be controlled by the operater. Any unit with multiple parameters is called “instrument”.

ISIS® software allows all parameters of an instrument to be integrated into a single control channel.

When such a channel is selected, immediate control is given not only to the intensity of the lamp, but also to the other parameters of the instrument, such as position, colour or focus etc. The operator only needs to use a single channel number to gain control of all these parameters.

The software is intelligent enough to recognise the difference between intensities and other parameters, so that a scroller or moving light position is not affected by the Grand Master or Blackout functions. *ISIS®* software also gives the operator maximum flexibility by allowing each parameter to be set to any of the operating modes HTP (Highest Takes Precedence), FTP (First Takes Precedence) or LTP (Latest Takes Precedence).

Note: A description of the operating modes is given in the chapter 29 *HTP-FTP-LTP Modes*.

To be able to take control the instruments, first of all they need be defined and setup in the software by following the orders given bellow:

- ➔ Select the required instrument from a list of definitions;
- ➔ Assign the instrument definition to the required control channel;
- ➔ Patch the instrument to a DMX output address;
- ➔ Set up the instruments, if necessary.

19.2 Channel definitions

Every control channel has a “definition” associated with it; this tells the system what sort of channel it is and how it should be treated internally by the software.

If a channel is not required to have additional parameters, it uses the ‘standard’ definition - which is in fact a single parameter: intensity. This type of control channel is termed as a “generic” channel.

If a channel is to be used for the combined control of a luminaire with a colour changer, or for a moving light, the channel is allocated a specific definition. The definition is selected from a list to match the type of instrument being used.

This method of allocating channels means that the number of control channels is finite, and the number of DMX outputs required is calculated by the system according to the channel definitions.
For example, if a system has 360 channels, they can be 360 dimmers, 360 scrollers, 360 moving lights, or a mixture thereof.

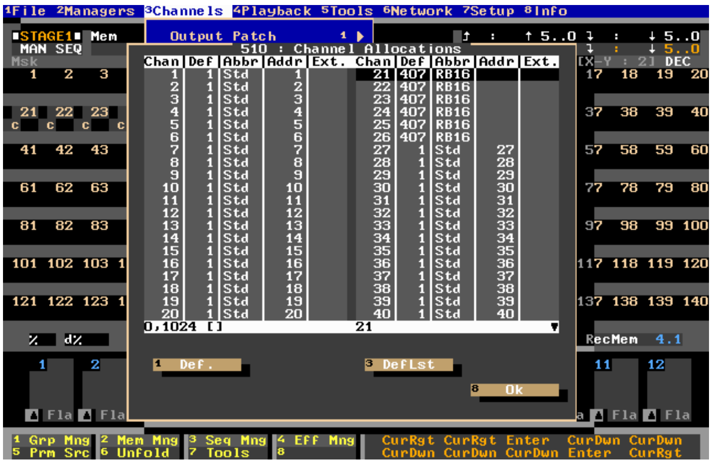
The only limit is the total number of DMX outputs: the total number of DMX channels used by all the colour changers, moving lights and dimmers cannot exceed the maximum number available in the system. In addition, the parameters of each DMX unit cannot cross over two DMX universes (lines).

This is a dynamic approach to channel assignment and is completely flexible.
Some other desks allocate certain numbers of ‘dimmer channel’ and ‘attribute channel’ which means the more of one type the fewer of the other, thus placing a restriction on the total number of colour changers or moving lights permitted.

When the *ISIS®* system is first initialised, all channels are allocated the ‘standard’ definition. The standard definition, which has identification number 1, cannot be changed or deleted as it is critical to the working of the system.

Definitions 2 to 900 are pre-defined instruments and stored within the “ADB Pool” of moving light and colour changer definitions. They cannot be changed, but they can be copied and modified. Definitions 901 to 999 are user-definable and can be created, modified and deleted at will, providing that they are not in use when modification is attempted.

<u>Allocating channel definitions is not the same as patching</u>. Each definition determines the number and type of parameters (or attributes) that the channel will use, and therefore the number of DMX offsets required. The control channel must still be patched to the required DMX start address after its definition is allocated.



*The Channel Allocations screen (Dialogue Box*510*).*
Some channels with shown with Standard definitions and others with colour changers.

19.3 Importing definitions from the ADB Pool

The ADB Pool contains a good selection of popular colour changer and moving light definitions (sometimes called personalities). These can be imported and used directly in a show, or they can be copied and modified to create new instrument definitions.

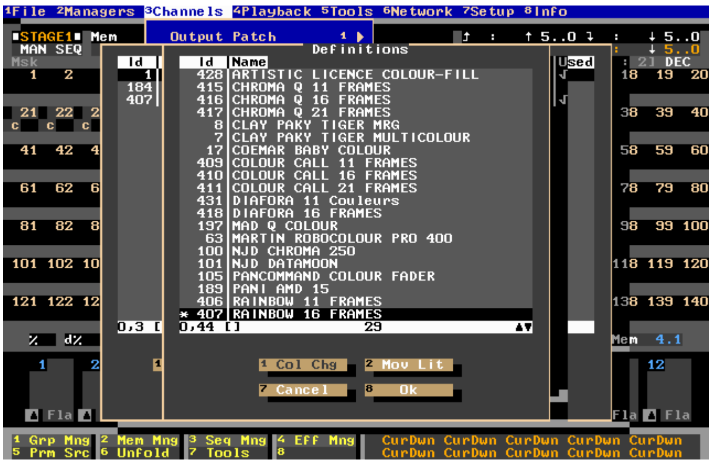
examples of keystrokes

<Menu> <F3 {Channels}> <F5 {Motion Control}>
➔ Selects the motion control options from the Channels menu.

<F1 {Definitions}>
➔ Displays the List of Instrument Definitions.

<F6 {OtherFct}> <F1 {import}>
➔ Loads the list of definitions for selections to be made.

Note: The imported definitions are displayed in two lists, one for colour changers and one for moving lights. Normally the colour changers list is displayed first, but the two lists can be displayed alternately by using the function keys: F1 and F2.



The list of definitions, showing a variety of colour changer instruments.

OR

…


wheel **or** <↓> ... <enter>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight a definition number.

- ➔ The keyboard or keypads can be used to type in a number directly.
- ➔ Use <ENTER> to select a list of definitions if more than one needs to be imported.

<F8 {ok}>
- ➔ To confirm the selection for importing and return to the List of Definitions.

When definitions have been imported, they can be used straight away, or copied and modified before being used.

19.4 Allocating instrument definitions to control channels

Once a channel's definition is defined, its parameters are present in the system and the required number of DMX outputs are calculated for the patch. It is possible to start blind plotting with instruments before they are rigged or patched, once the channels are defined.

The Channel Allocations function can be accessed from the motion control options of the Channels menu by the link in the List of Definitions dialogue box(Dialogue Box *521*), or can be accessed from Channel Allocation option of the Channel menu.

examples of keystrokes

Remaining in the List of Definitions dialogue box:

<F6 {OtherFct}>
- ➔ Displays the second page of options in the dialogue box, if required.

<F3 {Ch. All}>
- ➔ Goes to Channel Allocations dialogue box.

 OR  … 

wheel **or** <↓> ... <enter>
or use the alphanumeric keyboard directly
- ➔ Use the wheel or the down arrow key to highlight a channel number and it's definition
- ➔ The keyboard or keypads can be used to type in a number directly.
- ➔ Use <ENTER> to select a list of channels if several channels need to be allocated the same definition.

<F1 {Def}>
- Displays the list of definitions that have been imported or created in the current show.
- This list of definitions is specific to the current show.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
- Use the wheel or the down arrow key to highlight a definition number.
- The keyboard or keypads can be used to type in a number directly.
- Only one definition can be selected.

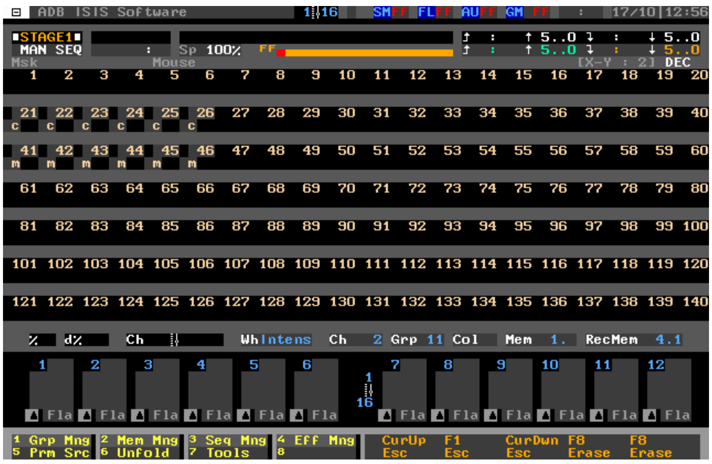
OR


<Enter> **or** <F8 {ok}>
- Confirm the selection and allocate the definition to the selected channel(s).

a warning is issued
- A warning is given: Are you sure? - Some channels will be removed from the patch.

<F8 {yes}>
- To confirm the operation.

Once a channel has been defined with a specific definition, it is shown on the monitors preceded with a letter “c” if it is a colour changer or a letter “m” if it is a moving light.



The intensity screen showing some channels defined as colour changers, others as moving lights.

19.5 Patching colour changers

Once a control channel is defined as a colour changer, the number of DMX outputs it requires is calculated. This means that the channel can be included in blind plotting, but it remains disconnected until the channel is patched.

The patch routine is simple; no calculations are required by the operator, the only data to be input is the start address of the colour changer (scroller), and the address of the external dimmer (the luminaire). A list of same-type instruments can be patched to consecutive DMX outputs in one operation.

The following table shows 2 luminaires with 3-parameter scrollers attached, combined to form two instruments. The two instruments use only 2 channels - 1 each - but are using a total of 8 DMX outputs.

INSTRUMENT (CHANNEL) 1 DIMMER 101 AND DMX START ADDRESS 401		INSTRUMENT (CHANNEL) 2 DIMMER 102 AND DMX START ADDRESS 404	
DESK DMX OUTPUT	SCROLLER DMX OFFSET	DESK DMX OUTPUT	SCROLLER DMX OFFSET
101 401 402 403	- External dimmer 0 Colour 1 Fan 2 Speed	102 404 405 406	- External dimmer 0 Colour 1 Fan 2 Speed

Channel 1 uses DMX output 101 for the dimmer, and outputs 401 to 403 for the scroller.
Channel 2 uses DMX output 102 for the dimmer, and outputs 404 to 406 for the scroller.

ISIS® allows consecutive control channel numbers to be used for any instruments, regardless of the quantity of parameters required by each instrument. Five of the colour changers in the above example could be numbered and patched to channels 1 to 5, even though they are using up a total of 20 DMX addresses.

19.5.1 Patching a single colour changer

A colour changer can be patched at any time after the channel has been allocated with a colour changer definition. When a single colour changer is patched, two separate DMX numbers must be entered by the operator: one for the DMX address of the scroller, the other the DMX address of the dimmer.

Because the colour changer device is separate from luminaire it is attached to, the dimmer channel of the combined instrument is “external” to the scroller. Therefore, the DMX addresses of the scroller and the dimmer can be on different DMX universes (lines). For example, control channel 1 can be connected to dimmer 1, but its scroller connected to DMX 513 (a channel on the second DMX line).

examples of keystrokes

<Patch>
➔ Selects the Output Patch.

<1> <dim> <4><0><1> <at> <at>
➔ Starts to patch channel 1 (which must be defined as a colour changer) to DMX 401
➔ DMX 401 is the DMX address of the scroller (set on the scroller).

external dimmer
➔ The operator is asked for the DMX address of the dimmer.

<1> <F8 {ok}>
➔ DMX 1 is entered for the external dimmer circuit.
➔ Channel 1 is now patched to DMX output 401 for the scroller and DMX 1 for the dimmer.

OR


<Patch> **or** <F8 {Exit}>
or any other working field key
➔ Exits the Output Patch screen.

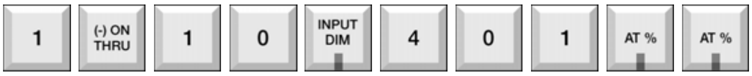
19.5.2 Patching consecutive channels with consecutive colour changers

Patching a consecutive list of colour changers of the same type is as simple as patching a single colour changer. Only the first DMX address of the list of scrollers needs to be entered by the operator: all other scroller DMX addresses are calculated by *ISIS*®.

If the list of dimmer channels is also consecutive, only the first DMX address of the list of dimmer channels needs to be entered. If the dimmers are non-consecutive, the operator is prompted for each channel as the scrollers are patched.

examples of keystrokes

<Patch>
➔ Selects the Output Patch.



<1> <Thru> <1><0> <dim> <4><0><1> <at> <at>
➔ Starts to patch channels 1 to 10 (which must be defined as colour changers) to DMX 401.
➔ DMX 401 is the DMX address of the first scroller in the list.

external dimmer
➔ The operator is asked for the DMX address of the dimmer associated with the first scroller.

The operator now has a choice, depending on whether the list of dimmer addresses is consecutive.

If the range of dimmers is consecutive:
Only the first dimmer address needs to be entered, all other addresses are calculated automatically.

<1><0><1> <F1 {Thru}>
➔ The scrollers are automatically patched to sequential dimmer addresses.
➔ Channel 1 is patched to DMX output 401 for the scroller and 101 for the dimmer, channel 2 to 403 for the scroller and 102 for the dimmer, etc.

Note: The example shown is based on each scroller using 2 DMX channels (this is defined in the imported definition). Thus DMX output 514 is used by channel 1 for the second parameter of the scroller (for example, fan speed or gel velocity).

If the range of dimmers is non-consecutive:
Successive scrollers' dimmer addresses must be entered independently.

<1><0><1> <F8 {ok}>
➔ The first scroller is patched to the specific dimmer channel entered.
➔ Channel 1 is patched to DMX output 401 for the scroller, and 101 for the dimmer.

<1><2><0> <F8 {ok}>
➔ Channel 2 is patched to DMX output 403 for the scroller, and 120 for the dimmer.
➔ Each remaining dimmer channel must be entered successively.

OR


<Patch> **or** <F8 {ok}>
or any other working field
➔ Exits the Output Patch once the operation has been completed.

19.5.3 Patching non-consecutive channels with a list of colour changers

If the desk channel numbers are non-consecutive but the DMX addresses of the scrollers and dimmers are consecutive, the same patching method displayed above can be used, except that the <+>, <->, <NEXT>, <PREV> and <THRU> keys must be used to build up the channel list.
If the DMX addresses for the scrollers are non-consecutive, each instrument must be individually patched.

19.5.4 Patching colour changers of different types

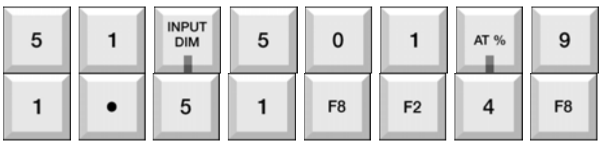
When patching instruments of different definitions, they must be patched individually, or in lists of same-type instruments.

19.5.5 Proportion and dimmer laws

When patching colour changers, a proportional output factor and a dimmer law can be allocated when the first DMX address is entered or they can be changed later. These factors only work on the intensity parameter of the instrument.

examples of keystrokes

<Patch>
➔ Selects the Output Patch.



<5><1> <DIM> <5><0><1> <at> <9>
<1><.> <5><1> <F8 {ok}> <F2 {dimlaw}> <4> <F8 {ok}>
➔ Channel 51 is patched to DMX output 501 for the scroller and 51 for the dimmer, with a proportional factor of 90% and dimmer law 4 (square law).
➔ Input 1.51 or a51 means the dimmer address coming from the universe 1.

OR


<Patch> **or** <F8 {ok}>
or any other working field
➔ Exits the Output Patch once the operation has been completed.

19.6 Setting up a colour changer

Sometimes the default settings for the colour parameter of a scroller do not always correspond to the colour frames in the gelstring. In certain circumstances, this error can be corrected to make operation easier.

Note: Other parameters can be adjusted as described in section 19.8.5 Parameter step adjustment.

19.6.1 Adjusting and naming frames for colour changers

When a colour changer's colour parameter has more than one step in its definition, it is possible to select complete colour frames on the gelstring directly, as described in the chapter 20 *Using Colour Changers*.

However, the size and physical positioning of these frames may turn out to be not exactly aligned to the definition settings, for reasons such as gelstring tension and drift. It is possible to correct these errors using *ISIS®* software.

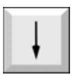
When a parameter is given more than one step, the step values are automatically calculated simply by dividing 256 (the number of levels in each DMX channel) by the number of steps. In most cases, these default values turn out to be correct, but occasionally they may need to be slightly modified to trim the colour positions to cover the light beam.

The steps within each parameter can be linear or non-linear. A scroller that has non-linear steps has only one number for each frame: this should be the central position of each colour. With linear steps, the instrument may work with uneven step sizes, so these will need to be trimmed to suit the manufacturer's requirements. Each linear step has two numbers associated with it: the start and end of each frame.

In addition to the step adjustment, each step may be given a name. The name can be displayed on-screen, and also used to select the required colour.

examples of keystrokes

<Menu> <F3 {Channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Instrument Definitions.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly

➔ Use the wheel or the down arrow key to highlight a definition number.
➔ The keyboard or keypads can be used to type in a number directly.

<F2 {PARAM}>

➔ Displays the list of parameters of the selected definition.

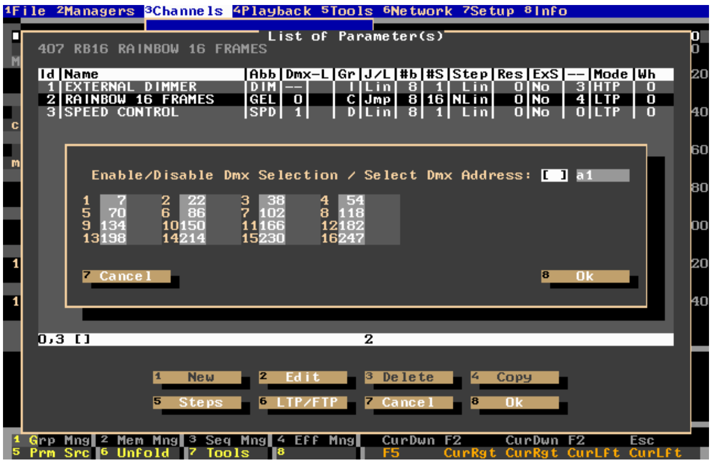
OR


wheel **or** <↓>
or use the alphanumeric keyboard directly

➔ Use the wheel or the down arrow key to highlight the colour (or gel) parameter. This will be the parameter belonging to the C Group, listed in the column headed "Gr".
➔ The keyboard or keypads can be used to type in a number directly.

<F5 {STEPS}>

➔ Displays the steps contained in the colour parameter.



The Parameter Steps Adjustment dialogue box.

Enable DMX selection & select dmx address

➔ If the changes are to be seen on a particular instrument, the DMX selection option must be enabled. The DMX address of the colour changer's colour function must also be entered.
➔ Use <ENTER> to enable the DMX selection.
➔ Use the down arrow to select the DMX address box and enter a number from the keypad.

The figures in the left-hand column in each section are the frame numbers and cannot be changed.

The next column(s) of figures are the value(s) for each step. The default values are shown, but they can be changed with the fader wheel. If the DMX selection option has been enabled, any changes made with the wheel will be seen on the colour changer.

The final column in each section is blank by default, but a 4 character name can be given for each frame, if required. The step names are a useful option because the scroller colours can be selected from a list of these names.

When the frames adjustment is complete and any required names have been entered, confirm the modifications and exit the dialogue box.

19.7 Patching moving lights

When a channel is defined as a moving light instrument, the number of required DMX outputs it requires is calculated. This means that the channel can be included in blind plotting, but it remains disconnected until the channel is patched.

The patch routine is simple; no calculations are required by the operator, the only data to be input is the start address of the instrument and the start address of the external dimmer - if the instrument requires a dimmer input. A whole list of same-type instruments can be patched to consecutive DMX outputs in one operation.

The following table shows 2 instruments with 10 parameters each - the first parameter plus 9 offsets. The two instruments use only 2 control channels - 1 each - but are using a total of 2 DMX outputs.

INSTRUMENT (CHANNEL) 1 DIMMER IS INTERNAL DMX START ADDRESS 1			INSTRUMENT (CHANNEL) 2 DIMMER IS INTERNAL DMX START ADDRESS 11		
DESK DMX OUTPUT	INSTRUMENT DMX OFFSET		DESK DMX OUTPUT	INSTRUMENT DMX OFFSET	
1	0	Pan	11	0	Pan
2	1	Fine pan	12	1	Fine pan
3	2	Tilt	13	2	Tilt
4	3	Fine tilt	14	3	Fine tilt
5	4	Colour wheel	15	4	Colour wheel
6	5	Gobo wheel	16	5	Gobo wheel
7	6	Gobo rotation	17	6	Gobo rotation
8	7	Focus	18	7	Focus
9	8	Iris	19	8	Iris
10	9	Dimmer	20	9	Dimmer

ISIS® allows consecutive control channel numbers to be used for any instruments, regardless of the number of parameters required by each instrument.

19.7.1 Patching a single moving light

A moving light can be patched at any time after the channel has been allocated with a moving light definition. When a single moving light is patched, the operator normally only needs to enter one DMX output number: the start address of the instrument.

If the instrument uses an external dimmer (for example, the Vari*lite VL5), two separate DMX numbers must be entered by the operator: one for the DMX address of the instrument, the other the DMX address of the dimmer.

In this instance, because the dimmer is “external”, the DMX addresses of the instrument and the dimmer can be on different DMX universes (lines). For example, control channel 1 can be connected to dimmer 1, but its instrument connected to DMX 513 (a channel on the second DMX line).

examples of keystrokes

<patch>
➔ Selects the Output Patch.

<1> <dim> <3><0><1> <AT> <AT>
➔ Starts to patch channel 1 (which must be defined as a moving light) to DMX 301.
➔ DMX 301 is the DMX start address of the instrument (set on the moving light).
If the instrument uses an external dimmer, its number must be entered when patching.

external dimmer
➔ The operator is asked for the DMX address of the dimmer.

<1> <F8 {ok}>
➔ DMX 1 is entered for the external dimmer circuit.
➔ Channel 1 is patched to DMX output 301 for the instrument, and DMX 1 for the dimmer.

OR


<patch> **or** <F8 {exit}>
or any other working field key
➔ Exits the Output Patch screen.

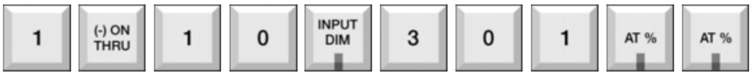
19.7.2 Patching consecutive channels with consecutive moving lights

Patching a consecutive list of moving light instruments of the same type is as simple as patching a single instrument. Only the first DMX address of the list of instruments needs to be entered by the operator: all other DMX addresses are calculated by *ISIS®*.

If the list of dimmer channels for instruments that require an external dimmer is also consecutive, only the first DMX address of the list of dimmer channels needs to be entered. If the dimmers are non-consecutive, the operator is prompted for each channel as the scrollers are patched.

examples of keystrokes

<patch>
➔ Selects the Output Patch.

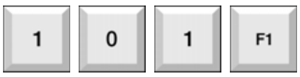


<1> <thru> <1><0> <dim> <3><0><1> <at> <at>
➔ Starts to patch channels 1 to 10 (which must be defined as moving lights) to DMX 301.
➔ DMX 301 is the DMX address of the first instrument in the list.
➔ If it is a 10 parameter instrument, channel 2 is patched to DMX 311, channel 3 to DMX 321, etc.

For instruments with external dimmers, the dimmer channels must be entered when patching.

external dimmer
➔ The operator is asked for the DMX address of the dimmer associated with the first instrument.

The operator now has a choice, depending on whether the list of dimmer addresses is consecutive. If the range of dimmers is consecutive:
Only the first dimmer address needs to be entered, all other addresses are calculated automatically.



<1><0><1> <F1 {Thru}>
➔ The instruments are automatically patched to sequential dimmer addresses.
➔ Channel 1 is patched to DMX output 301 for the instrument and 101 for the dimmer, channel 2 to 311 for the instrument and 102 for the dimmer, etc.
➔ DMX outputs 302 to 310 are used by channel 1 for the remaining parameters of the first instrument, and so on.

If the range of dimmers is non-consecutive:
Successive instruments' dimmer addresses must be entered independently.

<1><0><1> <F8 {ok}>

- ➔ The first instrument is patched to the specific dimmer channel entered.
- ➔ Channel 1 is patched to DMX output 301 for the loving light, and 101 for the dimmer.

<1><2><0> <F8 {ok}>

- ➔ Channel 2 is patched to DMX output 311 for the moving light, and 120 for the dimmer.
- ➔ Each remaining dimmer channel must be entered successively.

OR


<patch> **or** <F8 {exit}>
or any other working field

- ➔ Exits the Output Patch once the operation has been completed.

Note: The required DMX addresses of an instrument cannot cross over two DMX lines. It is not possible to patch a 10 parameter instrument using DMX 511 to 520 because the first DMX stream ends at 512.

19.7.3 Patching non-consecutive channels with a list of moving lights

If the desk channel numbers are non-consecutive but the DMX addresses of the instruments are consecutive, the same patching method can be used, except that the <+>, <->, <NEXT>, <PREV> and <THRU> keys must be used to build up the channel list.

If the DMX addresses for the instruments or dimmers are non-consecutive, each instrument must be individually patched.

19.7.4 Patching instruments of different types

When patching instruments of different definitions, they must be patched individually, or in lists of same-type instruments.

19.7.5 Proportion and dimmer laws

When patching moving lights, a proportional output factor and a dimmer law can be allocated when the first DMX address is entered, or they can be changed later. These factors only work on the intensity parameter of the instrument.

examples of keystrokes

<patch>
➔ Selects the Output Patch.

<1> <dim> <5><0><1> <at> <9> <F2 {dimlaw}> <4> <F8 {ok}>
➔ Channel 1 is patched top DMX output 501, with a proportional factor of 90% and dimmer law 4 (square law).

Channel 1 is patched to DMX output 501 for a 10 parameter instrument. The dimmer parameter of the instrument has an output proportional factor of 90%. Which DMX output is the dimmer parameter is determined by the instrument definition.

 OR 

<patch> **or** <F8 {exit}>
➔ Exits the Output Patch once the operation has been completed.

19.8 Setting up a moving light

Sometimes the movement of an instrument does not always correspond to the movement of the trackball. In certain circumstances, this error can be corrected to make operation easier.

Which adjustments are required will depend upon the instrument type, where it is rigged, and the operating position. These adjustments are intended to be made only once, when the instruments are first rigged. Adjustments can be made to the following settings.

Adjustment	Description
Swap	Swaps the X (pan) and Y (tilt) axis of the instrument.
Invert X	Reverses left and right movements.
Invert Y	Reverses up and down movements.
Min	Sets the lowest limit of X (pan) and the lowest limit of Y (tilt) allowed.
Max	Sets the highest limit of X (pan) and the highest limit of Y (tilt) allowed.

If the adjustments are made after memories or motion control libraries have been recorded, the positions used within the memories and libraries will no longer are correct. However, the library positions can be re-recorded and any memories linked to them will be automatically updated.

Note: These adjustments are most useful for moving-mirror type instruments. Because moving-head instruments are designed to have 360° pan and almost as much tilt, it is normal that sometimes their movement is the opposite to that of the trackball. If a moving-head instrument is moving in the opposite direction than required during a transition, the Flip function can be used to correct this error.

19.8.1 Swap

Swap simply swaps over the X (pan) and Y (tilt) movement of an instrument. This can be useful if one instrument is rigged at a 90° angle to another of the same type.

examples of keystrokes

<menu> <F3> {Channels}> <F5 {Motion Control}>
➔ Selects the motion control options from the Channels menu.

<F2 {X-Y Configuration}>
➔ Displays the X-Y Configuration dialogue box.

OR

…


wheel **or** <↓> ... <enter>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight an instrument.
➔ The keyboard or keypads can be used to type in a number directly.
➔ Use <ENTER> to select more than one instrument.

<F1 {swap}>
➔ Swaps the X and Y (pan and tilt) movement of the selected instrument.

<F8 {ok}>
➔ Exits the dialogue box (do not exit if further adjustments need to be made).

19.8.2 X invert

The X invert function swaps left and right (pan) movements over.

For example, if two instruments of the same type are rigged opposite each other, moving the trackball in one direction causes the two light beams to move in opposite directions. Inverting the X axis on one of the instruments corrects this discrepancy.
The X invert function is set from the X-Y Configuration dialogue box, as described above.

19.8.3 Y invert

The Y invert function swaps the up and down (tilt) movements over. For example, if two instruments of the same type are rigged opposite each other vertically, one in the rig and one on the floor but in the same direction, moving the trackball in one direction causes the two light beams to move in opposite directions (assuming that the instrument on the floor has its yoke inverted). Inverting the Y axis on one of the instruments corrects this discrepancy.

The Y invert function is set from the X-Y Configuration dialogue box, as described above.

19.8.4 Setting X and Y limits

The X limit constrains the amount of sideways movement of the instrument's light beam (for example to stop it moving outside of a proscenium arch) and the Y limit confines the vertical movement (for example to prevent the light beam touching the ceiling or plunging into the orchestra pit).

To set X and Y limits, the desired minimum or maximum X and Y position of the required instrument must first be made by using the trackball in any active working field. The limit is then captured in the X-Y Configuration dialogue box.

examples of keystrokes

<menu> <F3> {Channels}> <F5 {Motion Control}>
➔ Selects the motion control options from the Channels menu.

<F2 {X-Y Configuration}>
➔ Displays the X-Y Configuration dialogue box.

OR

…


wheel **or** <↓> ... <enter>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight an instrument.
➔ The keyboard or keypads can be used to type in a number directly.
➔ Use <ENTER> to select more than one instrument.

OR


<F6 {Grab Min}> **or** <F7 grab max>
➔ Grabs the current X and Y output values of the selected instrument(s) and pastes them to the X and Y minimum or maximum limit.

The X and Y limits can be removed if they are no longer required, from the same dialogue box.

OR


<F4 {Rmv Min}> **OR** <F5 {RMV max}>
➔ Removes the selected limit by setting the X and Y limits back to their default values (zero).

<F8 {ok}>
➔ Confirms and exits the dialogue.

19.8.5 Parameter step adjustment

When a parameter of an instrument is given more than one step in its definition (for example the fixed positions of a gobo wheel), the step values are automatically calculated by simply dividing 256 by the number of steps. In most cases these default values turn out to be correct, but occasionally the steps need to be slightly modified to trim the colour or gobo positions to completely cover the light beam.

With linear steps, the instrument may work with uneven step sizes, so these will need to be trimmed to suit the manufacturer's requirements. Each step has two numbers associated with it: the start and end of each step. A parameter that has non-linear steps has only one number for each step: this should be the central position.

examples of keystrokes

<Menu> <F3 {Channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Instrument Definitions.

OR


wheel or <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight a definition number.
➔ The keyboard or keypads can be used to type in a number directly.

<F2 {PARAM}>

➔ Displays the list of parameters of the selected definition.

OR 

wheel **or** <↓>

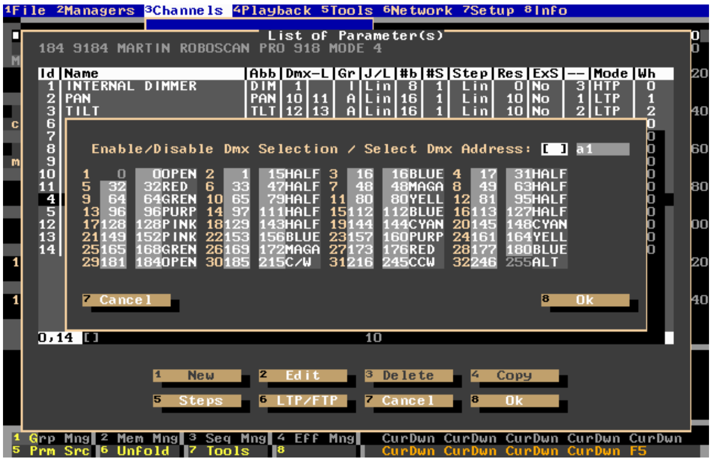
or use the alphanumeric keyboard directly

➔ Use the wheel or the down arrow key to highlight the required parameter.

➔ The keyboard or keypads can be used to type in a number directly.

<F5 {Steps}>

➔ Displays the steps contained in the selected parameter.



The Parameter Steps Adjustment dialogue box

Enable DMX selection & select dmx address

➔ If the changes are to be seen on a particular instrument, the DMX selection option must be enabled. The DMX address of the specific instrument's parameter being modified must also be entered.

➔ Use <ENTER> to enable the DMX selection.

➔ Use the down arrow to select the DMX address box and enter a number from the keypad.

The left-hand column of figures in each section is the step number and cannot be changed.

The next column(s) of figures are the values for each step. The default values are shown, but they can be changed with the fader wheel. If the DMX selection option has been enabled, any changes made with the wheel will be seen on the instrument.

The final column in each section is blank by default, but a 4 character name can be given for each step, if required. Step names are useful as an option because they can be displayed on-screen instead of the parameter value.

When the steps adjustment is complete and any required names entered, confirm the modifications and exit the dialogue box.

19.9 Instrument definitions and parameter settings

There are many aspects to parameters and careful choice of the settings can optimise the performance of the instrument and the way in which it is controlled.

Note: Parameters cannot be added or deleted if the definition is currently allocated to a channel.
Some settings within a definition cannot be modified if it has been imported from the ADB Pool. If such modifications are required, a copy of the existing definition must be made and changes made to this copy.

The parameters of an instrument can be displayed from the List of Definitions dialogue box, as shown in section 19.8.5 above. The settings of the selected parameter can be viewed and modified by using the <F2 {EDIT}> function key.

The Edit Parameter dialogue box

19.9.1 ID

The identification number is the reference number of the parameter. It is automatically calculated by *ISIS®* and cannot be changed by the operator. It corresponds to the order in which the parameters were created.

19.9.2 Type

The parameter type is used internally by the software to categorise the type of parameter.
There must always be one “Intensity” parameter, which can be either an external or internal dimmer. A few moving lights have no dimmer at all, in which case a spare parameter must be added to the end of the definition so that an “Intensity” type parameter is present.

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Intensity
Intensity parameters are always controlled by the intensity wheel or entered via the keypads.

Pan
Usually it is the sideways movement of the light beam. Pan is always controlled by the trackball, but is also assigned to the encoder wheels. Pan is not used for colour changers.

Tilt
Usually it is the up and down movement of the light beam. Tilt is always controlled by the trackball, but is also assigned to the encoder wheels. Tilt is not used for colour changers.

Color
The Color attribute is essential to colour changers. The scroller itself (or colour parameter of a similar colour changing instrument) should be defined as a Color type. This is what changes the instrument classification from the “motorised” type to “colour” type.

Miscellaneous
Miscellaneous is used for all other parameter types. Do not confuse the colour parameter(s) of a moving light with the “Color” type parameter of instruments. Colour parameters of moving lights should be defined as Miscellaneous type.

19.9.3 Name and abbreviation

Every parameter can be given a name of up to 20 characters in length. In addition, the parameter should be given a four letter abbreviation. The abbreviation is very important and must be easily recognisable as the parameter: it is the identification of the instrument parameter that is displayed on the monitors.

19.9.4 Group

The parameter groups are for operator convenience, particularly when using moving lights. Similar types of parameters are grouped together for ease of selection and inclusion in libraries and the Part functions. There are five parameter groups:

Group	Description
Intensity	Used for the Intensity parameter of a moving light or colour changer.
Azimuth(A Group)	Used for Pan and Tilt parameters.
Beam (B Group)	Used for beam modifying parameters such as gobo wheels, frost and focus.
Colour (C Group)	Used for colour parameters.
Diverse(D Group)	Used for any parameter that does not easily fit into the other groups. Examples could include fan speed, reset commands and so on.

19.9.5 Fading

The Fading option identifies the parameter as fade type or jump type. Fading makes the parameter move smoothly across the whole value range; jumping makes it jump from step to step.

- ➔ Fading is used for scrollers in Free mode, irises, focus, and other single step parameters.
- ➔ Jump is used when steps such as gobos and colours are to snap fully into the light beam.

Note: Some instruments' parameters (such as gobo wheels) are defined as jump type within the instrument itself. In this case, it does not matter whether fading or jumping is selected because the instrument will always make the parameter jump.

19.9.6 Mode

Each parameter of an instrument can be individually configured to one of the three operating modes: Highest Takes Precedence (HTP), First Takes Precedence (FTP) or Latest Takes Precedence (LTP).

Note: The mode of all parameters (except intensity) can be changed simultaneously once the definition has been created.

19.9.7 Steps

The required number of steps for the parameter can be entered. Steps can be the positions of a colour wheel, or gobo selections from a gobo wheel, for example. The default is one step, and for one step parameters, Fading should be selected.

19.9.8 Linear

Steps can be linear or non-linear, and function differently according to this setting.

Non-linear is normal for jump type steps, but linear is intended for a different type of step. A single parameter may have two separate functions, such as narrow and wide focus, or forwards and backwards rotation: 0 to 50% of the parameter being the first function, and 51% to 100% the second. This type of parameter should be set to linear, which gives full control from 0 to 50% and then full control from 51 to 100% when the step is manually changed.

19.9.9 Wheel resolution

The Wheel Resolution setting allows the resolution of the digital encoder wheel assigned to the parameter to be set.

The default setting is 0, which means that the DMX output for this parameter will change in increments of 1 as the encoder wheel is moved. Some instruments utilise two DMX channels for certain parameters; these are called “16-bit parameters”. Such parameters have very fine resolution, so incrementing the DMX output by 1 will take considerable time to make a discernable difference to the setting.

By setting the Wheel Resolution to a higher figure, the DMX output will be increased in larger increments. A setting of 50 or 100 could be used, for example.

Fine adjustment of the parameter is still possible, however, by holding the <ALT> key in associated with the encoder wheel movement. This temporarily sets the Wheel Resolution back to zero, allowing a precise setting to be made.

19.9.10 Wheel position

Instrument parameters in each parameter group can be assigned to specific encoder wheels. This allows parameters to be arranged on the encoder wheels to the operator's preference. For example, a 'Focus' parameter could be placed between two 'Gobo Wheel' parameters.

Wheel counting starts from 1 for each parameter group and increases to the maximum number of parameters in the group. The default setting is 0 (no specific assignment).

19.9.11 Open value

The Open value is the value at which light will pass through the parameter. The setting can be between 0 (zero percent) and 255 (100 percent).

Intensity parameters should normally be set to 255, but some instruments work 0 to 50% for intensity, and 51% to 100% for strobe. In this case, an open value of 127 is recommended. Some instruments may require all their colour parameters be set to full, and irises and shutters be opened before light is seen on stage.

Once the Open value has been set for each parameter, the instrument can be quickly set ready for use by using the Open command, or the <OPEN> key where available.

19.9.12 Reset value

The Reset value is the value at which the instrument starts to execute its internal reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer. A reset parameter is usually classified in Group D: Diverse.

19.9.13 Ignition value

The Ignition value is the value at which the lamp of a moving light will be struck, if this function is available. It can be advantageous to be able to switch on a fixture's lamp from the desk. The value for ignition is given by the manufacturer. An ignition (or lamp on) parameter is usually classified in Group D: Diverse.

19.9.14 Value for Whee Control

For certain Moving Lights, the same wheel may control more than 1 function.
For example; in the D group; though the Parameter Type is written Strobe, in fact the related wheel can control STROBE / RESET / LAMP which means by turning the wheel, one might accidentally trig the Reset. By inputting the wheel minimum value and the maxim value th operator can prevent such things happen. The value is given by the manufacture. It can be found in the Steps of Edit Parameter.

19.9.15 DMX type

The DMX type defines the number of DMX channels required by the parameter. Most parameters only require a single DMX channel; this is an “8-bit parameter”. Some parameters operate in “16-bit” mode (two DMX channels control the parameter), but usually this is only for pan and tilt parameters.

If the instrument uses an external dimmer, ‘External’ should be selected here. Most colour changers (scrollers) will require the DMX type to be set to external, as well as some moving lights.

19.9.16 DMX offset

Every parameter must have a offset value from the DMX address of the instrument. This offset corresponds to its DMX control channel (as defined in the instrument’s instructions).

There are 2 methods of handling this information, and different manufacturers use the two different methods. The first method is to count the number of control channels, so a 4 parameter instrument will contain “offsets” 1, 2, 3, and 4. The second method is to take the first parameter and count the offsets from it. In this case, the offsets for a 4 parameter instrument will be 0, 1, 2, and 3. This is the method that *ISIS®* uses.

19.9.17 Low

This is only used when a parameter is in 16-bit mode. It corresponds to the second control channel (low byte) used to generate the 16-bit movement. This is usually the next consecutive DMX offset from the first channel used to control the parameter. For example, the pan and tilt parameters of a typical instrument might be: Pan - DMX offset 1, Low 2; Tilt - DMX offset 3, Low 4.

19.9.18 Move In Black - enable

Moving fixtures and colour changers will often change position during a show. The Move in Black function automatically executes all required changes in the Playback Sequence, while the instrument is dark (beam off). This occurs without supplementary manipulation by the operator, as the system continuously tracks the Sequence list internally to find the next used settings of each instrument. In this way, the recorded settings will be pre-set before they are required.

The Move In Black function is enabled globally in the General Configuration dialogue box, but every parameter of each definition can be set to ignore Move In Black instructions. Move In Black is enabled for the selected parameter when there is a cross in the ‘Enable’ box.

Note: Move In Black changes will not occur if the option has not been enabled in the General Configuration dialogue box, even if it is enabled in the parameter. For further information, please see the chapter 21 *Using Moving Lights*.

19.9.19 Move In Black - delay before move

If the Move In Black option is enabled, this value allocates a wait time before the system orders the parameter to start moving to its next recorded position. This avoids movement occurring immediately after a crossfade is completed. The delay is set in tenths of a second: the default value is 10 (one second delay).

19.9.20 Move In Black - DMX step

If the Move in Black option is enabled, this value adjusts the DMX step length. This effectively controls the speed of the automatic movement. The lower this value, the slower the movement speed.

The default value is 2 steps, but can be set between 0 and 255 steps for an 8-bit parameter or 0 and 65536 steps for a 16-bit parameter.

19.10 Editing a definition

Any definition imported from the ADB Pool can by slightly modified to personalise it to the current application. If an imported definition needs more radical changes, it must be copied into a user definition and this copy fully modified.

Minor changes, such as modifying the open values or changing the resolution are allowed. Editing the title and abbreviation of the definition is also possible. Major changes to the parameters themselves, such as adding or removing parameters or steps, or changing parameter groups are not allowed in a definition imported from the ADB Pool.

When the editing of a definition is complete, it can be exported to the “User Pool” of definitions, making it available for use in another show.

examples of keystrokes

<menu> <F3 {Channels}> <F5 {Motion Control}> <F1 {definitions}>
➔ Displays the current definitions dialogue box.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight a definition for editing.
➔ The keyboard or keypads can be used to type in a number directly.

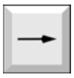
<F3 {Edit}>
- The name and abbreviation of the instrument can be changed.
- The name can be up to 20 characters in length, the abbreviation up to 4. The abbreviation is displayed on the screens – so it should be something that is easily recognisable.

<F2 {Param}>
- Displays the list of the selected instrument's parameters.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
- Use the wheel or the down arrow key to select a parameter for editing.
- The keyboard or keypads can be used to type in a number directly.

<F2 {Edit}
- The Edit Parameter dialogue box is displayed.
- Some options are disabled when editing an imported definition.



…

<→> <↓> ...
- Use the arrow keys to move the cursor around the parameter fields.
- Make the required modifications, as described in section 19.9 above.

<F2 {Steps}>
- Displays a table for adjusting and/or naming stepped parameters.
- See sections 19.6.1 and 19.8.5 for further information.

<F8 {ok}>
- Confirms the modifications and exits the dialogue box.

If the mode of the instrument's parameters needs to be changed (except the intensity parameter), this can be simply achieved from the List of Parameters dialogue box.

examples of keystrokes

Remaining in the List of Parameters

<F6 {LTP/FTP}>
➔ Toggles the operating mode of all parameters (except intensity) between FTP, LTP and HTP.

If more radical changes are required to a definition imported from the ADB Pool, the definition must be copied and changes made to the copy. Full modifications to all settings can be made in a copied definition.

19.11 Copying a definition

Any existing definition can be copied to a new definition file. This copy can be used as a building block for creating a new instrument type (or a new operating mode for an existing instrument), or the parameters within the copy can be fully modified. Copying a definition is carried out from the List of Definitions dialogue box.

examples of keystrokes

<Menu> <F3 {Channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Instrument Definitions.

OR

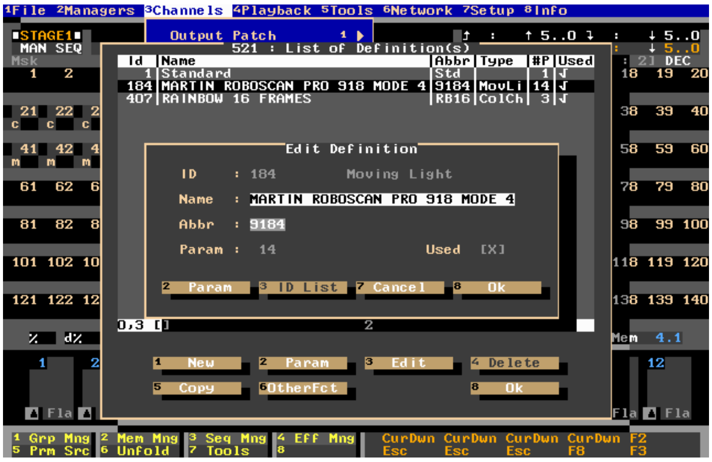

wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to highlight a definition.
➔ The keyboard or keypads can be used to type in a number directly.

<F5 {COPY}>
➔ Copies the selected definition to the next available User Definition number.

19.12 Changing identification

When an instrument is created or copied, the next available User Definition identification number (from 901 to 999) is automatically selected. This number can be changed to any unused number in that range; for example, instruments from the same manufacturer could be grouped together.

A list of available User Definition ID numbers can be displayed from the Edit Definition dialogue box: this shows all the User ID numbers, whether or not instrument definitions exist in those numbers, and whether they are - or have been - in use.
A name of up to 20 characters in length and a four character abbreviation can be given to each User Definition. The abbreviation is particularly important as it is displayed on the parameter screens and is therefore the instrument's only identification during normal operating modes.



The Edit Definition dialogue box

19.13 Adding and removing parameters

A new definition only has one parameter by default: intensity. Other parameters can be added or removed from a definition as required. However, parameters can only be added, deleted and copied in a new or copied definition: definitions imported from the ADB Pool can not be modified in this way.

Care must be taken when altering the quantity of parameters, because the finished definition must have DMX offsets that form a complete list of numbers from 0 upwards. Excluding the external dimmer, an instrument with two other parameters such as colour and gobo, must therefore be using DMX offsets 0 and 1.

New parameters can be added to a definition, or an existing parameter can be copied to act as a building block for a new one. A single parameter, or even a list of parameters, can be deleted if they are no longer required. These operations are carried out from the Edit Definition dialogue box.

examples of keystrokes

<Menu> <F3 {Channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Instrument Definitions.

OR 

wheel **or** <↓>
or use the alphanumeric keyboard directly
- ➔ Use the wheel or the down arrow key to highlight a definition.
- ➔ The keyboard or keypads can be used to type in a number directly.

<F2 {PARAM}>
- ➔ Displays the list of existing parameters within the selected definition.

<F1 {New}>
- ➔ Adds a new parameter and displays the parameter details dialogue box.
- ➔ The parameter's settings can be modified as required.

<F4 {Copy}>
- ➔ Copies the selected parameter and inserts the copy into the list of parameters.
- ➔ It can be edited as described above.

<F3 {Delete}>
- ➔ Deletes the selected parameter(s).

A warning is issued
- ➔ A warning is given: Are you sure? - Deleting parameters(s)

<F8 {Yes}>
- ➔ Confirms and deletes the selected parameter.

19.14 Creating a new definition

The same method for editing an instrument definition is used for creating a new one. The following example is a step-by-step guide to creating an instrument definition. This example is only to demonstrate the methods used to create device definitions and are not intended to resemble any particular instrument.

examples of keystrokes

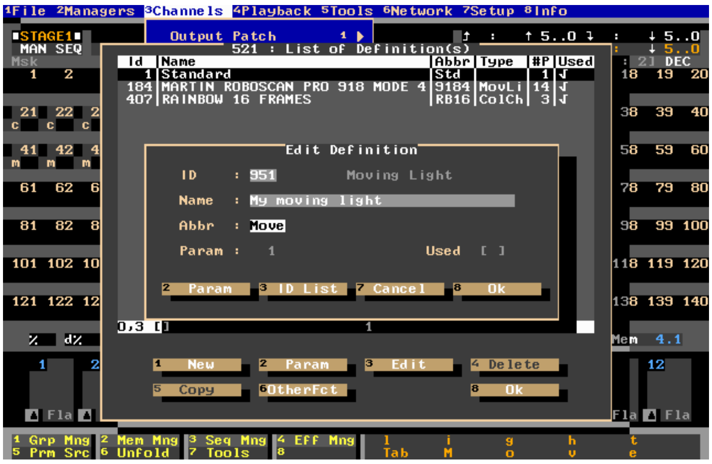
<menu> <F3 {channels}> <F5 {motion control}> <F1 {definitions}>
➔ Displays the List of Definitions dialogue box.

<F1 {New}>
➔ Displays the Edit Definition dialogue box for a new instrument.
➔ Use the arrow keys to move the cursor around the fields.

The following information is required in this example.

Field	Description	Example
ID	Must be between 901 and 999, and currently unused.	"951"
Name	Up to 20 characters in length.	"My moving light"
Abbr	Up to 4 characters that must be easily identifiable as the instrument type.	"Move"

The instrument identity is now displayed as shown.



Creating a new definition: My moving light

The instrument currently only has one parameter (intensity), the rest are created in the next dialogue box - parameters. At this stage, the complete parameter list is built up and each parameter is edited as it is created.

19.14.1 Parameter 1: intensity

The intensity parameter is first modified by using the Edit command.

examples of keystrokes

<F2 {Param}>

➔ Displays the list of the instrument's parameters. A new instrument only has one parameter: Intensity.

<F2 {Edit}>

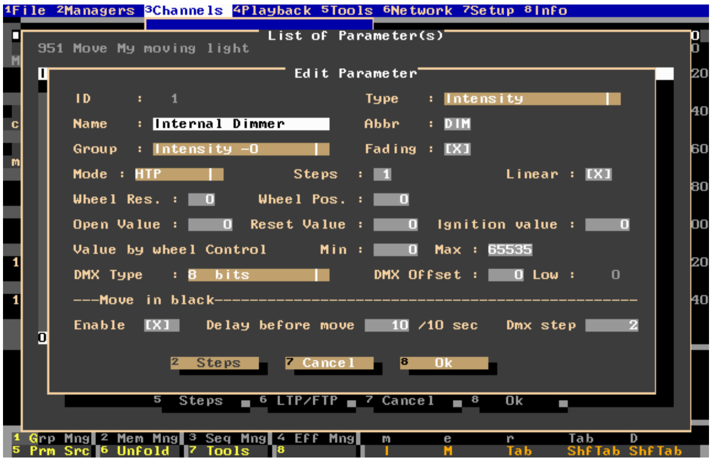
➔ The Edit Parameter dialogue box is displayed: use the arrow keys to move the cursor around the fields and make changes as shown below.

Field	Setting
ID	Automatically calculated by the system.
Type	"Intensity" is automatically selected.
Name	Enter the name: "Internal Dimmer"
Abbr	Enter the abbreviation: "DIM"
Group	This parameter is automatically classed as "Intensity". There must always be an intensity parameter in every instrument definition.
Fading	Automatically selected: control is required over the whole range of the parameter.
Mode	The operating mode for this parameter: HTP is automatically selected for intensities.
Steps	Automatically set as 1 step: the intensity comprises one continuous function.
Linear	Automatically selected: the intensity parameter is a linear function.
Wheel resolution	This setting only applies to parameters assigned to the rotary encoder wheels. Intensity is always controlled by the fader wheel, so this setting has no effect.
Wheel position	This setting only applies to parameters assigned to the rotary encoder wheels. Intensity is always controlled by the fader wheel, so this setting has no effect.
Open value	Enter the value at which light will pass through the parameter. For dimmers, this should be set to "255", which corresponds to full on (100%).
Reset value	Enter the value at which the instrument starts to execute the reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer. It is not normally required for an intensity parameter.
Ignition value	Enter the value at which the lamp of the instrument is ignited, if this function is available. Ignition values for an instrument are given by the manufacturer.
Value by wheel Control	For " 8-bits" instrument, the max value can be up to 255, for "16-bits" instrument, the max value can be up to 65535.
DMX type	Automatically selects "8-bits'. For high resolution parameters, it must be'16-bits', and if the instrument requires and external dimmer the DMX type must be set to'external'.
DMX offset	Automatically set to 0: this is the first parameter of the instrument, so the offset from the DMX start address of the moving light is zero. See noto below.
Low	Disabled when "8 bit" DMX Type is selected.
Move In Black	These settings have no effect on an intensity parameter.

<F8 {ok}>

➔ Confirms the modifications and exits the Edit Parameter dialogue box.

Note: There are two different ways of managing the DMX data of instruments, and different manufacturers use different methods. Some count the number of DMX channels used, so a 10 parameter instrument uses DMX 1 to 10. Others take the first parameter and count offsets from it, so a 10 parameter instrument uses DMX offsets 0 to 9. This latter method is used by *ISIS®* .
The information for each instrument is usually given in its manual. If it counts the DMX channels from 1 upwards, the number to be entered in the “DMX offset” field of the *ISIS®* instrument parameter definition is the manufacturer’s number minus 1. If the manufacturer uses the offset method, the instrument manufacturer’s numbers and the “DMX offset” numbers for *ISIS®* are the same.
A completed instrument definition must use numbers 0 upwards with no gaps. For a 10 parameter instrument, that is 0 to 9, but the parameters do not have to be defined in the order of DMX offset usage.



My moving light parameter 1: Intensity

19.14.2 Parameter 2: pan

The pan function of the moving light is to be configured as the new parameter. In this example, the pan is a high resolution parameter using 2 DMX channels (16-bit mode).

examples of keystrokes

<F1 {New}>

➔ Adds a new parameter and displays the Edit Parameter dialogue box: use the arrow keys to move the cursor around the fields and make changes as shown below.

Field	Setting
ID	Automatically calculated by the system.
Type	The parameter must be defined as a pan function. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select “Pan” and press <ENTER> again.
Name	Enter the name: “Pan”
Abbr	Enter the abbreviation: “PAN”
Group	The parameter should be assigned to the A Group. Press <ENTER> to drop down the menu, use the arrow keys to select “(A)zimuth” and press <ENTER> again.
Fading	Automatically selected: control is required over the whole range of the parameter.
Mode	The parameter can be assigned to HTP, FTP or LTP: LTP is selected by default.
Steps	Automatically set as 1 step: the pan parameter comprises one continuous function.
Linear	Automatically selected: the pan parameter is a linear function.
Wheel resolution	Set to “50” for this example. This setting only applies to parameters assigned to the rotary encoder wheels. Pan is normally controlled by the trackball, but it is also available on the rotary encoder wheels. Setting the wheel resolution to 50 provides a coarse pan movement from the encoder wheel.
Wheel position	A specific rotary encoder wheel number can be assigned, if required.
Open value	Enter “32768” for this example. This is the value to which the Open function will set this parameter. For pan, this is most useful as halfway between left and right movements. It should be set to “127” for 8-bit parameters, or “32768” for 16-bit parameters, which corresponds to a level of half of the DMX channel (50%).
Reset value	Enter the value at which the instrument starts to execute the reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer.
Ignition value	Enter the value at which the lamp of the instrument is ignited, if this function is available. Ignition values for an instrument are given by the manufacturer.
Value by wheel control	For “ 8-bits” instrument, the max value can be up to 255, for “16-bits” instrument, the max value can be up to 65535.
DMX type	This example requires a 16-bit parameter. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select “16-bit” and press <ENTER> again.
DMX offset	This is the second DMX channel, so the offset must be “1”.
Low	This is the second DMX channel used for 16-bit parameters. It is the DMX offset of the low byte of the parameter (not necessarily low resolution). Enter “2” for this example.
Move In Black *Enable*	Select “Enable” to allow the parameter to move while the fixture is dark.
Move In Black *Delay*	The default delay setting is acceptable for this parameter.
Move In Black *DMX Step*	The default DMX step setting is acceptable for this parameter.

<F8 {ok}>
➔ Confirms the modifications and exits the Edit Parameter dialogue box.

19.14.3 Parameter 3: tilt

A new parameter is now created for the Tilt function. In this example, the tilt is also a high resolution parameter using 2 DMX channels (16-bit mode).

examples of keystrokes

<F1 {New}>
➔ Adds a new parameter and displays the Edit Parameter dialogue box: use the arrow keys to move the cursor around the fields and make changes as shown below.

Field	Setting
ID	Automatically calculated by the system.
Type	The parameter must be defined as a tilt function. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select “Tilt” and press <ENTER> again.
Name	Enter the name: “Tilt”
Abbr	Enter the abbreviation: “TLT”
Group	The parameter should be assigned to the A Group. Press <ENTER> to drop down the menu, use the arrow keys to select “(A)zimuth” and press <ENTER> again.
Fading	Automatically selected: control is required over the whole range of the parameter.
Mode	The parameter can be assigned to HTP, FTP or LTP: LTP is selected by default.
Steps	Automatically set as 1 step: the tilt parameter comprises one continuous function.
Linear	Automatically selected: the tilt parameter is a linear function.
Wheel resolution	Set to “50” for this example. This setting only applies to parameters assigned to the rotary encoder wheels. Tilt is normally controlled by the trackball, but it is also available on the rotary encoder wheels. Setting the wheel resolution to 50 provides a coarse tilt movement from the encoder wheel.
Wheel position	A specific rotary encoder wheel number can be assigned, if required.
Open value	Enter “32768” for this example. This is the value to which the Open function will set this parameter. For tilt, this is most useful as halfway between up and down movements. It should be set to “127” for 8-bit parameters, or “32768” for 16-bit parameters, which corresponds to a level of half of the DMX channel (50%).
Reset value	Enter the value at which the instrument starts to execute the reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer.
Ignition value	Enter the value at which the lamp of the instrument is ignited, if this function is available. Ignition values for an instrument are given by the manufacturer.
Value by wheel control	For “ 8-bits” instrument, the max value can be up to 255, for “16-bits” instrument, the max value can be up to 65535.
DMX type	This example requires a 16-bit parameter. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select “16-bit” and press <ENTER> again.
DMX offset	Because the pan parameter used two DMX offsets, the tilt parameter must start at “3”.
Low	This is the second DMX channel used for 16-bit parameters. It is the DMX offset of the low byte of the parameter (not necessarily low resolution). Enter “4” for this example.
Move In Black *Enable*	Select “Enable” to allow the parameter to move while the fixture is dark.
Move In Black *Delay*	The default delay setting is acceptable for this parameter.

Field	Setting
Move In Black *DMX Step*	The default DMX step setting is acceptable for this parameter.

<F8 {ok}>
➔ Confirms the modifications and exits the Edit parameter dialogue box.

19.14.4 Parameter 4: colour wheel

The colour wheel function of the moving light is to be configured as the new parameter. In this example, it is a normal resolution parameter using only 1 DMX channel (8-bit mode).

examples of keystrokes

<F1 {new}>
➔ Adds a new parameter and displays the Edit Parameter dialogue box: use the arrow keys to move the cursor around the fields and make changes as shown below.

Field	Setting
ID	Automatically calculated by the system.
Type	The parameter type must be defined. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select "Colour Wheel" and press <ENTER> again.
Name	Enter the name: "Colour Wheel"
Abbr	Enter the abbreviation: "C/W"
Group	This parameter should be assigned to the C Group. Press <ENTER> to drop down the menu, use the arrow keys to select "(C)olour" and press <ENTER> again.
Fading	De-select fading: this parameter is a jump type.
Mode	The parameter can be assigned to HTP, FTP or LTP: LTP is selected by default.
Steps	The number of colours on the colour wheel is selected: enter "6" for this example.
Linear	Deselect Linear: a colour wheel is normally non-linear.
Wheel resolution	The default setting of "0" is acceptable for this parameter.
Wheel position	A specific rotary encoder wheel number can be assigned, if required.
Open value	The default value of "0" is acceptable for this parameter: this is the value to which the Open function will set this parameter: it will be the first colour of the colour wheel.
Reset value	Enter the value at which the instrument starts to execute the reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer.
Ignition value	Enter the value at which the lamp of the instrument is ignited, if this function is available. Ignition values for an instrument are given by the manufacturer.
Value by wheel control	For " 8-bits" instrument, the max value can be up to 255, for "16-bits" instrument, the max value can be up to 65535.
DMX type	"8-bit" is automatically selected.
DMX offset	Because the tilt parameter used two DMX offsets, this parameter must start at 5.
Low	Disabled when "8 bit" mode is selected.
Move In Black *Enable*	Select "Enable" to allow the parameter to move while the fixture is dark.
Move In Black *Delay*	The default delay setting is acceptable for this parameter.
Move In Black *DMX Step*	The default DMX step setting is acceptable for this parameter.

<F2 {step}>
- Allows the default step values to be modifies if necessary.
- See section 19.8.5 Parameter step adjustment, for details.

<F8 {ok}>
- Confirms the modifications and exits the Edit parameter dialogue box.

19.14.5 Parameter 5: gobo wheel

A new parameter is now created for a gobo function. In this example, it is a normal resolution parameter using only 1 DMX channel (8-bit mode).

examples of keystrokes

<F1 {new}>
- Adds a new parameter and displays the Edit Parameter dialogue box: use the arrow keys to move the cursor around the fields and make changes as shown below.

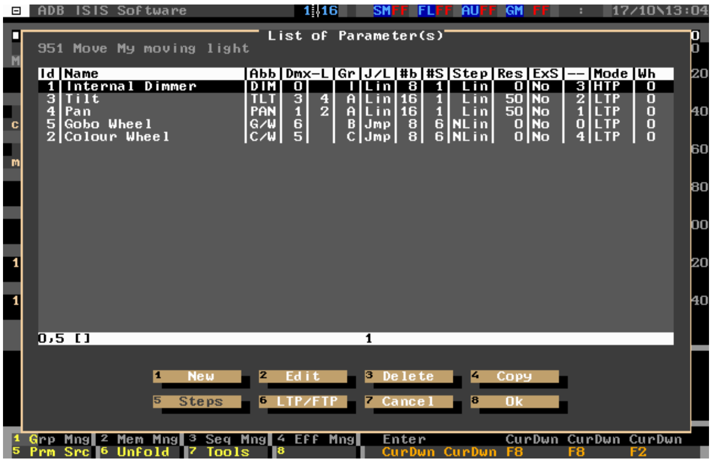
Field	Setting
ID	Automatically calculated by the system.
Type	The parameter type must be defined. Press <ENTER> to drop down the menu, use the arrow keys or wheel to select “Gobo Wheel” and press <ENTER> again.
Name	Enter the name: “Gobo Wheel”
Abbr	Enter the abbreviation: “G/W”
Group	This parameter should be assigned to the B Group. Press <ENTER> to drop down the menu, use the arrow keys to select “(B)eam” and press <ENTER> again.
Fading	De-select fading: this parameter is a jump type.
Mode	The parameter can be assigned to HTP, FTP or LTP: LTP is selected by default.
Steps	The number of gobos on the gobo wheel is selected: enter “6” for this example.
Linear	Deselect Linear: a gobo wheel is normally non-linear.
Wheel resolution	The default setting of “0” is acceptable for this parameter.
Wheel position	A specific rotary encoder wheel number can be assigned, if required.
Open value	The default value of “0” is acceptable for this parameter: this is the value that the Open function will set this parameter: it will be the first gobo of the wheel (usually open).
Reset value	Enter the value at which the instrument starts to execute the reset procedure, if this function is available. Reset values for an instrument are given by the manufacturer.
Ignition value	Enter the value at which the lamp of the instrument is ignited, if this function is available. Ignition values for an instrument are given by the manufacturer.
Value by wheel control	For “ 8-bits” instrument, the max value can be up to 255, for “16-bits” instrument, the max value can be up to 65535.
DMX type	“8-bit” is automatically selected.
DMX offset	The next available DMX channel offset is “6”.
Low	Disabled when “8 bit” mode is selected.
Move In Black *Enable*	Select “Enable” to allow the parameter to move while the fixture is dark.
Move In Black *Delay*	The default delay setting is acceptable for this parameter.
Move In Black *DMX Step*	The default DMX step setting is acceptable for this parameter.

<F2 {step}>
- Allows the default step values to be modifies if necessary.
- See section 19.8.5 Parameter step adjustment, for details.

<F8 {ok}>
- Confirms the modifications and exits the Edit parameter dialogue box.

19.14.6 Other settings

The new instrument definition is now complete! It is defined as a moving light, and it has five parameters: Intensity, Pan, Tilt, Colour wheel and Gobo wheel. It has a mixture of parameter types. It can be assigned to a control channel, patched at the DMX output, and used. It can also be exported to the User Pool of definitions, if it will be required in other shows. The definition is now displayed as shown.



My moving light - list of parameters

<F6 {LTP/FTP}
- Allows the operator to change all parameters (except intensity) to HTP, FTP or LTP mode.

<F8 {ok}>
- To exit the List of Parameters.

19.15 Exporting definitions to the “User Pool”

The definitions that have been imported, edited, copied, and created, are all stored within the show. If modified moving lights and colour changers are used regularly, it can be useful to export these definitions to the “User Pool”. When instruments are exported, they must be given a number between 901 and 999. They are then filed alphabetically in the list of definitions.

examples of keystrokes

<menu> <F3 {channels}> <F5 {motion control}> <F1 {definitions}>
➔ Displays the List of Definitions dialogue box.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly
➔ Use the wheel or the down arrow key to select a definition for exporting.
➔ The keyboard or keypads can be used to type in a number directly.

<F6 {OtherFct}>
➔ Toggle to the second page of options for the List of Definitions dialogue box.

<F2 {export}>
➔ Displays the Export Definition dialogue box.
➔ The instrument must be given an identification number between 901 and 999.

<F8 {ok}> <F8 {ok}>
➔ Exports the Definition to User Pool and then exits the List of Definitions dialogue box.

Instruments created in one show and exported to the User Pool can be imported into a new show in exactly the same way as importing ADB definitions.

20 USING COLOUR CHANGERS

20.1 Introduction

ISIS® software allows DMX devices such as colour scrollers or other colour changers to be combined with their corresponding luminaire into a single control channel. An integrated unit such as this is called an “instrument”.

Note: Defining a channel as a colour changer and setting up the instrument is described in the chapter 19 *Motion Control Setup*.

When a colour changer channel is selected, immediate control is given not only to the lamp’s intensity, but also to the colour selection and to other parameters of the scroller, such as fan speed or colour velocity. Colours can be selected by frame number, colour name, or by manually searching through the gelstring.

20.2 Controlling colour changers

Allocating a definition incorporates all parameters of an instrument into a single control channel. Only this one channel number needs to be entered to enable control of intensity, colour, and any other parameters such as fan speed or velocity. When a colour changer channel is selected, its intensity can be controlled in the normal ways, and its other parameters are ready for use as required.

Whenever a colour changer channel is selected, whether or not it has intensity, the colour and other associated parameters can be modified. If a list of channels is selected, colour and other parameters can only be modified if all instruments are of the same definition type.

Note: The only exception to this is when loading and manipulating pre-recorded motion control libraries. All the red colours from different colour changer and moving light types can be grouped together into the “Red wash” motion control library. See the chapter 22 *Motion Control Libraries* for more information.

There are three methods for selecting the colour of a scroller; they are dependent upon the instrument definition and operator preference.

20.2.1 Intensities

The intensity parameter is assigned by the instrument definition to the fader wheel and channel control keypad. It is controlled in the same way as controlling intensities of any standard channels in any working field.

If only the intensity is being modified, the selected channel list can contain instruments of all types to be modified simultaneously: standard channels, colour changers, and moving lights.

20.2.2 Continuous colour selection (Free mode)

Colour changers set to “Free mode” in their definition have been defined with the colour parameter having only a single linear step, as opposed to a fixed number of colour positions.

The colour of a selected instrument can be changed to any part of the gelstring either by turning the associated rotary encoder wheel, or by temporarily allocating the colour parameter to the wheel. This method of selecting the colour can be used for any colour changer definition, but are the only methods for changing the colour of a scroller set to “Free mode” in its definition.

examples of keystrokes

<1>
➔ Selects channel 1 (which has been defined as a colour scroller).

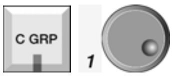
<COLOR> WHEEL
➔ The <COLOUR> key assigns the Colour function to the fader wheel.
➔ Move the wheel in either direction to move the colour scroll forwards or backwards.
➔ Any part of the gelstring can be selected in this way, whether or not it is a whole colour frame.

OR


<COLOR> **or** <CLEAR> <CLEAR>
➔ Press <COLOUR> (or <CLEAR> twice) to release the Colour function from the fader wheel.
➔ This must be done before another channel selection can be made.

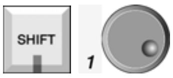
The colour parameter can also be accessed from a rotary encoder wheel, where available.

<1>
➔ Selects channel 1 (which has been defined as a colour scroller).



<C GROUP> <ENCODER WHEEL>
➔ Activates the C Group (colour) parameters on the encoder wheels.
➔ A colour can now be selected using the encoder wheel.

Alternatively, the encoder wheel can be enabled by using the <SHIFT> key when first moving the encoder wheel. In this case, the C Group parameters do not need to be enabled.



<SHIFT + ENCODER WHEEL>
➔ Directly connects the encoder wheel to the output without the C Group (colour) parameters being activated.

OR


<COLOuR> **or** <clear> <clear>
➔ Press <COLOUR> (or <CLEAR> twice) to release the colour function from the fader wheel.

Note: for Mentor series, there is no such hard key but it is always possible to assign this function to any of the free keys by the Keys Function in the Setup menu.

20.2.3 Colour selection by frame number

Colour changers set to "Frames mode" in their definition have a colour parameter that has a discrete number of steps defined. These steps correspond to the number of frames in the colour changer and mean that frames can be chosen directly.

The Colour function is used to select a frame number, and is persistent - allowing frame numbers to be selected without having to press <COLOUR> prior to each one. When the Colour function is no longer required, it must be deselected. In addition to entering a frame number directly, the colour can also be changed by using the <NEXT> and <PREV> keys.

examples of keystrokes

<1>
➔ Selects instrument 1 (which has been defined as a colour changer).

<COLOUR> <3> <ENTER>

➔ Frame number 3 is selected from the gelstring.

➔ Colour numbers must be selected with two digits, so for numbers less than 10 the number must be confirmed with <ENTER>.

<NEXT>

➔ Selects colour 4.

OR


<COLOUR> **or** <CLEAR> <CLEAR>

➔ Press <COLOUR> (or <CLEAR> twice) to release the colour function from the fader wheel.

20.2.4 Colour selection by name

A useful feature in *ISIS*® is the ability to select a colour frame by its name - names are assigned to steps in the steps adjustment of the device definition. <u>This method of colour selection cannot be used for colour changers in "Free" mode.</u>

examples of keystrokes

<1> <LIST>

➔ Selects channel 1 and displays a list of frame numbers and associated names.

Alternatively, the function keys can be used to display the colour list:

<1> <colour> <F2 List>

The List of Steps (frames) for a colour changer

OR

…


WHEEL **or** <↓> ... <ENTER>
or use the alphanumeric keyboard directly
- ➔ Use the wheel or the down arrow key to highlight a colour.
- ➔ The keyboard or keypads can be used to type in a number directly.
- ➔ Use <ENTER> to select the highlighted colour.

OR


<COLOUR> **or** <CLEAR> <CLEAR>
- ➔ Press <COLOUR> (or <CLEAR> twice) to release the Colour function from the fader wheel.

Note: Press the key SHIFT together with the key CLEAR to abort the operation. (= ESC : escape)

20.2.5 Adjusting additional parameters

When the Colour function is selected, the function keys are loaded with all of a colour changer's parameters. Which function is assigned to which key depends upon the device definition.

examples of keystrokes

<1> <COLOUR>
- ➔ Loads the available instrument parameters of channel 1 (which has been defined as a colour changer) on to the function keys.

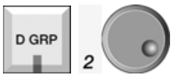
<F3 {SPD}> Wheel
➔ The parameter loaded to key F3 is selected (in this example fan speed).
➔ The wheel is used to change the value of the selected parameter.

OR


<COLOUR> **or** <CLEAR> <CLEAR>
➔ Press <COLOUR> (or <CLEAR> twice) to release the Colour function from the fader wheel.

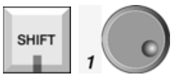
The additional parameters can also be modified by the rotary encoder wheels, where available.

<1>
➔ Selects instrument 1 (which has been defined as a colour changer).



<D GRouP> <ENCODER WHEEL>
➔ Activates the D Group (diverse) parameters on the encoder wheels.
➔ A parameter can now be adjusted using the encoder wheel.

Alternatively, the encoder wheel can be enabled by using the <SHIFT> key when first moving the encoder wheel. In this case, the D Group parameters do not need to be enabled.



<SHIFT + ENCODER WHEEL>
➔ Directly connects the encoder wheel to the output without the D Group (diverse) parameters being activated.

Tip! For a parameter such as fan speed, which needs to be set at an inaudible level, this manipulation can be carried out in LIVE in order to capture the parameter value.

20.3 Viewing parameters

It is often useful to view the parameter values of instruments rather than just the intensities. This can be especially useful when names have been given to the steps of a parameter. The screens can be swapped between intensity display and parameter display. In certain circumstances (depending upon the system monitor configuration) it is possible to view intensities and parameters simultaneously.

examples of keystrokes

<Param>
➔ Toggles the screen display format between intensities to parameters.

Note: The section 6.2 *Screen Configurations* gives further options for displaying parameters as monitor footers, or on a separate monitor display.

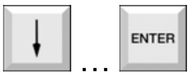
20.3.1 Displaying parameter step values and step names

If a parameter has been defined with a number of steps, each step can be given a four character reference: this is the step name. When the parameters are viewed on screen, the operator can decide how such parameters are displayed. By default, the step number is shown on the output screen, and the step name (if there is one) is displayed on the working field screen.

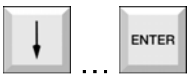
However, the step name can be removed from the display (in which case only the step number will be shown), or the step value can be shown. The step value is the value of the parameter displayed between levels of 0% and 100% (FF).

examples of keystrokes

<MENU> <F7 {setup}> <F5 {Display format}>
➔ Displays the Display Format dialogue box.



<↓> … <ENTER>
➔ Use the arrow key to select the ‘Step values’ field: enable and disable the option using <ENTER>.
➔ The Step values (0% to FF) will now be displayed in the parameters screens.



<↓> … <ENTER>
➔ Use the arrow key to select the ‘Step names field: enable and disable the option using < ENTER >.
➔ The Step names (if entered) will now be displayed in the parameters display of the working field screen.

20.3.2 Viewing the parameter source

When several working fields are controlling colour changers, the actual Output values could be a mix from several different fields. Whenever there is any doubt about which parameters are controlled from which fields, the parameter source can be viewed on the output screen instead of the parameter values.

Viewing the source can be helpful when working with multiple fields, masking parameters and disconnecting parameters. The function is available via the F5 key on the default monitor menu.

examples of keystrokes

<PARAM> <F5 {Prm Src}>
➔ Displays the motion control parameters on-screen, if required.
➔ Toggles between intensity and parameter values and their source.

Note: The field contributing the intensity value is always shown when the output screen is displaying channel intensities: it is displayed in the grey information bar, below the channel intensity value.

20.4 Colour changer tools

Depending on the operating mode used when controlling colour changers, some additional functions can sometimes be useful to the operator.

Note: Operating modes are discussed in the chapter 29 *HTP-FTP-LTP Modes*.

20.4.1 Sending working field content directly to the Output

The parameter values of all colour changers contained in a working field can be sent directly to the Output at any time. This is achieved by pressing <SHIFT> in association with the field's selector key.

examples of keystrokes

<SHIFT + submaster 1 FIELD KEY>
➔ Selects submaster 1 and sends its parameter values directly to the Output.

<SHIFT + S1 FIELD KEY>
➔ Selects Stage 1 and sends its parameter values directly to the Output.

20.4.2 Clearing the DMX buffer

Colour changer parameters are automatically connected to the Output from the current working field when a value is assigned and the fader of the selected working field is raised above 5%. If the fader value is lowered to zero, one of the following conditions will occur:

- ➔ Output will come from another field in HTP mode;
- ➔ Output will come from a lower priority field in FTP mode;
- ➔ Output will remain, or be taken over by a subsequently used field in LTP mode;
- ➔ Output will be retained at the last used value.

If no other fields are in use, *ISIS®* avoids unnecessary and unwanted changes to parameters by storing the last used parameter values in a DMX output buffer. The DMX output buffer therefore retains the last used colour of each scroller until it is used again. If the last values are no longer required (for example when plotting memories out of numerical sequence), simply clear the DMX buffer.

examples of keystrokes

<menu> <F3 {Channels}> <F5 {Motion Control}> <F3 {Clear Output Buffer}>
➔ Clears the stored parameter values from the Output.

When the DMX output buffer has been cleared, there are no parameter values shown on the Output screen, just a sequence of dots representing the parameter values.

Note: some hardware platforms have a direct function key for clearing the DMX output buffer. For example, the P10 can use the key SHIFT + BUFFER/MCCFG

20.5 Recording memories containing colour changers

When intensity and colour parameters have been set, they can be recorded into memories by the same methods used for lighting states that contain only generic channels. Colour changers can also be recorded into motion control libraries, which is particularly useful for colour changers in Free mode.

examples of keystrokes

<1> <at> <7><.><5> <colour> <1><2> <colour>
➔ Sets channel 1 to 75%, with colour 12.
other channel manipulations
➔ Add further channels to the state.

<mem> <1> <rec>
- Records the state in the working field as memory 1. other channel manipulations
- Add further channels to the state.

<mem> <2> <SUM>
- Records the total desk Output, including colour changer & moving light parameters, as memory 2.

Note: For certain platforms such as P10XT, there is no need to press MEM as it has a separated MEM keypad.

20.6 Times for colour changers

In the playbacks, intensity changes always follow the memory's global or special times. Colour changer parameters behave differently, depending upon the colour changer's mode and the type of parameter. The following tables indicate when fade times are used in relation to the device definition options.

GLOBAL TIMES					
Parameter Type	**Colour Mode**	**Wait Up**	**Up**	**Wait Down**	**Down**
Intensity	-	Used	Used	Used	Used
Fade	Frame (2⇔99)	Used	§	Used	§
Fade	Free (1)	Used	Used	Used	Used
Jump	Free (1)	Used	*Not used*	Used	*Not used*
Jump	Frame (2⇔99)	Used	*Not used*	Used	*Not used*

SPECIAL TIMES					
Parameter Type	**Colour Mode**	**Wait Up**	**Up**	**Wait Down**	**Down**
Intensity	-	Used	Used	Used	Used
Fade	Frame (2⇔99)	Used	§	*Not available*	*Not available*
Fade	Free (1)	Used	Used	*Not available*	*Not available*
Jump	Free (1)	Used	*Not used*	*Not available*	*Not available*
Jump	Frame (2⇔99)	Used	*Not used*	*Not available*	*Not available*

§ The scroller moves from frame to frame in steps rather than directly from one end to the other as a single movement; this helps to keep gelstring noise to a minimum.

20.6.1 Plotting special times for parameters

Special times can be applied to individual parameters in the same way as to individual channels. The special up/down times only work on fade type parameters, although any parameter can have a wait time.

Special times for parameters must be assigned in the special times screen. If no parameters are selected, the special time is applied to the channel's intensity only; if parameters are selected, the special time is applied to the selected parameters only.

examples of keystrokes

<1> <at> <7> <.> <5> <colour> <1><2> <colour>

➔ Sets channel 1 to 75%, with colour 12.

<up> <7> <up> <down> <1><5> <down>

➔ Sets global memory times of up 7, down 15.

<stime> <1> <CGRP> <wait> <3> <wait> <up> <2><0> <down>

➔ Sets special times on the colour parameter (the colour parameter is in the Colour group) of 20 seconds, and a wait of 3 seconds.

<mem> <3> <rec> <stime>

➔ Records the state and times as memory 3 and returns to the channel intensities or parameters screen.

When a special time has been plotted to a channel's intensity, the channel number is displayed in light blue colour on the intensity and parameters screens. When a special time has been plotted to a channel's parameters, the instruments label «c» is displayed in light blue colour on the intensity screen. On the parameters screen, a letter «t» in light blue colour is inserted between the intensity value and the first parameter.

20.7 Replaying memories in the playbacks

Memories with colour changer parameters can be loaded and replayed in playbacks just like any other memory. However, the behaviour of instruments is subject to their definitions, their times, and output priority.

examples of keystrokes

<p1> <mem> <1> <load> <seq> <go>
➔ Starts a playback sequence.

20.7.1 Colour changer Free/Frame modes

If a colour changer definition is set to Free mode and is used in a sequence in the playback, both its intensity and its colour parameter will follow the memory fade times.

If the colour parameter is set to Frames mode, the parameter is jump-type (fading is deselected in the definition) and the colour will change in steps, and the timing of the step change is calculated according to the total memory time, and the number of steps to change. For example, if the parameter has to change 5 steps over 10 seconds, it will change by one step every two seconds.

The appearance of colour changes within a crossfade is dependent upon the colour changer device definitions, as shown below.

Device Definition		*Behaviour of parameters in playbacks*	*Note*
Type	**Colour Mode**	**Crossfade in playback**	
Fade	Frame (2⇔99)	Sequentially jump from one frame to the next using the memory's Up Time divided by the number of frames between the start point and the destination.	1
Fade	Free (1)	Fade to the incoming memory value using the memory times.	2
Jump	Free (1)	Jump to the incoming memory value at the beginning of the crossfade.	3
Jump	Frame (2⇔99)	Jump to the incoming memory frame at the beginning of the crossfade.	4

Notes:

The colour parameter is given a number of frames in the definition (for example 16) and fading is selected. To move from one end of the gelstring to the other, the scroller moves from frame to frame in steps, rather than directly from one end to the other as a single movement. This, combined with the damping facilities built into most scrollers, will result in the minimum of disturbance from gelstring noise.

The device is in Free mode, with fading selected in the definition. The movement of the gelstring corresponds to the memory fade time.

The device is in Free mode, with fading deselected in the definition (jump type steps). The complete colour change will happen at the beginning of the crossfade (around 5% or subject to any wait times). The speed of the gelstring is determined by the device and / or its velocity control.

The colour parameter has been given a number of frames in the definition (for example 16) and fading has been deselected (jump type steps). The complete colour change happens at the beginning of the fade time (around 5%). The speed of the gelstring is determined by the device and / or its velocity control.

<u>If scrollers are in the playback and are set to fade type, they follow the automatic fade times. If they are set to jump type, the change takes place at the beginning of the fade: around 5%.</u>

This change can be altered by setting a special time on the parameter, allowing a change to be made at a specific point. Alternatively, some instruments have a ‘speed’ parameter, which controls how fast the parameter moves. This could be used to make the parameter fade smoothly over the crossfade..

20.7.2 Operating playbacks in manual mode

When working manually, the playback distinguishes between channel intensities and other parameters, in order to prevent untoward lighting changes from taking place if the faders are moved separately.

If parameters were treated in the same way as intensities, moving the Stage fader only would result in the motion control equivalent of blackout. If this were to happen, all parameters would be set to value 0 (or the first step of stepped parameters); this may mean moving through the parameter’s entire range. Moving the Preset fader only would combine the Stage and Preset contents on an HTP basis, which is not ideal for parameters.

ISIS® solves this problem by controlling intensity changes with both the Stage & Preset faders, but colour and other parameters only with the Preset fader.

The movement is introduced by the Preset fader – if the Stage fader is moved alone, no movement or colour change takes place. This avoids instruments suddenly shooting off to their zero positions half way through a fade.

➔ Intensities are controlled by Stage and Preset, parameters only by Preset.

<u>If scrollers are in the playback and are set to fade type, they follow the movement of the playback faders, or the automatic fade times. If they are set to jump type, the change takes place at the beginning of the fade: around 5%.</u>

When fading manually, the moment at which the jump type parameters change is determined by the point at which the Preset fader is moved beyond the 5% threshold.

20.8 Move in Black (automatic parameter preset)

Colour changers will often be required to change many times during a show. Traditionally, the operator has had to plot a supplementary positioning memory preceding each memory containing a new colour.

ISIS® allows the operator to save time and extra effort by using the Move in Black function. This facility is used to automatically pre-position the colour changer parameters before the scroller is used. Move in Black continually tracks the Sequence internally to locate the next memory that uses each instrument, and pre-sets the parameters that it finds (except intensity).

These automatic changes can be executed systematically for all parameters, or for only unconnected parameters. The changes are executed with a configurable delay before the move, as well as a configurable movement speed.

Automatic changes are only made when the intensity of each instrument is zero (beam off), and are executed after the fade down of the last memory to use the parameter. The next memory to use the parameter will fade up with the required changes already made.

The Move in Black function can be set automatically for the whole sequence list of memories, or it can be set individually via an event.

The control of the Move in Black function is identical for Moving Lights and Colour Changers. The function is described in detail in the chapter 21 *Using Moving Lights*.

20.9 Overview of Motion Control Libraries

Colour changer settings can be recorded into Motion Control Libraries. A Motion Control Library, or MCLib, is similar to a memory in that it stores the settings of each parameter of an instrument recorded into it. These settings can be selectively loaded when required, or linked to memories.

MCLibs can be useful if colour changers are to be matched with other instruments to create complete colour washes, or to allow the colours of a colour changer in Free mode to be selected from keypad operations rather than visually using the fader or encoder wheels.

➔ Motion Control Libraries are the *only* way of changing the parameters of several different instrument types simultaneously.

Pre-recorded motion control libraries can be loaded into working fields and recorded into memories, or even loaded into chaser steps as required. Whenever a MCLib is loaded and then recorded in a memory, a link is created between the library and the memory numbers that use it. In this way, a whole list of memories can be modified just by changing and re-recording the library position. If not all the memories that use the library are to be changed, they can be “unlinked” before the change is made.
Please turn to the chapter 22 *Motion Control Libraries* for full details on libraries and linking and unlinking memories.

21 USING MOVING LIGHTS

21.1 Introduction

ISIS® software allows multi-parameter DMX devices such as moving lights to be controlled from a single control channel. A device such as this is called an "instrument".

When a moving light channel is selected, immediate control is given not only to the lamp's intensity, but also to the other parameters of the instrument, such as position, colour, focus and gobo.

Note: Defining a channel as a moving light and setting up the instrument is described in the chapter 19 *Motion Control Setup*.

21.2 Instrument parameter groups

Within each instrument's definition, each parameter is allocated to one of four different parameter groups.

Group	Name	Typical Contents
A	Azimuth	Movement parameters: pan and tilt
B	Beam	Beam parameters: shutters, iris, focus, gobos, prisms
C	Colour	Colour parameters: cyan, yellow & magenta mixing, colour wheels
D	Diverse	Other parameters: reset, motor speeds

These parameter groups are used to divide the various parameters of the instrument into logical categories. The groups are used to selectively enable and disable control of the instrument's parameters.

➔ There are no rules as to which parameters are included in which groups; the groups are for operator convenience.

When an instrument is selected for the first time, as there are no parameter groups are selected, so only the intensity can be modified. Manipulations of the trackball or parameter wheels will not have any effect on the value of parameters when they are not selected.

The parameter groups can be selected individually, or in any combination. When a parameter group is selected, the parameters contained become active and can be modified: the trackball and encoder wheels become "live" and the selected parameters will change in value when the wheels are moved.

Intensities can be given to instruments of all definition types simultaneously, and different types of fixtures can be moved together using the trackball, or encoder wheels. However, only instruments of the same definition can have other parameters modified at the same time.

21.3 Initialising instruments ready for use

Before moving light instruments can be used, they may require initialising. The initialisation procedures will not be required by all moving lights. And are generally only required for instruments with a large number of parameters. The initialisation is different for each type of moving light.

21.3.1 Opening the instrument using «Open»

Some parameters have been given a non-zero "open value" in the instrument's definition. This is the value at which light is able to pass uninterrupted through the parameter. The open value is one of the options that can be changed even when the instrument is patched and in use.

Some instruments may need several parameters moving or opening just to see the light beam. The Open function provides a quick solution to this problem - a single keypress sets all the parameters of the selected instruments to their open values.

Open can be used selectively on the parameter groups of the instrument: only the selected parameter groups will be set to their open values. This can be useful if only the colour and gobo settings need to be opened, for example, but not the pan and tilt settings.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select the channels to be opened.

`<PARAMETER GROUP SELECTION>`

➔ Select the parameter groups to be opened. If all parameters need to be opened, all four parameter groups should be selected.

or OPEN

<MCLIB> <F5 {OPEN}> OR <OPEN>

➔ Sets the selected parameters of all selected channels to their open values.

Note: Some hardware platforms have direct access to the Open function via a dedicated key or the LCD touchscreen.

21.3.2 Resetting the instrument using «Reset»

Some parameters have been programmed with a non-zero "reset value". This is the value at which the instrument starts the built-in reset routine for calibration or maintenance functions.

Some instruments may need several parameters set at a specific value in order to trigger the reset function of the fixture. The Reset function provides a quick solution to this operation - a single keypress sets all the parameters of the selected instruments to their reset values.

The reset value for each parameter is programmed in the instrument's definition, but is one of the options that can be changed even when the instrument is patched and in use.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select the channels to be reset.

`<PARAMETER GROUP SELECTION>`

➔ Select all parameter groups for reset.

<MCLIB> <RESET>

➔ Sets the parameters of all selected channels to their reset values.

Note: Some hardware platforms have direct access to the Reset function via a dedicated key or the LCD touchscreen. For example, P10/XT can use the key SHIFT + RESET/PRMTST. For Mentor, use the key SHIFT+RESET/HOME or Reset from the touchscreen.

21.3.3 Ignition of the instrument lamp using «Ignit»

Some parameters have been programmed with a non-zero "Ignition value". This is the value at which the fixture's lamp ignites (or strikes).

Some instruments may need several parameters set at a specific value in order to trigger the 'lamp on' function of the fixture: the Ignition function provides a quick solution to this operation.
The ignition value for each parameter is programmed in the instrument's definition, but it can be changed even when the instrument is patched and in use.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select the channels to be ignited.

`<PARAMETER GROUP SELECTION>`

➔ Select all parameter groups for ignition.

<MCLIB> <F7 {IGNIT}>
➔ Sends all selected parameters of all the selected channels to their ignition values.

Note: Some hardware platforms have direct access to the Ignition function via a dedicated key or the LCD touchscreen. Or using the key SHIFT+ IGNIT/ OPEN.

21.3.4 Changing the Open, Reset and Ignition values

The values for the Open, Reset and Ignition functions are stored within each parameter of the instrument's definition. Changing these values is performed in the instrument definition's editing dialogue.

When a new instrument is created, these values can be set according to the instrument manufacturer's technical specifications and can also be changed if they are incorrect, or not to the operator's preference.

examples of keystrokes

<MENU> <F3 {CHANNELS}> <F5 {MOTION CONTROL}> <F1 {DEFINITIONS}>
➔ Displays the List of Definitions imported into the current show.

OR


WHEEL OR <↓>
OR USE THE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Use the wheel or the down arrow key to highlight a definition number.
➔ The keyboard or keypads can be used to type in a number directly.

<F2 {PARAM}>
➔ Displays the selected instrument's list of parameters.

OR


WHEEL OR <↓>
OR USE THE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Use the wheel or the down arrow key to highlight a parameter for editing.
➔ The keyboard or keypads can be used to type in a parameter number directly.

<F2 {EDIT}>

➔ The Edit Parameter dialogue box is displayed (some options are disabled in an imported definition).

<↓>

➔ Use the arrow key to select the 'Open value' field.

OPEN VALUE

➔ Enter the open value according to the instrument manufacturer's technical specifications.

➔ The open value is set between 0 and 255 for 8-bit parameters or between 0 and 65536 for 16-bit parameters. 0 refers to a DMX value of 0%, whilst 255 or 65536 refers to a DMX value of 100% (full).

<↓>

➔ Use the arrow key to select the 'Reset value' field.

RESET VALUE

➔ Enter the reset value according to the instrument manufacturer's technical specifications.

<↓>

➔ Use the arrow key to select the 'Ignition value' field.

IGNITION VALUE

➔ Enter the ignition value according to the instrument manufacturer's technical specifications.

<F8 {OK}>

➔ Confirms the modifications and exits the Edit Parameter dialogue box.

21.4 Controlling instruments

When a moving light channel is selected, its intensity is controlled in all the normal ways with the keypad and wheel, and its other parameters are ready for use as required. Only a single channel number is entered by the operator to gain control of the instrument: there is no need to remember the number and order of the instrument's parameters in its DMX allocation table.

Intensities can be given to instruments of all definition types simultaneously, and different types of fixtures can be moved together using the trackball or encoder wheels. However, only instruments of the same definition can have other parameters modified at the same time.

Once the instrument's parameters have been set they can be recorded in memories, or into Motion Control Libraries which allow parameters from the four control groups - (A)zimuth, (B)eam, (C)olor, (D)iverse - to be loaded simultaneously to different instrument types.

21.4.1 Intensities

The intensity parameter is assigned by the instrument definition to the fader wheel and channel control keypad. The intensity parameter of an instrument is controlled in the same way as controlling intensities of any standard channels in any working field.

If only the intensity is being modified, the selected channel list can contain instruments of all types to be modified simultaneously: standard channels, colour changers, and moving lights.

➔ Intensities can be given to instruments of all definition types simultaneously.

21.4.2 Azimuth - making the instruments move

To make an instrument move, the A Group of parameters must be enabled. This assigns the azimuth parameters (pan and tilt) to the trackball and rotary encoder wheels.

When an instrument and its A group is selected, movement of the trackball will move the instrument. Ideally, the instrument should move in the same direction as trackball movements. However this is not always possible with moving body instruments because of their 360° pan.

If the instruments do not move in the same direction as the trackball, their X-Y Configuration can be changed to match the movements. Please see the chapter 19 *Motion Control Setup* for further information.

Instruments can be moved singularly, or as a list of channels: any number of instruments of different definition types can be moved simultaneously.

It may be useful to record similar instrument types together into groups, so that they can be quickly selected. Please see the chapter 10 *Groups* for information on creating and using groups.

➔ Pan and Tilt can be changed for instruments of all definition types simultaneously.

Once the instrument positions are set they can be used directly from the submasters, recorded in a Motion Control Library (MCLib), or recorded into a memory.

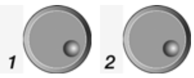
examples of keystrokes

<CHANNEL SELECTION>
- ➔ Select instrument(s) and assign intensity. The instrument may need to be "opened" to see the light.

<A GROUP>
- ➔ Selects the Azimuth group for the selected instrument(s).
- ➔ When the group is selected, it is highlighted in white on the parameters screen and the LED in the <A GRP> key lights up (or blinks if fixtures with different definitions are selected).

<TRACKBALL>
- ➔ Use the trackball to move the instrument light beam.

OR



<ENCODER WHEELS>
- ➔ Use the rotary encoder wheels to move the instrument light beam.
- ➔ One wheel is used for pan, the other for tilt movements.

Remember, instruments may not necessarily move in the same direction as the trackball, depending upon where and how they are rigged. Please refer to the chapter 19 *Motion Control Setup* for further information to correct this.

21.4.3 Trackball resolution

When working with the trackball, there are three different trackball resolution settings. If a particular instrument type moves too slowly or too quickly, its response can be altered by changing the trackball resolution. For fine adjustments, either the pan or tilt axis of the trackball can be "locked" so that only the opposite movement is being controlled.

The trackball menu functions are pasted to the function keys. The function keys remain available until <F8 {EXIT}> is pressed, or until the channel selection is cleared. This allows the trackball resolution and axis locking functions to be continually modified during operation of moving lights.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select instrument(s) and assign intensity. The instrument may need to be "opened" to see light.

<A GROUP>

➔ Selects the Azimuth group for the selected instrument(s).
➔ When the group is selected, it is highlighted in white on the parameters screen and the LED in the <A GRP> key lights up (or blinks if channels with different definitions are selected).

<TRACKBALL>

➔ Use the trackball to move the instrument light beam.

OR KEY <TBAL> for Mentor XT

<TBALL>

➔ The function keys are loaded with the trackball options.

<F1 {FINE}>

➔ Selects fine resolution for the trackball: the instrument moves slowly with the trackball.
➔ Very fine adjustments can be made to the position of the light beam when the trackball is in fine mode, particularly with 16-bit azimuth parameters.

<F2 {MEDIUM}>

➔ Selects medium trackball resolution: this is the default setting.

<F3 {COARSE}>
➔ Selects coarse trackball resolution: the instrument moves quickly with the trackball.

<F8 {EXIT}>
➔ The trackball menu can be exited when all adjustments are complete.
➔ Clearing the channel selection will also exit the trackball menu.

21.4.4 Selecting pan or tilt individually

It can be useful to select pan or tilt parameters individually for fine adjustments. There are several ways to execute this function.

The quickest method is to use the rotary encoder wheels, as each one controls a different parameter.

examples of keystrokes

<CHANNEL SELECTION>
➔ Select instrument(s) and assign intensity. The instrument may need to be "opened" to see light.

<A GROUP>
➔ Selects the Azimuth group to allow pan and tilt movements.

<ENCODER WHEEL 1>
➔ Use the rotary encoder wheel to change the pan setting.

<ENCODER WHEEL 2>
➔ Use the rotary encoder wheel to change the tilt setting.

Alternatively, the trackball menu can be used to lock either the pan or tilt axis, allowing movement in one direction only.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select instrument(s) and assign intensity. The instrument may need to be “opened” to see light.

<A GROUP>

➔ Selects the Azimuth group to allow pan and tilt movements.

OR <TBAL>KEY for MENTOR XT

<TBALL>

➔ The function keys are loaded with the trackball options.

<F4 {LOCK X}>

➔ Disables the pan control from the trackball: only tilt control will work.

<F5 LOCK Y}>

➔ Disables the tilt control from the trackball (and automatically unlocks X): only pan control will work.

<F6 {UNLCK XY}>

➔ Restores all pan and tilt control to the trackball: pan and tilt control is possible.

Note: The active pan and tilt parameters (X and Y respectively) are shown at the top right of the working field monitor. This area also indicates the current trackball resolution mode.

<TRACKBALL>

➔ Use the trackball to move the instrument light beam.

<F8 {EXIT}>

➔ The trackball menu can be exited when all adjustments are complete.

➔ Clearing the channel selection will also exit the trackball menu.

A third method is to selectively activate the parameters from the Azimuth group. In this way, pan only or tilt only can be activated on the trackball.

examples of keystrokes

<CHANNEL SELECTION>
➔ Select instrument(s) and assign intensity. The instrument may need to be “opened” to see light.

<SHIFT> <A GROUP>
➔ Displays the list of parameters within the A group.

OR  … 

WHEEL OR <↓> ... <ENTER>
➔ Use the wheel or the down arrow key to highlight a parameter from the list.
➔ Use <ENTER> to select and deselect the parameters.

<F8 {OK}>
➔ Confirms the selection and exits the parameter dialogue box.

<TRACKBALL>
➔ Use the trackball to move the instrument light beam: only the selected parameter is under control.

21.4.5 Adjusting other parameters

When an instrument is selected for the first time, no parameter groups are enabled, and only the intensity can be modified. Accidental manipulations of the trackball or digital encoder wheels will not have any effect on the value of parameters when it’s group is not selected.

The parameter groups can be selected individually, or in any combination. When a parameter group is enabled, the parameters contained become active and can be modified: the trackball or encoder wheels become “live” and the selected parameters will change in value when the wheels are moved.

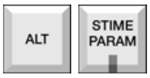
When a parameter group is enabled, the parameters in that group are highlighted in white on the parameters screen in the same way as selected channels, and the LED in the parameter group key lights up (or blinks if channels with different definitions are selected).

Parameters in the A group are always assigned to the trackball, but are also available on the encoder wheels. Parameters in other groups are automatically assigned to the digital encoder wheels when the group is selected. The last parameter group selected will be active on the encoder wheels.

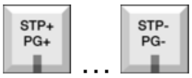
As the instrument may well have more parameters than available encoder wheels, the “wheel page” must be turned to access the remaining parameters on the encoder wheels. This is achieved by using the <PG+> and <PG-> keys to turn the parameter wheel page.
The parameters currently assigned to the encoder wheels can be identified on the parameters screen as they are displayed with a red background (and wheel number where space allows). On some hardware platforms, the parameter abbreviations are shown in LED windows next to the digital encoder wheels.

For platforms without encoder wheels, the parameters can be individually assigned to the wheel (or digital endless belt on Phoenix 2). The <PG+> and <PG-> keys are then used in the same way, selecting which parameter is assigned to the wheel. In this case, only one parameter (in addition to pan and tilt) can be modified at a time.

examples of keystrokes

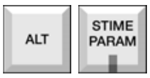


<ALT + PARAM>
➔ Assigns the wheel to parameter control.
➔ The wheel can also be assigned to parameter control from the function keys.



<PG+> … <PG->
➔ Selects the active parameter.

WHEEL
➔ Modifies the active parameter.



<ALT + PARAM>
➔ Returns the wheel to intensity control.
➔ The wheel can also be assigned to parameter control from the function keys.
Alternatively, the Unfold function can be used to assign the parameters of the instrument to the submaster faders: this allows multiple parameters to be adjusted simultaneously. Please see section 21.9 below for further details on the Unfold function.

Several instruments of the same definition type may have their parameters adjusted simultaneously, but it is not possible to control the parameters of different instrument types together (with the exception of azimuth parameters). If instruments of more than one definition type are selected, the LEDs in the parameter group keys flash to warn that a contradictory selection has been made.

Once instruments have been used and de-selected, *ISIS®* remembers which parameter(s) and groups were last used, so that the next time that the instruments are selected, the same parameter selection is made.

➔ If a channel is deselected, *ISIS®* stores the settings of the parameter groups and also the last wheel page selection. These are automatically restored when the channel is recalled.

Parameter groups can be masked from the Output, inhibiting the selected group from the current working field. This can be particularly useful for quickly changing the look of a chaser by masking the C group, for example. Masking is explained in section 21.10.4 below.

21.5 Specific parameter configuration and selection

The parameters of an instrument can be configured to the operator's preference, allowing both the resolution and encoder wheel position to be defined. These settings are made for each parameter in the instrument's definition.

It is also possible to make a specific selection of parameters from within a parameter group, without enabling all group parameters. This can be useful when loading or re-recording a Motion Control Library, or part-loading or part-recording a memory.

21.5.1 Encoder wheel resolution

A resolution factor is defined for each parameter in the instrument's definition. The encoder wheel resolution is determined by this setting, allowing changes to the parameter's value to be made more quickly. The default wheel resolution for each parameter is 0; meaning that control of the parameter is in 'fine' mode.

If the resolution value is changed to put the encoder wheel into a 'coarse' mode, the default 'fine' mode can be temporarily selected by <u>holding <ALT> in association with the encoder wheel movement.</u>

21.5.2 Encoder wheel range limitation

Each parameter can be assigned a minimum and maximum value that can be accessed from the encoder wheels. This allows a safe range to be defined for each parameter, and prevents the encoder wheel from setting a parameter to a certain value.

This can be useful for a parameter that controls the dimmer shutter of an instrument, for example, but which also has a lamp off or reset function at the end of the parameter.

Setting the maximum encoder wheel range to a value below this level will prevent the instrument accidentally being reset when the encoder wheels are used to control the parameter.

Note: Parameter values can still be sent to the Output by other means – for example the Open, Reset and Ignition functions.

21.5.3 Parameter placement on the encoder wheels

The digital encoder wheels will normally be loaded with an instrument's parameters in the order that they appear in the definition. However, *ISIS®* allows the parameters within each group to be assigned to the encoder wheels in a specific order. This means, for example, that a focus parameter can be placed on an encoder wheel between two gobo wheels.

Specific parameter wheel numbering for each group starts from 1, and continues to the number of parameters in the parameter group. The default wheel value is 0, meaning no specific assignment.

21.5.4 Selecting groups or individual parameters

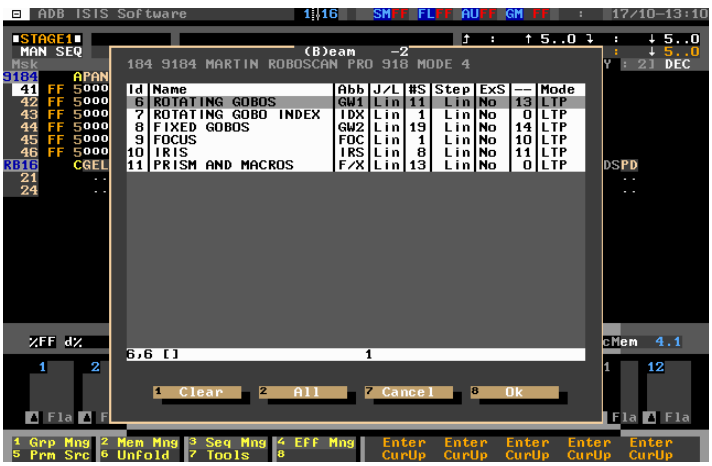
For simple positioning purposes, selecting whole parameter groups as described above is quick and easy. If a parameter group is already selected, pressing the parameter group key again deselects the group.

When it comes to more advanced operations, such as loading Motion Control Libraries or assigning special times, it can be useful to select parameters individually.

examples of keystrokes

<SHIFT> <B GROUP>

➔ Displays a list of the parameters within the selected group.



The Parameter Group window, giving a list of parameters within the selected group

OR  … 

WHEEL OR <↓> ... <ENTER>

- ➔ Use the wheel or the down arrow key to highlight a parameter from the list.
- ➔ Use <ENTER> to select and deselect the parameters.

<F1 {CLEAR}>

- ➔ Deselects all parameters from the current parameter group.

<F2 {ALL}>

- ➔ Selects all parameters in the current parameter group.

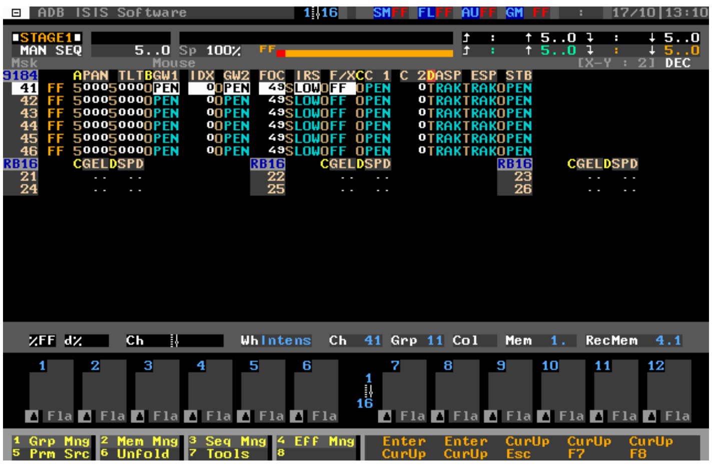
<F7 {CANCEL}>

- ➔ Cancels the parameter selections and exits the dialogue box.

<F8 {OK}>

- ➔ Confirms the selection and exits the parameter dialogue box.

When individual parameters are selected in this way, the LED in the parameter group from which they belong will flash. Individual parameters can be included in the recording of Motion Control Libraries, copied with the Part Copy function, or assigned special times in the special times screen.



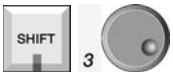
The parameters screen showing some parameters selected

21.5.5 Direct selection of an individual parameter

When it comes to quick operations, such as modifying one colour, it can be useful to directly select one individual parameter without having to select from the parameter groups.
This is possible in *ISIS®* by using the <SHIFT> key in association with a specific encoder wheel.

examples of keystrokes

<CHANNEL SELECTION>
➔ Selects the required instrument(s).



<SHIFT + ENCODER WHEEL>
➔ Selects the specific parameter assigned to the selected encoder wheel.
➔ This encoder wheel becomes live, even if the parameter group containing the parameter is not selected.

The wheel page to which the parameter belongs must be selected for this operation to work.

Note: Once the instrument has been used and deselected, *ISIS®* remembers which parameters were last used, so that the next time the instrument is used, the same parameter selection is made.

21.5.6 Unselecting all parameters

All selected parameters and parameter groups can be deselected at any time by pressing the <UNSEL> key. Unselected parameters are not the same as disconnected parameters, see below.

examples of keystrokes

<UNSELECT>
➔ Deselects all parameters currently enabled for the selected instrument(s).

21.6 Connected and Unconnected parameters

When a control channel is first assigned a moving light definition and the parameters screen is displayed, there are no parameter values shown, there are just dots representing the parameter values. This is because all the parameters are initially disconnected from the Output.

If parameter groups are selected and then deselected without parameters being modified, there are still no parameter values. All parameters have remained disconnected, which is different from unselected.

<u>Selection is simply making the parameters available for control, whereas connecting them means sending their current values (which may be 0) to the Output.</u>

“Zero” is a value as far as parameters are concerned. For example, if pan has a value of zero, it is probably the far left position. Therefore if any memory, library, chaser or working field uses the pan parameter at a value of zero, then the pan parameter has a reference to go to.

If pan is disconnected, it has no reference to go to and therefore remains in its last used position. The last value for each parameter is stored in the DMX output buffer, and is the value kept at the Output even if the parameter is disconnected. This prevents unwanted changes from occurring.

Parameters are automatically connected to the Output from the current working field when any value is given by the trackball, digital encoder wheels, Unfold function or the wheel, and the fader of the selected working field is raised above 5%.

If parameters are given values but the fader value is below 5%, the parameters are automatically sent from the working field with the next highest priority in FTP mode, or from the last field used in LTP mode.

When a working field is used and the fader then moved to below 5%, *ISIS®* avoids unnecessary and unwanted changes to motion parameters if no other fields are in use by storing the last used parameter values in the DMX output buffer.

When all submaster faders and playbacks are at zero or cleared, the DMX output buffer keeps the last values and therefore the last positions of the instruments until they are used again, or the DMX buffer is cleared. If the last position is no longer required, or the instruments need to be sent to their own home positions, simply clear the DMX buffer.

Connected parameters may be disconnected by using the <OFF> key, or temporarily disconnected by using the Mask function. These operations are described in section 21.10 below.

21.7 Viewing parameters

It is often useful to view the parameter values of instruments rather than just the intensities. This can be especially useful when names have been given to the steps of a parameter. The screens can be swapped between the standard intensity display and parameter display. In certain circumstances (depending upon the system monitor configuration) it is possible to view intensities and parameters simultaneously.

To swap between intensity display and parameter display on all monitors, the <PARAM> key is used. This is a toggle function and will consecutively swap the screens between the two modes.

Note: The Screen Configuration section in the chapter 6 *Setup* chapter gives further options for displaying parameters as monitor footers, or on a separate monitor display.

21.7.1 Displaying parameter step values and step names

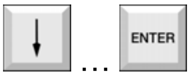
If a parameter has been defined with a number of steps, each step can be given a four character reference: this is the step name. When the parameters are viewed on screen, the operator can decide how such parameters are displayed. By default, the step number is shown on the output screen, and the step name (when one has been given) is displayed on the working field screen.

However, the step name can be removed from the display (in which case only the step number will be shown), or the step value can be shown. The step value is the value of the parameter displayed between levels of 0% and 100% (FF).

examples of keystrokes

<MENU> <F7 {SETUP}> <F5 {DISPLAY FORMAT}>

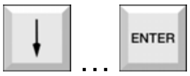
➔ Displays the Display Format dialogue box.



<↓> … <ENTER>

➔ Use the arrow key to select the 'Step values' field: enable and disable the option using <ENTER>.

➔ The Step values (0% to FF) will now be displayed in the parameters screens.



<↓> … <ENTER>

➔ Use the arrow key to select the 'Step names field: enable and disable the option using <ENTER>.

➔ The Step names (if entered) will now be displayed in the parameters display of the working field screen.

21.7.2 Viewing the parameter source

When several working fields are controlling moving lights, the actual Output values could be a mix from several different fields. Whenever there is any doubt about which parameters are controlled from which fields, the parameter source can be viewed on the output screen instead of the parameter values.

Viewing the source can be helpful when working with multiple fields, masking parameters and disconnecting parameters. The function is available via the default F5 function key.

examples of keystrokes

<PARAM>
➔ Displays the motion control parameters on-screen, if required.

<F5 {PRM SRC}>
➔ Toggles between intensity and parameter values and their source.

Note: The field contributing the intensity value is always shown when the output screen is displaying channel intensities: it is displayed in the grey information bar, below the channel intensity value.

21.8 The *«Home»* position

Each instrument can have its own “Home” position programmed. This is a set of parameter values which provides a convenient starting position for the operator. For example, the Home position could consist of the Open values, with a medium focus and positioned centre stage. The Home position can also include colours or gobos if required.

Each time the instrument is to be used in a new working field, memory, or chaser, plotting can begin from the Home position for convenience. Each instrument can only have one Home position, although this can be changed at any time, if required.

21.8.1 Recording the Home position

When an instrument is first used, it has no home position recorded. If the Home function is used before positions have been set, the parameters are given values of zero. It is a good idea to create the Home position before the beginning to program the show.

examples of keystrokes

<CHANNEL & PARAMETER SELECTION>
➔ Select channels and parameters.

OR


<HOME> <REC> <REC> OR <F3 {RECORD}>
➔ Records the current values of the selected instrument’s parameters as the Home position.

Note: If only some parameters are selected, only those selected are recorded into the Home position. If no parameters are selected, they are ALL included in the Home position recording function. For MENTOR XT or MENTOR Motion wing, there is a direct key RESET / HOME

21.8.2 Loading the Home position

The Home position is loaded into the selected working field in a similar way to loading memories. The only difference is that the required parameters of the required instruments must be selected before loading.

examples of keystrokes

<CHANNEL & PARAMETER SELECTION>

➔ Select channels and parameters.

OR


<HOME> <LOAD> OR <F4 {LOAD}>

➔ Loads the Home position of the selected parameters of the instrument into the current working field.

Note: If only some parameters are selected, only the selected ones are loaded with the Home values. If no parameters are selected, they are ALL loaded. MENTOR XT or MENTOR Motion wings has the key Reset/Home .

The Home position can be loaded into unconnected parameters of an instrument only. This operation will not change the values of any connected parameters in the current working field.

examples of keystrokes

<CHANNEL & PARAMETER SELECTION>

➔ Select channels and parameters.

<HOME> <F1 {IF DISCN}>

➔ Loads the Home position to only the disconnected selected parameters of the instrument.

21.9 Unfold

The Unfold function in *ISIS*® allows the operator to control individual parameters of an instrument using the submaster faders. This can make control of automated luminaires faster than ever before.

The **UNFOLD** function assigns the parameter to each submaster, up to the maximum number of available submasters. Unfold works with single instruments, or groups of instruments sharing the same definition.

Note: The Unfold function will set each parameter value for a group of instruments to the same definite value; there is no delta change. To maintain the delta difference between instruments, the encoder wheels must be used.

The Unfold mode also introduces another function: linear stepping for parameters. This function is explained in section 21.9.5.

21.9.1 Selection of parameters

When an instrument is unfolded, any previous parameter selection remains. Changing the selection of active parameters can be done in the normal way with the A/B/C/D group keys, or via the submaster field selection keys. Each selection key acts as a toggle selector.

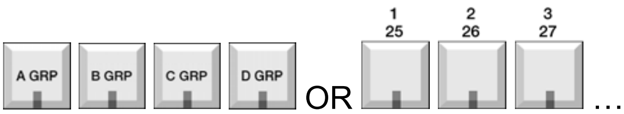
examples of keystrokes

<CHANNEL SELECTION>

➔ Select moving light channels.

<F6 {UNFOLD}>

➔ Unfolds the instrument's parameters onto the submaster faders.

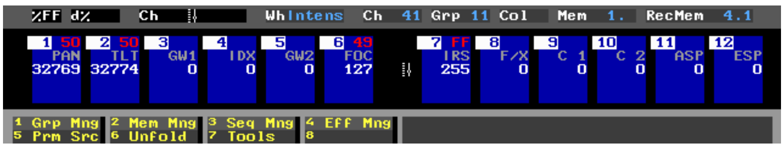


PARAMETER SELECTION

➔ Select the required parameters, either by the parameter groups or individually using the submaster field selection button.

21.9.2 Visualisation of parameters on the faders

In Unfold mode, the submaster footers will change to display the parameter information for each submaster fader. Unfold mode can be easily identified by the submaster footers, which will turn blue when Unfold is active.



Submaster footer display in Unfold mode

The following information is given for each submaster fader in Unfold mode:
Fader Number
Fader Value (00 to 100%)
Parameter controlled by the fader (parameter abbreviation)
Parameter Value (00 to 255 for 8-bit parameters, 00 to 65536 for 16-bit parameters)

The fader number will have a white background if the parameter is selected (active). If the fader is not currently connected to the value in the working field, then the fader value will be displayed in red. This is a virtual value, and the fader must be physically moved to match the virtual value before the parameter can be controlled by the fader.

Note: If a parameter is unconnected (no value in the current working field), then no value is displayed.

21.9.3 Using Unfold with multiple instruments

Controlling several instruments of the same definition type works differently with Unfold than using the encoder wheels. When modifying a parameter of several instruments with an encoder wheel, any difference between the parameter start values is maintained.

However, in Unfold mode, the first instrument in a selection of channels will be the leader of the others. The first instrument in a range of instruments is the one with the lowest channel number. Once a parameter from this “leader” instrument is connected to the Output, the same parameter of each selected instrument will be given the identical value. If only a delta parameter change is required, it is necessary to use the motion control encoder wheels.

This way of working has advantages when a group of instruments all require the same parameter value. It is also useful when a parameter needs to be corrected in the Live field. For example, all moving lights could be set to the same colour simultaneously.

Note: Unfold can only be used with instruments of the same definition.

21.9.4 Using Unfold with Motion Control Libraries

With the Unfold function, creating Motion Control Libraries becomes much easier on desks without touch screens. The selection of an individual parameter becomes much quicker because each parameter has its own selection button. Motion Control Libraries are discussed in more detail in the chapter *Motion Control Libraries*.

21.9.5 Linear steps with Unfold

Some moving lights have more than one function on a single parameter, in which case the instrument’s definition will have been created with linear steps. It is sometimes advisable to operate these functions individually.

Instruments that have a parameter defined with linear steps can be operated in Unfold mode with an additional method if required: the flashkey of the submaster connected to the parameter can be used to move sequentially through the defined steps.

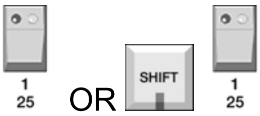
examples of keystrokes

<CHANNEL SELECTION>

➔ Select moving light channels.

<F6 {UNFOLD}> <PARAMETER SELECTION>

➔ Unfolds the instrument's parameters onto the submaster faders and selects the required parameters.



<FLASHKEY> OR <SHIFT + FLASHKEY>

➔ Moves forwards or backwards through the parameters linear steps.

21.10 Motion control functions

When using multi-parameter instruments, there are a number of useful functions available from the motion control keypad or touchscreen. Functions such as Home, Open, Reset and Ignition have already been demonstrated: other functions are described below.

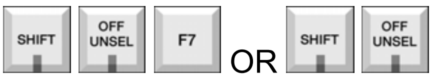
21.10.1 Off

Parameters can be disconnected from the Output within the selected working field by using the Off function. This operation will disconnect any currently selected parameters, although it does not clear the DMX buffer.

examples of keystrokes

<CHANNEL SELECTION>

➔ Select instruments.



<OFF> <F7 {OK}> OR <OFF>

➔ Disconnects the selected parameters of the selected instrument(s), the existing values are replaced by dots in the working field, representing unconnected parameters.

21.10.2 Fill

Fill assigns a value to any unconnected parameters of the selected instrument(s) in a working field. Parameter groups do not have to be selected before the Fill command is used.

The values used by the Fill command are the last used Output values of each parameter - or if not previously used, value 0 (which is step 1 for stepped parameters).

If an instrument has many parameters but only two or three need to be manually positioned, Fill is a quick way of assigning values to all the other parameters.

examples of keystrokes

<CHANNEL SELECTION>
➔ Select instruments.

<FILL>
➔ Fills all the unconnected parameters of the selected instruments with their last used Output values, or value 0 if not previously used.
➔ It is not necessary to select parameters before using the Fill command.

Note: The Fill function copies the current Output values to *all unconnected* parameters of an instrument.

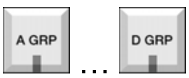
21.10.3 Grab

The current Output values of selected parameters can be copied into the current working field using the Grab function. In this way, if a position has been set in a submaster or playback field, the settings can be grabbed from the DMX output buffer. Modifications of the instrument in a new working field are made from a starting point of current Output, rather than from zero values.

Grab is also a convenient way to match parameter settings between working fields.

examples of keystrokes

<CHANNEL SELECTION>
➔ Select instruments.



PARAMETER SELECTION
➔ Select the parameters to be grabbed from the DMX output buffer.

<GRAB>
➔ Grabs the current Output values of the selected parameters, and copies them into the working field.

Note: Grab copies the current Output values only to *selected* parameters.

21.10.4 Mask

Mask is a function that allows parameter groups (although not individual parameters) within the selected working field to be masked (or hidden) from the Output. If the A group is masked in submaster 1, it can still be used in other submasters.

If the same lighting state is created in several submasters, and a different parameter group masked from each one (keeping one submaster with no masking), the look of the lighting can be radically changed, even though it is fundamentally the same state. An easy example of this is to create a chaser using all the parameter groups and then, while the chaser is running, mask out each parameter group individually to see the effect that the masking has on the chaser.

When a parameter group is masked, it is displayed at the top of the working field screen in yellow, next to the abbreviation ‘Msk’.

The Mask button temporarily loads the function keys with the Mask options. Each parameter group can be toggled between masked and unmasked by selecting the relevant function key. Alternatively, all parameter groups can be unmasked simultaneously by using the Remove Mask command.

Note: The Mask function applies to all instruments in the working field; it is not necessary to select instruments prior to using the Mask function keys.

examples of keystrokes

<MASK> <F1 {A GROUP}>

➔ Masks (or unmasks) the A group within the selected working field.

<MASK> <F3 {C GROUP}>

➔ Masks (or unmasks) the C group within the selected working field.

<MASK> <F5 {ALL}>

➔ Masks all parameter groups within the selected working field.

<MASK> <F6 {RMVMSK}>

➔ Removes all masks within the selected working field.

Note: for MENTOR series, there is no such a hard key, but one can assign the Key Function from the Setup menu to any of the free keys.

21.10.5 Flip

The Flip function is specifically for moving body, as opposed to moving mirror, instruments. Flip allows the physical position of a yoke to be reversed, whilst maintaining the focus point.

After a complicated plotting sequence, a moving body instrument may well be focused in the correct position, but when the sequence is replayed, the head travels in the wrong direction to reach its focus point. Flip corrects this by recalculating the required parameter values of Pan and Tilt to turn the head around, but reach the same focus point.

Note: Flip is a working tool and will not change the values of recorded memories, Motion control libraries or chasers.

Note: For MENTOR series, there is no such a hard key, but one can assign the key function from the Setup menu to any of the free keys.

examples of keystrokes

<FLIP>

➔ Reverses the current position of the yoke, but maintains the same focus point.

Note: The repositioning values calculated by *ISIS*® software may not be exact, as all instruments have different rotation angles. A minor adjustment is sometimes necessary for the Pan and Tilt parameters, but this is simpler than repositioning the instrument manually.

21.11 Part Copy and the Clipboard

It is often necessary to apply the parameter values of one instrument to other instruments of the same type. This can be much faster than setting each instrument individually.

The Part Copy function is used to copy parameter values immediately from one instrument to another, while the Clipboard is used to temporarily store the parameters of each instrument until they are required again.

21.11.1 Using Part Copy

The Part Copy function allows the parameter values of one instrument to be copied to other instruments of the same definition. For example, the azimuth (position), beam, colour, and other parameters can be set on one instrument and then instantly applied to another selection of instruments.

examples of keystrokes

<CHANNEL / PARAMETER SELECTION>
- ➔ Select the instrument to be copied from.
- ➔ If only selected parameters are to be copied, make sure that they are selected.

<PCOPY>
- ➔ Selects the Part Copy function.

The Part Copy button temporarily pastes the Part Copy commands to the function keys. It is possible to select all the parameters of the instrument or just a selection of parameters; the intensity value can be included, if required.

<F1 {ALL}>
- ➔ Selects all parameters and the intensity value for the Part Copy command (this is the default setting).

<F2 {% ONLY}>
- ➔ Selects only the intensity value for the Part Copy command.

<F3 {PARAM}>
- ➔ Selects all parameters - but not the intensity value - for the Part Copy command.

<F4 {SEL PRM}>
- ➔ Only the selected parameters will be used in the Part Copy command.

<CHANNEL SELECTION>
- ➔ Select the instrument(s) to be copied to.

OR


<PCOPY> OR <F7 {PCOPY}>
- ➔ Completes the Part Copy function.

Note: Although colours, gobos and other parameters will be correct, the required position of the instruments copied to may not be exactly right due to the physical difference of rigging positions of the instruments. For certain platforms such as P10 /xt; there is the direct PCOPY KEY.

21.11.2 Recording to the Clipboard

The Clipboard can be used to store the parameter settings of each instrument, for re-use at a later point during plotting. The Clipboard cannot be used to copy parameter settings from one instrument to another; for that the Part Copy function must be used.

examples of keystrokes

<CHANNEL / PARAMETER SELECTION>
➔ Select the instrument(s) to be copied to the Clipboard.
➔ If only selected parameters are to be copied, make sure that they are selected.

<CLIPBOARD>
➔ Selects the Clipboard function.

The Clipboard button temporarily pastes the Clipboard commands to the function keys. It is possible to select all parameters of the instrument or only selected parameters; the intensity value can be included if required.

<F1 {ALL}>
➔ Selects all parameters and the intensity value for the Clipboard command (this is the default setting).

<F2 {% ONLY}>
➔ Selects only the intensity value for the Clipboard command.

<F3 {PARAM}>
➔ Selects all parameters - but not the intensity value - for the Clipboard command.

<F4 {SEL PRM}>
➔ Only the selected parameters will be used in the Clipboard command.

<F5 {RECORD}>
➔ Records the parameter settings of the selected instrument(s) to the Clipboard.

Note: The contents of the Clipboard remain available until they are erased or re-recorded. For MENTOR series; though there is no such hard key, the function can be assigned to any of the free Keys from the Setup menu.

21.11.3 Loading from the Clipboard

The parameter values recorded to the Clipboard can be recalled to the instrument at a later point, by loading from the Clipboard.

examples of keystrokes

<CHANNEL / PARAMETER SELECTION>

➔ Select the instrument(s) to be copied from the Clipboard.

➔ If all parameters are to be loaded from the Clipboard, it is not necessary to select parameter groups. If only some parameters are to be loaded, make sure that they are selected.

<CLIPBOARD> <F6 {LOAD}>

➔ Copies the selected parameter values from the Clipboard to the selected channel(s).

21.11.4 Erasing the Clipboard

The recorded values remain on the Clipboard until it is cleared, or overwritten with new information.

examples of keystrokes

<CLIPBOARD> <F7 {ERASE}>

➔ Clears the contents of the clipboard.

21.12 Motion control tools

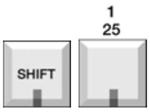
Depending on the operating mode used when controlling moving lights, some additional functions can sometimes be useful to the operator.

Note: Operating modes are discussed in the chapter 29 *HTP-FTP-LTP Modes*.

21.12.1 Sending working field content directly to the Output

The parameter values of all moving light fixtures contained in a working field can be sent directly to the Output at any time. This is achieved by pressing <SHIFT> in association with the field's selector key.

examples of keystrokes



<SHIFT + SUBMASTER 1 FIELD KEY>
➔ Selects submaster 1 and sends its parameter values directly to the Output.

<SHIFT + S1 FIELD KEY>
➔ Selects Stage 1 and sends its parameter values directly to the Output.

21.12.2 Clearing the DMX buffer

Moving light parameters are automatically connected to the Output from the current working field when a value is assigned and the fader of the working field is raised above 5%.

If the fader value is lowered to zero, one of the following conditions will occur:

- ➔ Output will come from another field in HTP mode;
- ➔ Output will come from a lower priority field in FTP mode;
- ➔ Output will remain or be taken over by a subsequently used field in LTP mode;
- ➔ Output will be retained at the last used value.

If no other fields are in use, *ISIS*® avoids unnecessary and unwanted changes to parameters by storing the last used parameter values in a DMX output buffer. <u>The DMX output buffer therefore retains the last used position, colour, and other parameter settings of each instrument until it is used again.</u>

If the last values are no longer required, simply clear the DMX buffer.

examples of keystrokes

<MENU> <F3 {CHANNELS}> <F5 {MOTION CONTROL}> <F3 {CLEAR OUTPUT BUFFER}>
➔ Clears the stored parameter values from the Output.

When the DMX output buffer has been cleared, there are no parameter values shown on the Output screen, just a sequence of dots representing the parameter values.

Note: some hardware platforms have a direct function key for clearing the DMX output buffer. For centain platforms such as P10xt; there is a short cut for it: pressing the key SHIFT + BUFFER/MCCFG

21.13 Recording memories containing instruments

When instrument intensity and parameter values have been set, they can be recorded into memories by the same methods used for recording memories that contain only generic channels.

Motion control instruments can also be recorded into motion control libraries, which is particularly useful for manipulating several definition types simultaneously. Please see the chapter 22 *Motion Control Libraries* for further information.

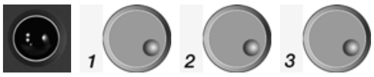
examples of keystrokes

<1> <AT> <8> <A GRP> <B GRP> <C GRP> <D GRP>

➔ Set channel 1 (which has been defined as a moving light) to 80% in the selected working field and selects the four parameter groups.

<PARAM>

➔ Displays the parameters screen.



<TRACKBALL> <ENCODER WHEELS>

➔ Sets the pan and tilt position of the instrument using the trackball.

➔ Sets other parameters via the rotary encoder wheels.

➔ The <PG+> and <PG-> keys can be used to assign other parameters to the encoder wheels.

<MEM> <1> <REC>

➔ Records the state in the current working field as memory 1.

OTHER CHANNEL MANILUPATIONS

➔ Add further channels to the state.

<MEM> <2> <SUM>

➔ Records the total desk Output, including colour changer and moving light parameters, as memory 2.

Note: Certain platforms such as P10 XT, there is no need to select the MEM as it has an individual MEM keypad.

21.14 Times for motion control parameters

In the playbacks, intensity changes and azimuth movements always follow the memory's global or special times. Other parameters behave differently, depending upon the instrument's mode and the type of parameter.

Parameters will follow the memory's global fade times if they are defined with "fading" selected. If parameters are set to "jump" (fading deselected), these parameters (such as stepped colour or gobo wheels) will jump to their new positions at 5% of the fade completing.

The following tables illustrate when fade times are used in relation to the device definition options.

GLOBAL TIMES				
Parameter Type	**Wait Up Time**	**Up Time**	**Wait Down Time**	**Down Time**
Intensities	Used	Used	Used	Used
Parameters (Jump)	Used	*Not used*	Used	*Not used*
Parameters (Fade)	Used	Used	Used	Used

SPECIAL TIMES				
Parameter Type	**Wait Up Time**	**Up Time**	**Wait Down Time**	**Down Time**
Intensities	Used	Used	Used	Used
Parameters (Jump)	Used	Not used	*Not available*	*Not available*
Parameters (Fade)	Used	Used (Go-to time)	*Not available*	*Not available*

Special times can be applied to parameters, to make the change happen at a specific point during a fade. Please see the section below for details of assigning special times to parameters.

21.14.1 Plotting special times for parameters

Special times can be applied to individual parameters in the same way as to individual channels. Special up/down times only work on fade type parameters such as pan, tilt, and continuous dichroic colour changing mechanisms, although any parameter can have a wait time.

Special times for parameters must be assigned in the special times screen. If no parameters are selected, the special time is applied to the channel's intensity only; if parameters are selected, the special time is applied to the selected parameters only.

examples of keystrokes

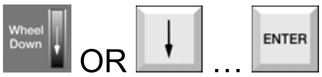
<CHANNEL / PARAMETER MODIFICATION>
➔ Create the lighting state.

<UNSEL>
➔ Deselects all selected parameters of the current instrument.

<STIME>
➔ Selects the special times display.

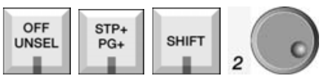
<A GRP> <UP> <1><5> <DOWN>
➔ Selects the A Group parameters and assigns a special time of 15 seconds.

<A GRP> <SHIFT> <C GRP>
➔ Deselects the A group and displays the C group parameters list.

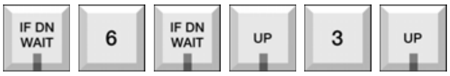


WHEEL OR <↓> … <ENTER>
➔ Use the wheel or the down arrow key to highlight a parameter from the list.
➔ Use <ENTER> to select and deselect the parameters.

<UP> <7> <DOWN>
➔ Assigns a special time of 7 seconds to the selected parameter(s).



<UNSEL> <PG+> <SHIFT + ENCODER WHEEL>
➔ Deselects all parameters.
➔ Assigns the next page of parameters to the encoder wheels. Use <PG+> or <PG-> to find the required parameter and directly select it by holding <SHIFT> and turning the relevant encoder wheel.



<WAIT> <6> <WAIT> <UP> <3> <UP>

➔ Allocates a special time of 3 seconds to the selected parameter, and a special wait time of 6 seconds.

<MEM> <8><7><3> <REC>

➔ Records the state with special times as memory 873.

<STIME>

➔ Deselects the special times screen.

When a special time has been plotted to a channel's intensity, the channel number is displayed in light blue colour on the intensity and parameters screens. When a special time has been plotted to a channel's parameters, the instruments label «m» is displayed in light blue colour on the intensity screen. On the parameters screen, a letter «t» in light blue colour is inserted between the intensity value and the first parameter.

The If Down function can be used to assign a special wait time which is equal to the global down time of the memory being plotted. This function will cause the selected parameters to move only after the down time of the crossfade has completed: the function can be used as a simple way of making the instruments move while dark.

Note: *ISIS*® includes full tracking Move in Black functions for moving lights and scrollers: please see section 21.16 below. The If Down facility provides a simple method for moving parameters once the intensity parameter has reached zero by using special times.

examples of keystrokes

<CHANNEL SELECTION OR MEMORY LOAD>

➔ Creates (or reloads) the lighting state.

<STIME> <5><1> <THRU> <5><6>

➔ Selects instruments 51 to 56 in the special times display.

<A GROUP> <B GROUP> <C GROUP> <D GROUP>

➔ Select all four parameter groups.

<IF DOWN>

- Selects “If Down” as a special time for all parameters.
- This command pastes the combined global down and wait down times to the special wait times of the parameter. This makes the movement of the parameters wait until the intensity has faded out, forcing the instrument to “move when dark”.

<MEM> <8><7><4> <REC>

- Records the state with special times as memory 874.

<STIME>

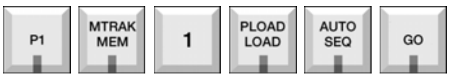
- Deselects the special times screen.

Note: The If Down function can also be entered directly from the function keys, whenever an Up or Down key is pressed to enter the special time. The function is pasted onto the function key F6.

21.15 Replaying memories in the playbacks

Memories with motion control parameters can be loaded and replayed in playbacks just like any other memory. However, the behaviour of instruments is subject to their definitions, their times, and output priority.

examples of keystrokes



<P1> <MEM> <1> <LOAD> <SEQ> <GO>

- Starts a playback sequence.

Note: certain platforms such as P10 XT, there is no need to select the MEM as it has an individual MEM keypad.

If a parameter is set to fade-type in an instrument’s definition and is used in a sequence in the playback, the parameter change will follow the memory fade times in the same way that the intensity parameter changes.

If the parameter is set to jump-type (fading is deselected in the definition), the parameter will change in steps, and the timing of the step change is calculated according to the total memory time, and the number of steps to change. For example, if the parameter has to change 5 steps over 10 seconds, it will change by one step every two seconds.

The appearance of the movements and changes within a crossfade are dependent upon the instrument device definitions, as indicated in the table below.

Device Definition		*Behaviour of parameters in playbacks*	*Note*
Type	**Steps**	**Crossfade in playback**	
Fade	2 ⇔ 99	Sequentially jump from one frame to the next using the memory Up Time divided by the number of steps between the start point and the destination.	1
Fade	1 (00% ⇔ FF)	Fade to the incoming memory value using the memory times.	2
Jump	1 (00% ⇔ FF)	Jump to the incoming memory value at the beginning of the crossfade.	3
Jump	2 ⇔ 99	Jump to the incoming memory value at the beginning of the crossfade.	4

Notes:

1. The parameter has been given a number of steps in the definition (for example 6) and fading is selected. To move from the first step to the last, the parameter moves in steps, rather than directly from first to last as a single movement.
2. The device is in 1 step mode, with fading selected in the definition. The movement of the parameter corresponds to the memory fade time.
3. The device is in 1 step mode, with fading deselected in the definition (jump-type steps). The parameter change will happen at the beginning of the crossfade (around 5% or subject to any wait times). The speed of the parameter movement is determined by the device and/or its velocity control.
4. The parameter has been given a number of steps in the definition (for example 6) and fading has been deselected (jump-type steps). The parameter change happens at the beginning of the fade time (around 5%). The speed of the parameter is determined by the device and/or its velocity control.

If parameters are in the playback and are set to fade-type, they follow the automatic fade times. If they are set to jump-type, the change takes place at the beginning of the fade: around 5%.

This change can be altered by setting a special time on the parameter, allowing a change to be made at a specific point. Alternatively, some instruments have a ‘speed’ parameter, which controls how fast the parameter moves. This could be used to make the parameter fade smoothly over the crossfade.

21.15.1 Operating playbacks in manual mode

When using a playback in auto mode, smooth crossfades can take place using the pre-recorded times by use of the <GO> key.

When working manually, the playback distinguishes between intensities and other parameters in order to prevent untoward lighting changes from taking place if the faders are moved separately.

If parameters were treated in the same way as intensities, moving only the Stage fader would result in the motion control equivalent of blackout. If this were to happen, all parameters would be set to value 0 (or the first step of stepped parameters); this may mean moving through the parameter's entire range. Moving only the Preset fader would combine the Stage and Preset contents on an HTP basis, which is not ideal for parameters.

ISIS® solves this problem by controlling intensity changes with both the Stage & Preset faders, but colour and other parameters only with the Preset fader.

The movement is introduced by the Preset fader – if the Stage fader is moved alone, no movement or colour change takes place. This avoids instruments suddenly shooting off to their zero positions half way through a fade.

➔ Intensities are controlled by Stage and Preset, parameters only by Preset.

If parameters are in the playback and are set to fade type, they follow the movement of the playback faders, or the automatic fade times. If they are set to jump type, the change takes place at the beginning of the fade: around 5%.

When fading manually, the moment at which the jump type parameters change is determined by the point at which the Preset fader is moved beyond the 5% threshold.

21.16 Move in Black (automatic parameter preset)

Moving light instruments will often change position and other settings many times during a show. Traditionally, the operator has had to plot a supplementary positioning memory preceding each memory containing a new setting.

ISIS® saves this time-consuming task by introducing the Move in Black function. This facility is used to automatically pre-position all parameters before each instrument is used. Move in Black continually tracks the memory sequence internally to locate the next point at which each instrument is used, and pre-sets the parameters that it finds (except intensity).

These automatic changes can be made systematically for all parameters, or only for parameters that are unconnected once they have been used. The changes are executed with a configurable delay before the move, as well as a configurable movement speed.

Automatic changes are only made when the intensity of each instrument is zero (beam off), and are executed after the fade down of the last memory to use the parameter. The next memory to use the parameter will fade up with the required settings already in place.

The Move in Black function can be set to operate automatically for all recorded memories within the memory sequence, or it can be set individually via an event. There are two modes available for the Move in Black function:

- Intensity off (MIB AO), and
- Intensity off and parameters unconnected (MIB UO).

21.16.1 Intensity off (MIB AO) mode

In this mode, the move will automatically be made at the end of a crossfade, once the intensity is zero (off). Changes will be applied to all parameters of a fixture.

ISIS® looks ahead through the sequence of memories to determine which parameters have plotted changes. Any changes will be applied automatically after the current memory is removed from the Stage field. The change will take into account the delay and speed values set for each parameter in the instrument definition.

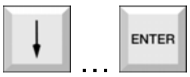
Note: Because the Move in Black function pre-sets parameter values when the instrument intensity is zero, it will have no function if consecutive memories use the fixture - despite the parameters having different values. This is because there is no ‘dark’ period between the memories in which to change the parameters.

Move in Black intensity off mode is selected in the Setup menu. It applies to all operations in the current show until it is disabled by the operator or via an Event in the sequence.

examples of keystrokes:

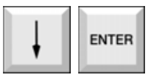
<MENU> <F7 {SETUP}> <F6 {GENERAL}>

- Selects the General Configuration options from the Setup menu.



<↓> … <ENTER>

- Use the arrow key to navigate to the ‘Auto move in black’ field.
- Press <ENTER> to display the drop-down list of options.



<↓> <ENTER>

- Select “Intensity off” as the Move in Black mode: all parameters will now be pre-set automatically.

<F8 {OK}>

➔ Confirms the changes and exits the General Configuration dialogue box.

➔ The current Move in Black mode is indicated at the top of the Output screen: in this mode the text MIB AO will be displayed.

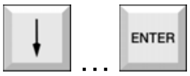
21.16.2 Intensity off and parameters unconnected (MIB UO) mode

In this mode, the move will again be made automatically at the end of a crossfade, once the intensity is zero (off). However in this setting, changes will only be applied to the unconnected parameters of a fixture.

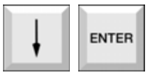
Move in Black intensity off and parameters disconnected mode is selected in the Setup menu. It applies to all operations in the current show until it is disabled by the operator or via an Event in the sequence.

examples of keystrokes:

<MENU> <F7 {SETUP}> <F6 {GENERAL}>
➔ Selects the General Configuration options from the Setup menu.



<↓> … <ENTER>
➔ Use the arrow key to navigate to the 'Auto move in black' field.
➔ Press <ENTER> to display the drop-down list of options.



<↓> <ENTER>
➔ Select "Int. off and param. unconnected" as the Move in Black mode: all unconnected parameters will now be pre-set automatically.

<F8>
➔ Confirms the changes and exits the General Configuration dialogue box.

➔ The current Move in Black mode is indicated at the top of the output screen: in this mode the text MIB UO will be displayed.

21.16.3 Setting the Move in Black manually

The Move in Black function can be used in manual mode, allowing the instant to begin a move to be set precisely. Manual Move in Black mode also allows the duration of the Move in Black operation to be set Both modes described above.

The manual Move in Black function is inserted into the playback sequence via a simple event. Creation and use of events is explained in the chapter 16 *Sequence Manager And Events*.

21.16.4 Disabling a parameter from Move in Black actions

Before the Move in Black function is used, it must be enabled for the required parameters of each instrument. By default, the function is enabled in all definitions within the ADB Pool, and also in each definition created.

In some cases it is necessary to disable the Move in Black function (for example, for a strobe shutter parameter). Move in Black is enabled and disabled for each parameter in the Edit Parameter dialogue box.

examples of keystrokes

<MENU> <F3 {CHANNELS}> <F5 {MOTION CONTROL}> <F1 {DEFINITIONS}>
➔ Displays the List of Definitions of the current show.

OR


WHEEL OR <↓>
OR USE THE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Use the wheel or the down arrow key to highlight a definition for editing.
➔ The keyboard or keypads can be used to type in a number directly.

<F2 {PARAM}>
➔ Displays the list of the selected instrument's parameters.

OR


WHEEL OR <↓>
OR USE THE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Use the wheel or the down arrow key to select a parameter for editing.
➔ The keyboard or keypads can be used to type in a number directly.

<F2 {EDIT}

➔ The Edit Parameter dialogue box is displayed.

<↓>

➔ Use the arrow keys to select the Move in Black - Enable field.

<ENTER>

➔ Toggles the Move in Black function for the selected parameter. If the field is enabled, the parameter can be pre-set automatically.

21.16.5 Entering a delay for Move in Black changes

The Move in Black function will change the parameter settings after the last memory has faded out. In order to execute the move at the most suitable moment (such as moving a scroller during a musical sound peak), a wait time (delay) before the move is initiated can be introduced for each parameter.

The delay is entered in tenths of a second. The default delay time is one second (10 tenths of a second), which means that the automatic change will start one second after the intensity of the instrument reaches zero.

examples of keystrokes

Remaining in the Edit Parameter dialogue box:

<↓>

➔ Use the arrow key to select the Move in Black - Delay field.

<DELAY VALUE>

➔ Enter the selected parameter’s delay before a Move in Black automatically begins. The delay time is set in tenths of a second.

21.16.6 Entering a speed for Move in Black changes

A speed value can be set for each parameter, allowing automatic changes to be made quickly or slowly. If there is only a short time period between two memories using an instrument in different positions, for example, the speed can be set to move the instrument very quickly. If there is a long period of inactivity between the positions of the instrument, the changes can be made to happen more slowly (and hence less noticeably).

The Move in Black speed is entered in DMX steps: the higher the number, the faster the movement speed. The default value is 2.

examples of keystrokes:

Remaining in the Edit Parameter dialogue box:

<↓>
➔ Use the arrow key to select the Move in Black - DMX Step field.

<SPEED VALUE>
➔ Enters the selected parameter's movement speed for Move in Black changes.
➔ The value can be between 0 and 255 for 8-bit parameters and 0 and 65536 for 16-bit parameters.

<F8 {OK}>
➔ Confirms the changes made for Move in Black settings and exits the Edit Parameter dialogue box.

21.17 Instruments in Chasers and Effects

Moving lights and colour changers can be easily incorporated into chasers and effects. Complex patterns can be created with chasers, but only the intensity parameter of instruments is used in effects. One of the quickest ways of creating moving light chasers is to load previously recorded Motion Control Libraries into chaser steps.

As a rule, it is probably better to keep the chasers relatively simple as they will be easier to plot and, more importantly, easier to modify if each step is only changing a few parameters, or there are only a few steps in the whole chaser.

A simple moving light chaser can be programmed by creating steps containing changing instrument parameters. Creating effects with moving lights is much easier because only the intensity parameter is used by the effect. In fact effects with moving lights are just the same as those with generic channels. Use of moving lights in chasers is explained in the chapter 15 *Chasers & Effects* and in the chapter 23 *Effect Generator*.

Note: More complex patterns and effects can be created by using the Effect Generator built in to the *ISIS®* software. Please see the chapter 23 *Effect Generator* for further explanation.

21.18 Overview of Motion Control Libraries

Moving light parameter settings can be recorded into Motion Control Libraries. A librray, or MCLib, is similar to a memory as it can store the settings of each parameter of an instrument recorded into it. These settings can be selectively loaded when required, or linked to memories.
MCLibs can be useful if instruments are to be matched with other moving lights or colour changers to create complete colour washes.

➔ Motion Control Libraries are the *only* way of changing the parameters of several different instrument types simultaneously.

examples of keystrokes

<CHANNEL SELECTION>
➔ Select the instrument(s) to be included in the library.

<C GROUP>
➔ Selects the colour group of parameters to be included in the library.

<MCLIB> <1> <REC>
➔ Records the selected parameters of all the selected instruments into Motion Control Library 1.

Pre-recorded motion control libraries can be loaded into working fields and recorded into memories, or even loaded into chaser steps as required.

examples of keystrokes

<FIELD SELECTION> <CHANNEL SELECTION>
➔ Select the instruments to be loaded from the library into the selected working field.

<C GROUP> <D GROUP>
➔ Select the parameter group(s) to be loaded from the library.

<MCLIB> <1> <LOAD>
➔ Loads the settings of the selected parameters of the selected instruments into the selected submaster(s).

Whenever a MCLib is loaded and then recorded in a memory, a link is created between the library and the memories which use it. In this way, a whole list of memories can be modified just by changing and re-recording the library position. If this is not for all the memories which share the library, "unlinked" should be done before the change is made.

Please turn to the chapter 22 *Motion Control Libraries* for full details on libraries and on linking and unlinking memories.

21.19 Summary

The integrated motion control facilities of *ISIS*® allow moving lights to be controlled easily and logically in the same fashion as generic lighting. An operator does not need to be particularly conversant in the philosophy of dedicated moving light control consoles in order to control motion control instruments.

Control of moving lights is made by a trackball and dedicated rotary controllers on most hardware platforms, or by a trackball and the wheel on other platforms. Additionally, instruments of the same type can be controlled by the submaster faders in Unfold mode. Parameters are assigned to the encoder wheels on a number of pages; the page must be turned to access all parameters of a fixture.

The attributes of a moving light are split into four parameter groups (plus intensity) for operator convenience. Each group must be enabled before a parameter it contains can be modified.

Pan, tilt and intensity settings can be made to any selection of instruments. Other parameters can only be modified simultaneously on instruments of the same definition. A selection of different type instruments can only be modified simultaneously by using a motion control library (MCLib).

Each instrument can be assigned a Home position, which is a convenient setting for the operator to recall when using the fixtures. In addition, there are settings for special functions such as Open, Reset and Ignition.

The parameters screen displays all parameters of motion control instruments. It can be accessed by using the <PARAM> key. Parameters values can be shown numerically, or step names can be assigned and displayed.

The sequence for manipulating moving lights is indicated below:

- ➔ Select the instruments;
- ➔ Display the parameters screen (if required);
- ➔ Select the parameters;
- ➔ Modify the parameter settings.

The Move in Black function offers considerable flexibility to the operator, allowing instruments to be automatically pre-set prior to their use in the playback sequence.

Each parameter of an instrument can be assigned a delay and movement speed for the Move in Black function, or the automatic movement of the parameter can be disabled.

The output philosophy allows the operator to take control of any instrument already in use, and the DMX buffer prevents the last used parameter values from being lost.

Moving light positions can be recorded into Motion Control Libraries which can be used in memories and chasers. If a MCLib is updated, all the memories and chaser steps that use it are automatically updated too (unless any memories deliberately have the link cut). Motion Control Libraries are explained fully in the following chapter.

22 MOTION CONTROL LIBRARIES

22.1 Introduction

Once specific values have been given to an instrument's parameters, they can be recorded into a Motion Control Library (MCLib). These are a convenient starting point when plotting moving lights and colour changers. But more importantly, <u>Motion Control Libraries can be recorded into memories. If the library content is changed, any associated memories are updated automatically.</u>

For example, if a Motion Control Library position is used in 50 memories, when the library is re-recorded after the position changed, – all the 50 memories are automatically updated. Otherwise all 50 memories have to be updated individually, or by using Edit Memory. If the memories are not to be updated when the library is changed , it is also possible to "Unlink" memories from the Motion Control Libraries.

➔ Good use of MCLibs can save a great deal of plotting time.

Each library is split into four sections, each one corresponding to one of the parameter groups. Like the Home position, only selected parameters are included when recording and loading Motion Control Libraries. With careful parameter selection, it is possible to mix elements from different libraries into working fields or memories. For example, the position of MCLib 1, plus the colour from MCLib 2 and the focus of MCLib 3 could all be combined into one submaster and recorded as a memory, or even a new library, thus creating a library of merged libraries.

As each Motion Control Library can contain values for every instrument in a show, they can be used to create and recall specific lighting states. In this way, it is possible to change the parameters of more than one instrument type in a single action.

➔ Motion Control Libraries are the *only* way of changing the parameters of several different instrument types simultaneously.

Note: the Touch Panel, available on certain hardware platforms, gives the easiest access to all the MCLib functions described in this chapter.

22.2 Recording Motion Control Libraries

When a MCLib is recorded, it can include all or any selection of parameters from every instrument. It can be easier to record only one parameter group, but if all parameters are included when the library is recorded, they can still be loaded individually.

examples of keystrokes

<Channel and parameter modifications>

➔ Selects the instruments and adjusts parameter values.

<MCLib> <1> <rec>

➔ Records the current instrument and parameter selection as Motion Control Library 1.

➔ The instruments can be of different definition types.

Note: Motion Control Libraries can be recorded directly from the LCD touchscreen. For MENTOR XT, the key for MCLIB is UNLINK / MCLIB. All the examples in this chapter were made from PHOENIX.

22.3 Editing Motion Control Libraries in the Edit Lib field

In the same manner as the Edit Memory field for memories, the Edit Library field can be used to modify Motion Control Libraries, either individually or as a list. This feature allows all parts of a library to be edited.

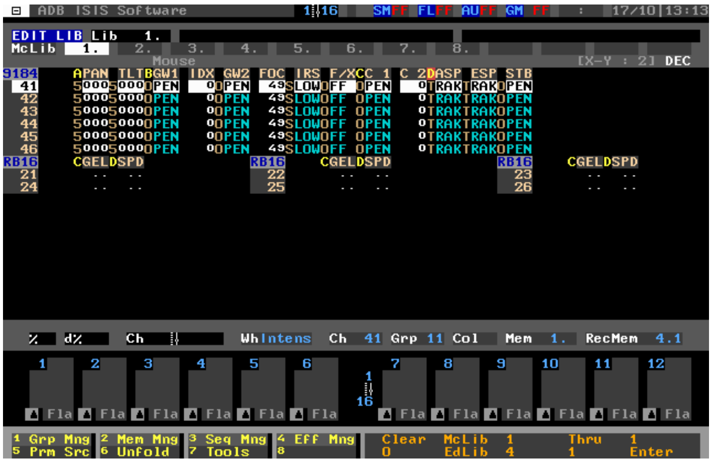
When a list of libraries is loaded into Edit Library, their numbers are displayed along the top of the working field monitor. Only one library is displayed on-screen at a time: the contents of each library can be viewed individually by using the <SHIFT> key in association with the left and right arrow keys to scroll through the list. The number of the current library is shown highlighted in the top part of the Edit Memory screen.

examples of keystrokes

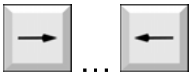
OR


<Mclib> <1> <Thru> <3> <EDIT MEM>OR <SHIFT> <EDIT MEM> <Mclib> <1> <Thru> <3><LOAD>

➔ Enters the Edit Library field and loads all existing Motion Control Libraries between 1 and 3.

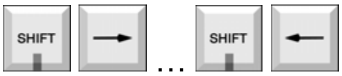


The MCLib Editor



<➔> … <🡐>

➔ All parameters of an instrument can be viewed using the arrow keys, if they do not fit on one screen.



<Shift + ➔> … <Shift + 🡐>

➔ The libraries are displayed separately, and can be viewed individually in the Edit Library field using the <SHIFT> key in conjunction with the left and right arrow keys.

< parameter modifications >

➔ Make modifications to active parameters of the selected instrument.

➔ The modifications are made to **all** the loaded libraries simultaneously.

<REC> <EDIT MEM>

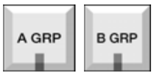
➔ Updates the libraries and exits the Edit Library field.

22.4 Loading Motion Control Libraries

When a library is loaded, only the active parameters of the selected instruments are loaded. This allows different elements from different libraries to be combined in the working field.

examples of keystrokes

<1> <thru> <5>
➔ Selects instruments 1 to 5.



<A group> <B group>
➔ Selects the A and B parameter groups.

<Mclib> <1> <load>
➔ Loads the A and B group parameter values recorded in MCLib 1 to the selected channels.

<A group> <B group> <C group>
➔ Deselects A and B groups and selects C group.

<Mclib> <2> <load>
➔ Loads the C Group parameter values stored in MCLib 2 to the selected channels.

Note: Motion Control Libraries can be loaded directly from the LCD touchscreen.

22.5 Direct Load of Motion Control Libraries

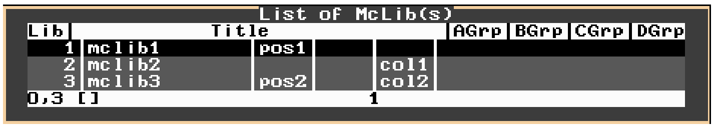
It is possible to display the list of MCLibs on a monitor – but this information is not normally required all of the time: it would be far better to use the monitor for other purposes.

Fortunately *ISIS*® offers a direct load function, which temporarily displays a list of existing libraries and provides instant selection of the highlighted MCLib.

examples of keystrokes

<MCLIB> <MCLIB>

➔ Displays the list of existing libraries, together with their titles.



The list of Motion Control Libraries

OR


WHEEL OR <↓>

➔ Highlight the required MCLib.

OR


<ENTER> OR <LOAD>

➔ Directly loads the selected library to the active parameters of selected instruments.

Note: As a precaution, the direct load function is disabled when out of context.

22.6 Motion Control Libraries Manager

MCLibs have a manger similar to the memories manager, where the libraries can be named, edited, deleted, copied and parameter group labels assigned. The manager can be accessed from the Managers menu, or more directly from the <MCLIB> key.

examples of keystrokes

<MCLIB> <F1 {MANAGER}>

➔ Displays the Motion Control Library Manager: initially this displays a list of recorded MCLibs.

22.6.1 Naming libraries in the MCLib Manager (Title and Labels)

A title can be added to each library for ease of identification, and labels can be added to the four parameter groups. These labels can be displayed on the monitors instead of the library number or value if required, and are also displayed on the LCD touchscreen.

examples of keystrokes

<MCLIB> <F1 {MANAGER}>
➔ Displays the library manager.

OR


wheel or <↓>
➔ Use the wheel or the down arrow to highlight the library to be edited.

<F2 {EDIT}>
➔ Displays the MCLib Header information.
➔ Type a title and set the parameter groups labels using the alphanumeric keyboard.

<F8 {OK}> <F8 {ok}>
➔ Confirm the changes and exit the dialogue box.
➔ Exit the library manager (do not exit if more libraries are to be edited).

The dialogue box contains all information about the selected library, but only the parts in the highlighted boxes, such as title and labels can be edited in this way.

22.6.2 Copying libraries in the MCLib Manager

The Manager can be used to copy MCLibs. The advantage of this method over the <COPY> function is that the library list is automatically displayed, and a delta function can be used so that lists of libraries do not have to increment in steps of one.

examples of keystrokes

<MCLIB> <F1 {MANAGER}>
➔ Displays the library manager.

OR ...

wheel or <↓> … <ENTER>
- ➔ Use the wheel or the down arrow to highlight a library to be copied.
- ➔ Use <ENTER> to select a list of libraries for copying.

<F7 {copy}>
- ➔ Enter the new number into the “Target” box.
- ➔ If more than one library is being copied, a delta offset can also be entered.

<F8 {ok}>
- ➔ Confirms the copy operation.

22.6.3 Deleting libraries in the MCLib Manager

If a motion control library (or list of libraries) is no longer required in the show, they can be permanently deleted.

Deleted libraries cannot be recovered.

---

examples of keystrokes

<MCLIB> <F1 {MANAGER}>
- ➔ Displays the library manager.

OR ...

wheel or <↓> … <Enter>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
- ➔ Use the wheel (or belt) or the down arrow to highlight a library to be deleted, or enter a number directly using the keyboard.
- ➔ Use <ENTER> to select a list of libraries for deletion.

<F3 {delete}>
- ➔ Selects the delete function.

A warning is issued

➔ A warning is given: Delete element(s) - Are you sure?

<F8 {YES}>

➔ Confirms the deletion process.

22.6.4 Renumbering libraries in the MCLib Manager

Just like memories and groups, libraries can be re-numbered if they have been created out of numerical sequence, or other libraries have been deleted.

examples of keystrokes

<MCLIB> <F1 {MANAGER}>

➔ Displays the library manager.

OR

...


wheel or <↓> … <ENTER>

OR USE ALPHANUMERIC KEYBOARD DIRECTLY

➔ Use the wheel or the down arrow to highlight a library to be renumbered, or enter a number directly using the keyboard.

➔ Use <ENTER> to select a list of libraries for renumbering.

<F1 {renumber}>

➔ Enter the new number into the “Target” box.

➔ If more than one effect is being renumbered, a delta offset can also be entered.

<F8 {ok}>

➔ Confirms the renumbering operation.

22.7 Displaying MCLib labels

When a library is recorded or loaded, the parameter values on screen are replaced with L#, shown in green, where # is the number of the library just recorded or loaded. When the parameters are viewed on screen, the operator can decide how such parameters are displayed.

It is possible to display the library number and the parameter values (in percent) together, depending upon the screen configuration and format. If a parameter group within a MCLib has been given a four character label, this label can be displayed on the working field parameter screen.

examples of keystrokes

MENU F7 F5

<Menu> <F7 {Setup}> <F5 {Display format}>
➔ Displays the Display Format dialogue box from the Setup menu.

↓ … ENTER

<↓> … <ENTER>
➔ Use the arrow key to select the 'MCLib labels' field: enable and disable the option using <ENTER>.
➔ The labels given to each parameter group will be displayed in the parameters screens if this option is enabled.

F8

<F8 {ok}>
➔ Confirms the selection and exits the Display Format dialogue box.

22.8 Recording memories using MCLibs

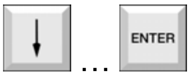
When parameters have been set using MCLib values, they can be recorded into memories. The same methods as recording memories that contain instrument values set manually by the operator are used. The advantage of recording memories using MCLib settings is that the memories are linked to the values stored in each library. Therefore, if the library is changed, the memories linked to it are automatically updated.

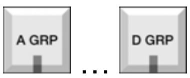
examples of keystrokes

<channel selection>
➔ Select the instrument(s) to be loaded from the library.

A GRP … D GRP

<parameter selection>
➔ Select the parameter group(s) to be loaded from the library.





<mclib> <3> <load>

➔ Loads the settings of the active parameters of the selected instruments from library 3.

<mem> <1> <rec>

➔ Records the contents of the selected field, including any motion parameters, as memory 1.

➔ Memory 1 is automatically linked to motion control library 3.

If MCLib values are loaded into instrument parameters but the parameters are then modified by the operator, the parameter values are no longer part of the loaded library. The new parameter values can be re-recorded as the current library, or recorded as a new library or memory. If the new values are re-recorded as the current library, any memories linked to that library are automatically updated.

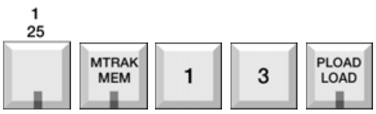
In certain circumstances, it may be that the new position is not required in all the memories. In this case, the link between these memories and the libraries used to create it should be cut before the library is re-recorded.

22.9 Unlinking libraries and memories

The link between a MCLib and a memory can be broken if the memory is not required to be updated when the library is re-recorded.

For example, if memories 1 to 20 use MCLib 1 it is a simple matter to update the library if the instruments need to move to the left and change colour. If memory 13 is not required to change, it should first be loaded into a working field, unlinked from the library and re-recorded. The position and colour information in library 1 can then be changed and re-recorded in the new positions. Memories 1 to 12 and 14 to 20 are automatically updated with the new position and colour, but memory 13 remains unchanged.

examples of keystrokes



<sub1> <mem> <1><3> <load>

➔ Loads memory 13 into submaster 1.

<channel / parameter selection>

➔ Selects the channels and parameters to be unlinked.

<Mclib> <F3 {Cut Link}>

➔ Unlinks the selected parameters (only) of memory 13 from the MCLib(s) used to create it.

<rec> <rec>

➔ Re-records memory 13 unlinked from the libraries.

`<parameter modifications>`

➔ Modify parameter positions.

<Mclib> <1> <rec> <rec>

➔ Re-records the library and automatically updates the remaining linked memories.

Note: either the whole memory or just selected parameters of selected instruments can be unlinked.

23 EFFECT GENERATOR

23.1 Introduction

The Effect Generator is an engine that allows the operator to create effects with moving light instruments, colour changers and generic luminaires. Common effects such as ‘Mexican wave’, ‘Sweeping wave’, ‘Walk the dog’ and ‘Dimmer wave’ can be easily created, and same as Circle, Stepped and Square effects. The Effect Generator can create an effect with instruments having different definitions.

The effect engine works with a “base position”, which is taken as the initial setting for each instrument, and manipulates all or some of the base parameters according to a pattern (a Law). *ISIS®* includes a large number of pre-programmed laws; some are optimized for movement, others are designed for all instrument parameters.

- ➔ The Base values can be from the Output or a dedicated field.
- ➔ The Base values can include both parameters and the intensity of an instrument.
- ➔ The Base values can be static or dynamic.

The principle of creating an effect with the Effect Generator is similar to a normal effect: it is simply a series of steps. The difference is that one cycle of an Effect Generator effect always equals 360 steps. This number of steps is chosen because most effects are based on geometric patterns (having 360 degrees).

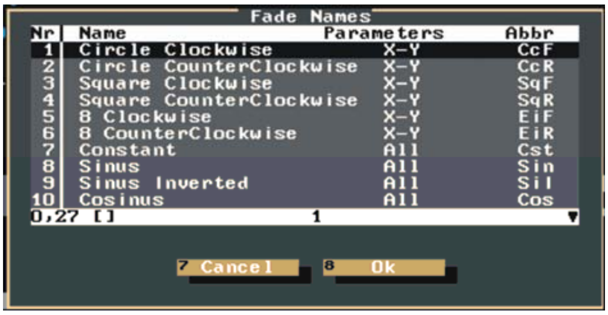
23.2 Effect Generator functions

It is important to understand the various settings and functions available within the Effect Generator. The simplicity of the engine will be obvious once the six basic functions are understood.

23.2.1 Effect Law

The Law is the pattern of the effect, and is a mathematical function. *ISIS®* contains several prepared functions such as circle, square, sawtooth and stepped. To give the operator further possibilities when creating effects, basic patterns such as sine and cosine functions are available.

Some laws only make sense when they are assigned to the pan and the tilt parameters (such as the circle law): *ISIS®* will automatically assign both parameters to such laws. Other laws are designed for use with all parameters. A different law can be applied to each parameter in the effect.



Fade Names

Nr	Name	Parameters	Abbr
1	Circle Clockwise	X-Y	CcF
2	Circle CounterClockwise	X-Y	CcR
3	Square Clockwise	X-Y	SqF
4	Square CounterClockwise	X-Y	SqR
5	8 Clockwise	X-Y	EiF
6	8 CounterClockwise	X-Y	EiR
7	Constant	All	Cst
8	Sinus	All	Sin
9	Sinus Inverted	All	SiI
10	Cosinus	All	Cos

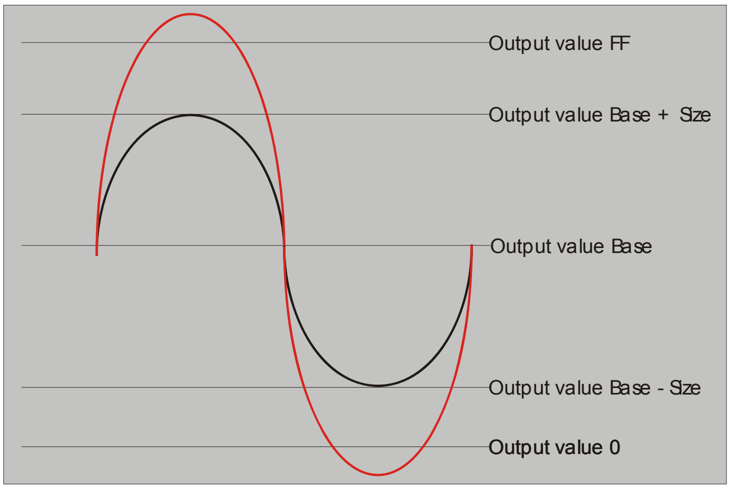
Some of the laws available in the Effects Generator

23.2.2 Effect Size

The Size attribute of an effect controls the minimum and maximum values of the parameters. The Size value is a figure between 0 and 100% for 8-bit parameters and 0 and 9999 for 16-bit parameters. A different size can be applied to each parameter in the effect.

Maximum parameter value	**=**	**Base value**	**+**	**Size value**
Minimum parameter value	**=**	**Base value**	**–**	**Size value**

The diagram below demonstrates the action of the Size value with the case of a sine law.



As an example, suppose that this effect is applied to a conventional dimmer channel. First a Base value must be given to the dimmer: in this case the value is set at 50%. Then the effect must be started.

If the effect is given a Size value of 0, no changes are seen at the Output; the Output remains at 50%. As soon as Size value is changed, the Output will change and will follow the sine law. The maximum value seen at the Output is the Base value plus the Size value, the minimum value is the Base value minus the size value: this is the black sine wave in the diagram above.

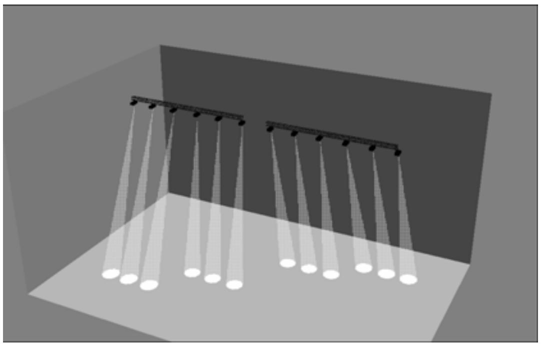
If the Size value exceeds 50, the Output value will remain at an intensity of FF (100%) or O% for a certain duration of the effect: this is the red sine wave in the diagram. This is easy to understand, as the Base value plus the Size value is now exceeding the 100% and 0% limits of the parameter.

- ➔ If the Size value is zero, no change will be seen at the Output.
- ➔ If the Size value is too large, the parameter value seen at the Output will become clipped when the effect is running. This is because the values generated by the effect cannot physically exceed the maximum and minimum values of the instrument's parameter.

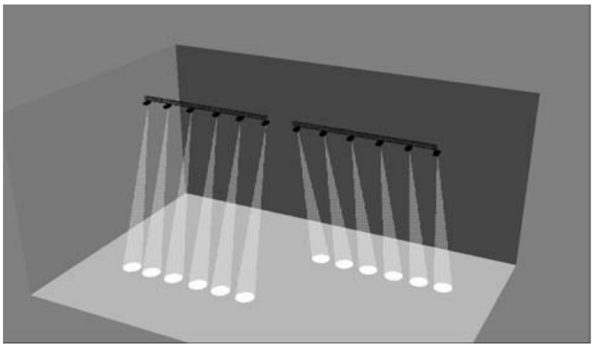
23.2.3 Effect Group

The Group value forces a number of instruments to behave identically. The value of the Group function can be set between 1 and the total number of instruments in the effect.

For example, a Group value of 3 will force three consecutive instruments to behave identically. The pictures below demonstrate in a visual way the action of the Group function on a 'Mexican wave' effect applied to 12 instruments. If the Group value had been set to 8, the result would be one line of 8 spots and one line of 4 spots.



Group value: 3



Group value: 6

23.2.4 Effect Speed

The Speed value controls the running speed of the effect. It can be a value between 0 and 9999. The speed setting is applied so that a value of 100 produces a cycle of 360 steps in one second.

- ➔ Decreasing the Speed value will slow down the effect.
- ➔ Increasing the Speed value will speed up the effect.

For example, a value of 70 will give a cycle of 360 steps in 100/70 = 1.42 seconds. A value of 345 will give a cycle in 100/345 = 0.29 seconds.

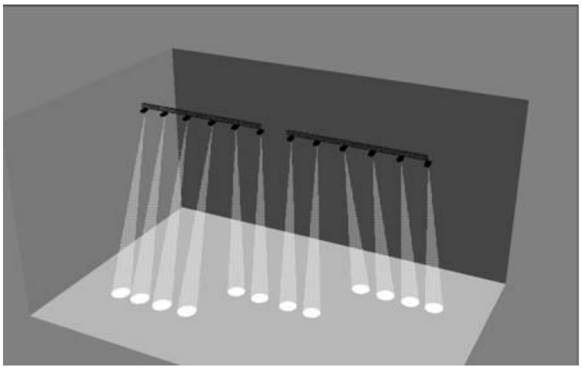
23.2.5 Effect Delay

The notion of ‘delay’ requires a time element and a reference element (B comes later than A). To use the Delay function in the Effect Generator, there must therefore be a minimum of two instruments (or instrument groups). The Delay function then defines the relative start position between these successive instruments.

In this case, one instrument becomes the reference point for the following instrument. The Delay function will change the start position (time point of the law) of an instrument relative to the previous instrument. In effect, this is putting a delay between each instrument.

The value of the Delay function can be set between –360 and +360. As one cycle of the effect engine is always 360 steps, the delay value can be set anywhere between 1 cycle ahead (+360) and 1 cycle behind (-360).

As an example, imagine 12 instruments with a Group value of 4. The first 4 instruments are the reference: the Delay function changes the start position of the other instruments. If a Delay value of 60 is given, then the first four instruments are at step 0, the next four instruments are at step 60, the last four instruments at step 120.

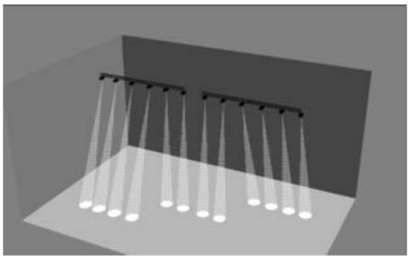


Delay value 60 applied to 12 instruments with a Group value of 4.

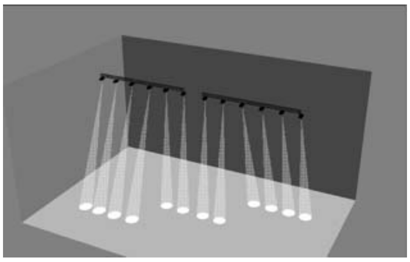
23.2.6 Effect Phase

The Phase function allows the starting point of the law to be moved, thus starting the effect at a different point. A Phase value will not affect the any assigned Delay value: any delayed instruments will keep their relative positions.

The value of the Phase function can be set between -360 and +360. As one cycle of the effect engine is always 360 steps, the phase value can be used to set the starting point of the law anywhere between 1 cycle ahead (+360) and 1 cycle behind (-360).



Phase value 0 – the 12 instruments as they were last used.



Phase value 60 – all instruments are moved to a different point of the law

23.3 Creating an effect with the Effect Generator

Creating an effect with the Effect Generator is similar to a creating a standard effect, although the instrument parameters and laws must also be selected by the operator. If a dedicated Base value is required, this must be set in addition.

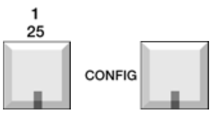
23.3.1 Selecting the Base of the effect

Before creating an effect with the Effect Generator, it is important to define the Base of the effect. The effect will be superimposed on the Base values: *ISIS*® provides the choice between an 'Output' and a 'Dedicated' Base.

- ➔ The current values seen at the desk Output can be the Base: this is the Output Base.
- ➔ The values contained within a working field can be the Base: this is a Dedicated Base.

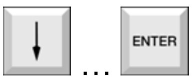
By default, the Effect Generator uses the Output Base option. If a Dedicated Base is required, this is set in the submaster that contains the effect. The following is an example of defining a Dedicated Base.

example of keystrokes



<SUB 1> <CONFIG>

➔ Displays the Configuration dialogue box for submaster 1.



<↓> … <ENTER>

➔ Use the down arrow to select the ***<u>'Connect to register'</u>*** option and <ENTER> to display the list of fields.

WHEEL <ENTER>

➔ Use the wheel and <ENTER> to select the working field required for the effect's Base.

<F8 {ok}>

➔ Confirm the selection and exit the Submaster Configuration dialogue box.

Linking the effect in submaster 1 to a dedicated base in submaster2.

23.3.2 Creating the effect

All effects can only be created in a submaster field. Initially the Effect Generator uses the same method as creating a standard effect: create an empty effect first, then select the instruments , afterwards select the required parameters and laws.

example of keystrokes

<Submaster selection> <EFFECT> <F4 {NEW gen}>

➔ A new effect is loaded into submaster 1; the effect is automatically assigned the next available number.

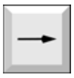
<1><1> <THRU> <2><2> <Enter>

➔ Instruments 11 through 22 are added to the effect.

Instruments 11 to 22 are loaded into the effect

Next the required instrument parameters must be selected. The effect to be created in this example acts on the Tilt parameter of the moving light instruments.

example of keystrokes



<→>

➔ Use the arrow key to move to the parameter column.

<F5 {PrmSel}> Wheel ... <F8 {ok}>

➔ Use the wheel to highlight the required parameter (Tilt in this example) and confirm the selection.

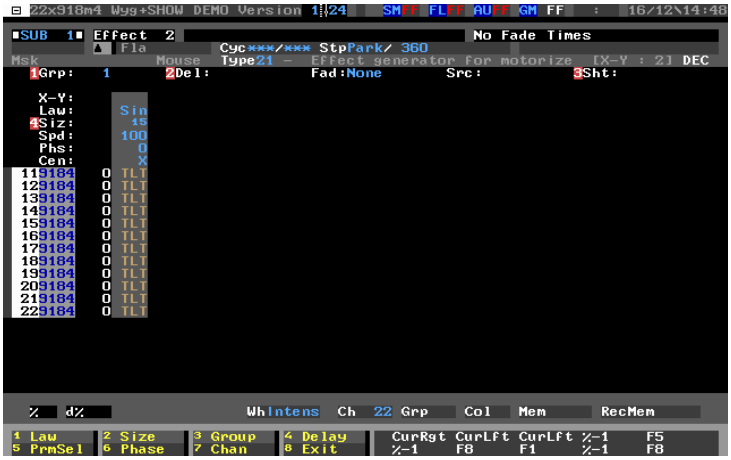
Note: do not forget to select the parameter column before selecting the parameter. The column is not selected automatically.

The required pattern must now be assigned to the selected parameter. In this example, a sine law is selected to create a sweeping wave movement.

example of keystrokes

<F1 {Law}> Wheel ... <F8{ok}>

➔ Use the wheel to highlight the required law (Sine in this example), and confirm the selection.



Sine law allocated to the Tilt parameters

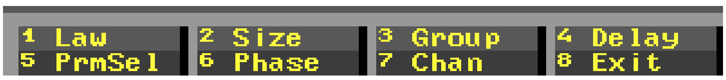
The effect can now be run, and will be superimposed on the Base (submaster 2 in this example).

Note: Selecting the parameter and Law can also be performed using the LCD touchscreen.

23.3.3 Running the effect and adjusting effect functions

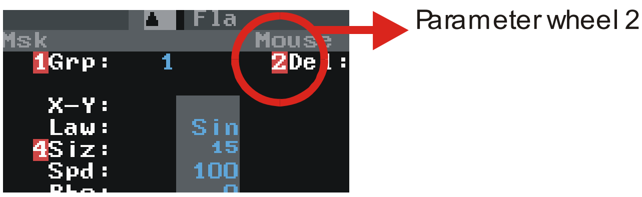
The Effect Generator functions described in section 23.2 above, can be used to modify the appearance of the effect. Access to these functions depends on the hardware platform.

When working in the Effect Generator screen, the effect functions are pasted to the function keys. Selecting the Size, Group, Delay or Phase function assigns that function to the wheel. The effect's speed is connected to the wheel by using the effect <SPEED> button.



Effect Generator function key assignments

On hardware platforms that include encoder wheels, these functions are connected to the parameter wheels as soon as the effect is created. The Effect Generator screen indicates which function is connected to which parameter wheel. It is possible to scroll through all the functions connected to the parameter wheels by using the <PG+> and <PG-> keys.



On-screen indication of encoder wheel assignments

Note: the Effect Generator functions can also be assigned to the wheel by using the LCD touchscreen in Dynamic mode.

example of keystrokes

<SUB 1 Flashkey>

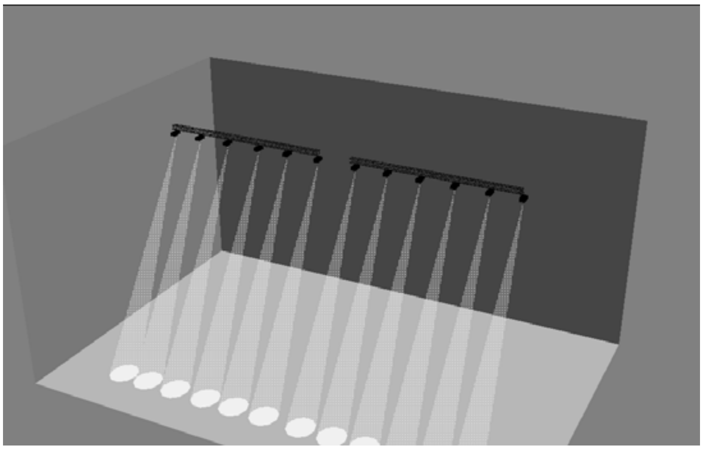
➔ The effect is started and superimposed on the Base values.

The effect is running, but almost no change can be seen at the Output. The default Size value is small and needs to be increased.

example of keystrokes

<F2 {Size}> Wheel

➔ Increases the size of the effect.



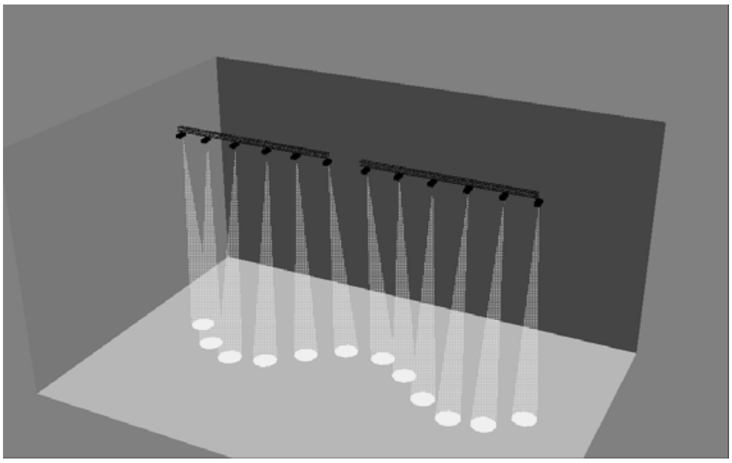
All instruments move from front to back (sweeping).

If a Delay value is now added, the movement will become a wave.

example of keystrokes

<F4 {delay}> Wheel

➔ Sets a Delay value in the effect.



Wave effect

The effect is now ready and can be recorded. Recording and loading an effect created with the Effect Generator is the same as for conventional effects.

23.4 Adding and deleting a parameter step in the same effect

ISIS® allows more than one parameter to be controlled in the same effect. One of the best-known examples is a circle movement: for a circle it is necessary to control both pan and tilt. If a law needs two parameters, *ISIS®* will automatically select those parameters.

23.4.1 Adding a parameter step

If the effect uses a Dedicated Base, first of all, it is necessary to set a value for the parameter to be added in the Base field. The new parameter is then added to the effect using the <ADD STEP> key.

As an example, the colour parameter could be added to the effect created in the section above. In this case, the effect is linked to the Dedicated Base of submaster 2: the base colour must therefore be set in this submaster. Once this is done, the colour parameter can be added to the effect.

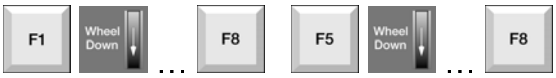
example of keystrokes

<1><1> <Thru> <2><2> <Enter> <Add step>

➔ A new parameter is added to the effect for the selected instruments.

The new step must then be given a parameter and a law. In this example, a Square Wave law will be used on the colour parameter.

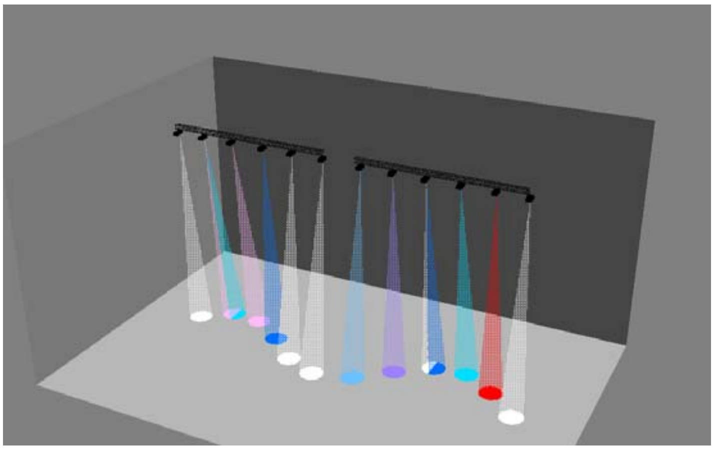
example of keystrokes



<F1 {parsel}> Wheel ... <F8 {ok}>   <F5 {patr}> Wheel ... <F8 {ok}>

➔ Selects the parameter and law added (the colour wheel parameter and a Square Wave law in this example).

The next step is to fine-tune the added parameter using the Effect Generator functions described above.



An effect on the colour wheel parameter is added to the wave effect.

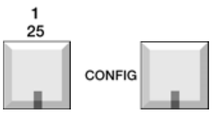
23.5 Special tools

ISIS® also includes some extra control functions for the Effect Generator.

23.5.1 Fader effect control

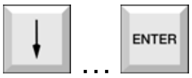
The fader of the submaster containing the effect will not have any action by default: intensities are controlled by the field containing the Base of the effect. Other configurations of this fader are possible – it can be used to control the speed, size, or speed & size of the effect.

example of keystrokes



<SUB 1> <CONFIG>

➔ Displays the Configuration dialogue box for submaster 1.



<↓> … <ENTER>
➔ Use the down arrow to select the 'Effect control' option and <ENTER> to display the list of fields.

WHEEL <ENTER>
➔ Use the wheel and <ENTER> to select the required fader option.

<F8 {ok}>
➔ Confirm the selection and exit the Submaster Configuration dialogue box.

23.5.2 Base position

This function allows the operator to move the path taken by the effect relative to the Base position.
By default, the Base position is the central point of the effect path. This can have the disadvantage, when the effect is started, of moving the parameter from the Base point of the effect to the starting point of the law. In some cases, this first movement (from Base position to the law starting point) is unacceptable; setting the Base to be a point on the path of the effect avoids this movement.

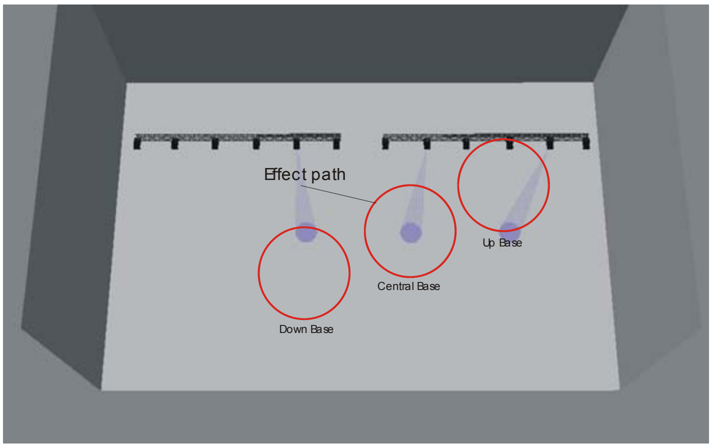
There are three possibilities for the base position:

- ➔ X-Up will set the base on the path of the effect (up-point of the effect);
- ➔ X-Down will set the base on the path of the effect (down-point of the effect);
- ➔ X-Centre will set the base to the central point of the path of the effect.

example of keystrokes

While staying in the Effect Engine

<F7 {chan}> <F1 {X UP}>
➔ Moves the base point to the 'up point of the effect'.

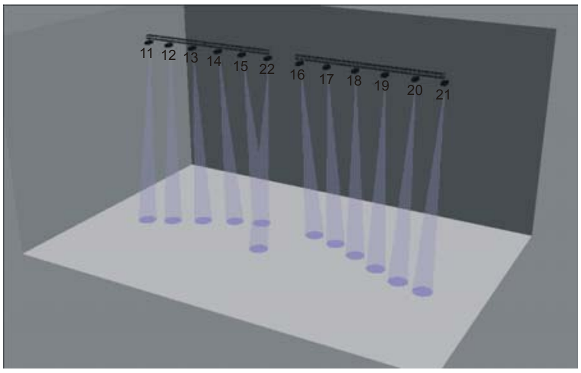


Different base positions, relative to a circular movement

23.5.3 Instrument order

This function allows the operator to define the order of the instruments in the effect.

The effect law and other Effect Generator functions are applied to the instruments in the order they were entered. This may give an incorrect effect if the instruments are not entered in sequence. To correct this, the instrument order can be changed.



An inaccurate wave – due to non-consecutive instrument channel numbers in the lighting rig

The pictures above show an inaccurate wave movement. This has occurred because the instruments have not been assigned consecutive channel numbers along the lighting bar, but the effect has been created with successive channel numbers.

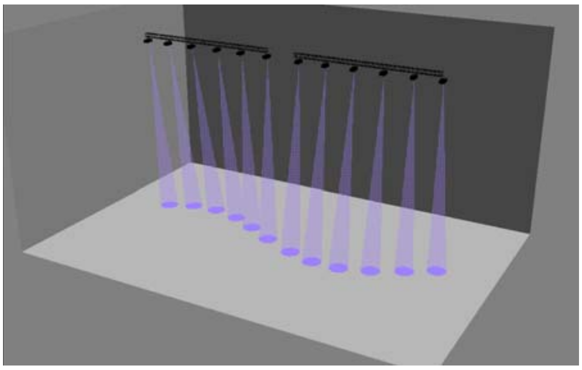
The instruments are ordered from channel 11 to channel 22. The effect will follow this order and cause the inaccurate wave. To correct this, instrument 22 must be moved between instrument 15 and 16 on the Effect Generator's channel list.

example of keystrokes
While staying in the Effect Engine

2 2 F7 F6 …

<2><2> <F7 {chan}> <F6 {CH UP}>
➔ Moves instrument 22 up in the list of channels.

The pictures below show the modified effect, which is now running accurately. The order of the instruments is important for effects created with the effect engine.



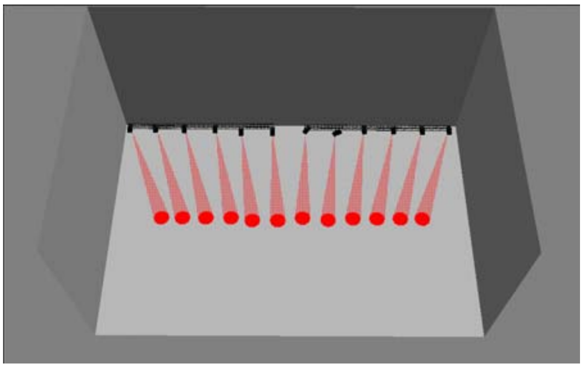
An accurate wave – channel numbers in the Effect Generator have been reordered to match the instruments

Note: The Channel Down function <F7 {CH DN}> moves the selected channel down in the channel list.

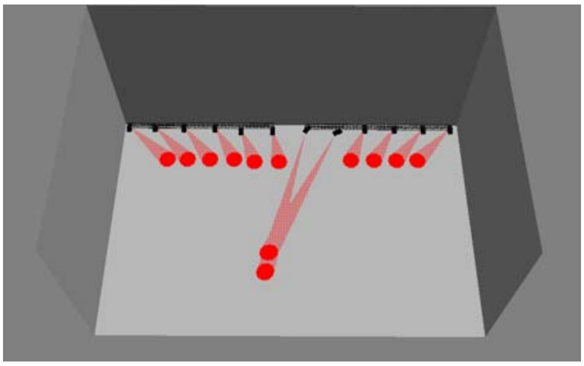
23.5.4 Rotation

The Rotation function will modify the path of an instrument when an effect is running. It can be used to correct the path of an instrument that has been hung at a different angle to other instruments in the effect. The rotation value can be set between +360 and -360.

The pictures below illustrate a problem encountered when running a sweeping wave effect. The Base position is correct, but two of the instruments do not follow the effect path when the effect is started. This is because they have been hung at an angle relative to the other instruments.



The Base value of an effect.



A running Sweeping Wave effect

With *ISIS®* it is not necessary to re-hang the two instruments so that they are aligned with the other instruments. The Rotation function can be used to modify the path of those two instruments when they are moving in an effect.

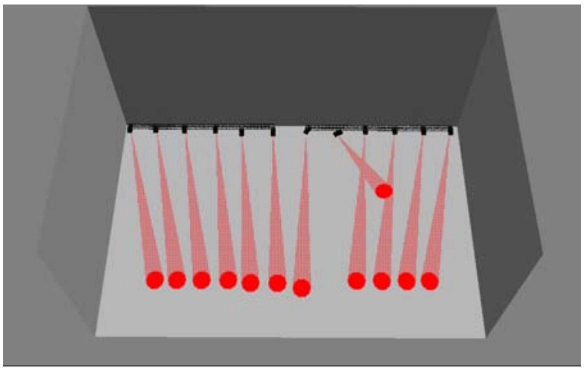
To perform a rotation, both Pan and Tilt parameters are required. If the Effect Generator has been used to create an effect with only Pan, the Tilt parameter must be added to the effect with a Constant law (and vice versa).

The Rotation function should be used while the effect is running, in order to visualise the correction being made. The Rotation value will only modify the path of an instrument whilst it is moving.

example of keystrokes

While staying in the Effect Engine

<1><7> <F7 {chan}> <F4 {rot}> wheel
➔ Selects channel 17 and assigns the Rotation function to the wheel.
➔ The instrument can be rotated until it matches other instruments.



Using the Rotation function on channel 17 corrects the instrument path – channel 18 now needs rotating.

➔ The effect must contain Pan and Tilt parameters for a Rotation to be made.

➔ The Rotation function only modifies the path of an instrument whilst it is moving.

23.5.5 Shifting

The Shifting function allows a positive step action to run through the effect. The effect performs one cycle on the number of instruments 'shifted' at any one time; the other instruments remain in a static position until it is their turn to be part of the effect. The static value is not the base value, but the first step of the effect.

If 12 instruments have been given a Shifting value of 4, the first four instruments perform one cycle of the effect, the remaining instruments are static. When the first four instruments stop, the next four will start their cycle.

The Shifting value can be set between 1 and the total number of instruments (or groups) in the effect.

24 MACROS & LEARN PROFILES

24.1 Introduction

A macro is a user-programmable shortcut used to perform a repetitive function or series of commands. Macros can be used to quickly perform a sequence of actions that are frequently used by the operator. Where the command would normally take many keystrokes, the macro allows the command to be carried out from a single key.

Macros can be run from the control desk using the dedicated macro keys, directly from the keypad, or they may be assigned to a specific key on the desk's surface. Macros can also be triggered by the external lines of the desk.

Macros can be part of an Event in the Sequence, and therefore activated manually or automatically from the playback. More information on inserting a macro event into the sequence is given in the chapter 16 *Sequence Manager & Events*.

Note: the numbers of the Macros Key vary from different platforms: for MENTOR series, by pressing SHIFT, the presnet Marco keys change from M1-M10 to M11-M20 and by pressing ALT, you can gain another 10 Macros keys (21-30). For PHOENIX series, by pressing SHIFT, the present Marcro keys change to M6-M10. For MENTOR series, the Macro KEY is **MCR**. The examples used in this chapter are made from PHOENIX.

24.2 Programming a macro in live mode

ISIS® allows the operator to record macro keystrokes in real-time operation, allowing the desk to be used normally whilst the macro is created. This is an extremely simple way of recording necessary keystrokes as a macro, as the operator simply uses the desk as normal.

At the end of the recording process, the next available macro number is assigned to the macro. This number is also displayed on-screen whilst the macro is recorded, and confirmed when recording is stopped.

example of keystrokes

<Alt + Macro>
➔ Starts the recording of a new macro.

<keys & desk actions>
➔ Perform the required operations, in real-time.

<Shift + Macro>
➔ Stops the macro recording.

At the end of the recording, the next available macro number is automatically allocated. This number can be changed if required in the Macro Manager. The macro number used is displayed at the top of monitor 1 during the recording process, and confirmed in the messages window when recording is completed.

Note: it is not possible to record a macro in live mode whilst another macro is already running.

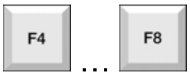
24.3 Programming a macro in blind mode

Macros can also be created in the Macro Manager. Any actions recorded using this method are not performed live by the desk, which can have advantage in some situations.

examples of keystrokes

<menu> <F5 {tools}> <F1 {macros}> <F1 {manager}>

➔ Enters the Macro Manager from the Tools menu.



<F4 {new}> … <F8 {OK}>

➔ Enter a macro number for the new macro. The next available number is automatically selected.

<F5 {content}>

➔ Displays the content of the selected macro; this will be empty for a new macro.

<F2 {add}>

➔ Once this key has been pressed, all further keystrokes are added to the macro.

<keys & DESK ACTIONS>

➔ The keystrokes and fader movements required in the macro must be made, in the correct order.

➔ During macro recording, keys have no effect other than appearing in the macro editing screen.

<shift + macro {Stop rec}>
OR ! on the alphanumeric keyboard
- ➔ Stops recording the keystrokes in the macro.
- ➔ After this key is pressed, all keys return to their original functions and are consequently live.

<F8 {ok}> <F8 {ok}>
- ➔ Exits the macro detail screen and the Macro Manager.

TIP! To create a macro in this way that has numerous functions, it is a good idea to write down the required keystrokes before entering the macro manager. More complex macros can be built with the integration of previously recorded macros.

24.4 Running a macro

A macro can be run from its associated macro key (available on most hardware platforms), directly from the keypad, or via the LCD touchscreen.

examples of keystrokes

<M1>
- ➔ Activates macro 1.

<Macro> <9><9> <ENTER>
- ➔ Activates macro 99.

Alternatively the macro can be built into an Event and executed from the playbacks, as explained in the chapter 16 *Sequence Manager & Events*.

24.5 Direct Load of a macro

It is possible to display the list of Macros on a monitor – but this information is not normally required all of the time: it would be far better to use the monitor for other purposes.

ISIS® offers a direct load function, which temporarily displays a list of existing macros and provides instant execution of the highlighted macro.

examples of keystrokes

<MACRO> <MACRO >
➔ Displays the list of existing macros, together with their titles.

OR 

WHEEL **OR** <↓>
➔ Highlight the required macro.

<ENTER>
➔ Directly runs the selected macro.

Note: as a precaution, the direct load function is disabled when out of context.

24.6 Editing the contents of an existing macro

If an existing macro needs to be changed or corrected, it can be edited from the Macro Creation dialogue box*280*. The methods for editing a macro are the same as creating a blind macro.

examples of keystrokes

<Menu> <F5 {Tools}> <F1 {Macros}> <F1 {manager}>
➔ Enters the Macro Manager from the Tools menu.

OR 

Wheel **or** <↓>
Or use alphanumeric keyboard directly
➔ Use the wheel or the arrow key to select a macro for editing.
➔ The macro number can be entered directly from the keyboard.

<F5 {content}>
➔ Display the content of the selected macro.

OR 

Wheel or <↓>
- ➔ Use the wheel or arrow keys to move the cursor to the correct place in the macro for editing the keystrokes.

<F3 {Delete}>
- ➔ Deletes the selected keystroke. Use this function as often as required.

<F1 {insert}>
- ➔ Once this key is pressed, new keystrokes are added to the macro at the point highlighted by the cursor.

<Shift + Macro {Stop rec}>
- ➔ Stop inserting keystrokes into the macro. The Stop Recording function is available on the alphanumeric keyboard as <!>.
- ➔ After this key is pressed, all keys return to their original functions and are consequently live.

<F2 {Add}>
- ➔ Adds all further keystrokes to the end of the macro, until the Stop Recording function is used.

<F4 {DelAll}>
- ➔ Deletes all recorded keystrokes in the macro.

<F5 {MidiOut}>
- ➔ Inserts a MIDI event into the macro at the current cursor position.

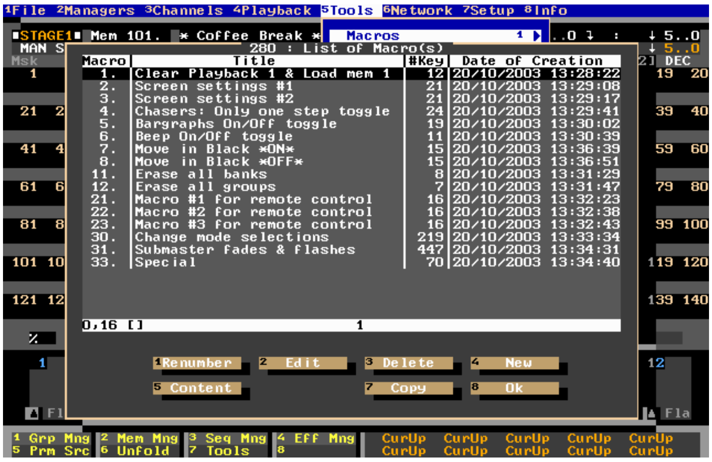
<F8 {ok}>
➔ Exit the macro editing screen.

24.7 The Macro Manager

The Macro Manager allows macros to be viewed, named, edited, copied, deleted and re-numbered. The manager is accessed from the Tools menu.

examples of keystrokes

<Menu> <F5 {Tools}> <F1 {Macros}> <F1 {Manager}>
➔ Enters the Macro Manager: initially a list of recorded macros is displayed.



*Macro Manager (Dialogue box*280*)*

24.7.1 Naming macros in the Macro Manager (Title)

A title can be added to each macro for ease of identification in the manager and in the macro list.

examples of keystrokes

OR


wheel **or** <↓>
OR use alphanumeric keyboard directly
➔ In the Macro manager, use the wheel or the down arrow to highlight the macro to be edited.
➔ The number can be entered directly from the keyboard.

<F2 {EDIT}>
➔ Selects the edit facility: the title can be added using the alphanumeric keyboard.

<F8 {ok}
➔ Confirms the changes and exits the dialogue box.

The Macro Header dialogue box contains all information about the macro, but only the title can be edited in this way.

24.7.2 Copying macros in the Macro Manager

Macros can be copied in the Macro Manager. The advantage of this method over the <COPY> function is that the macro list is automatically displayed, and a delta function can be used so that lists of macros do not have to increment in steps of one.

examples of keystrokes

OR

...


wheel **or** <↓> …<Enter>
➔ In the Macro Manager, use the wheel or the down arrow to highlight a macro to be copied.
➔ Use <ENTER> to select a list of macros for copying.

<F7 {copy}>
➔ Enter the new number into the “Target” box.
➔ If more than one macro is being copied, a delta offset can also be entered.

<F8 {ok}>
➔ Confirms the copy operation.

24.7.3 Deleting macros in the Macro Manager

If a macro (or list of macros) is no longer required, it can be permanently deleted. Deleted macros CANNOT be recovered.

examples of keystrokes

OR ...

wheel **or** <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ In the Macro Manager, use the wheel or the down arrow to highlight a macro to be deleted, or enter a number directly using the keyboard.
➔ Use <ENTER> to select a list of macros for deletion.

<F3 {delete}>
➔ Selects the delete function.

A warning is issued
➔ A warning is given: Delete element(s) - Are you sure?

<F8 {ok}>
➔ Confirms the selection and deletes the macro(s).

24.7.4 Re-numbering macros in the Macro Manager

Just like memories and groups, macros can be re-numbered if they have been created out of numerical sequence, or other macros have been deleted.

examples of keystrokes

OR ...

wheel **or** <↓>…<Enter>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ In the Macro Manager, use the wheel or the down arrow to highlight a macro to be renumbered, or enter a number directly using the keyboard.
➔ Use <ENTER> to select a list of macros for renumbering.

<F1 {Renumber}>
➔ Enter the new number into the “Target” box.
➔ If more than one effect is being renumbered, a delta offset can also be entered.

<F8 {ok}>
➔ Confirms the renumbering operation.

24.8 Assigning macros or functions to a key

It can be useful to assign macros to unused keys on the desk, or to add a macro function to a default key action. In a similar way, functions of the *ISIS®* software can be assigned to a different key on the desk, for example if the hardware platform does not have a direct access key for a specific function.

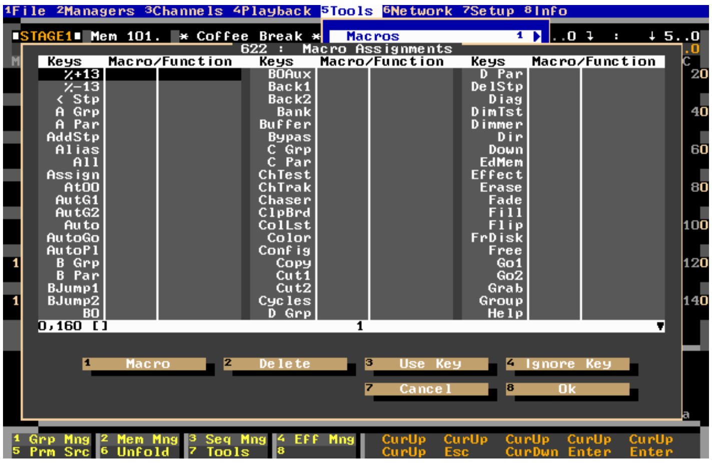
For example, on some hardware platforms, there is a key for dimmer diagnostics. If the installation does not include the correct dimmers or software, this function cannot be used, so this key could be programmed with a macro or another *ISIS®* function. If no moving lights are used, any of the motion control function keys can be used in this way.

24.8.1 Macro assign

Each macro can be assigned to almost any available key on the desk. The macro can replace the default key function or it can be run after the default key function. One keystroke can thus start two actions: the default action and then the macro.

example of keystrokes

<Menu> <F5 {Tools}> <F1 {Macros}> <F2 {Assign}> <F1 {keys}>
➔ Opens the Macro Assign dialogue box*622*.



*Macro Assignments (Dialogue box *622*)*

OR


wheel or <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY

➔ Use the wheel or the down arrow to highlight a key, or type a command directly using the keyboard.

N°


<F1 {macro}> <Macro#> <F8 {ok}>

➔ Assigns a specific macro to the selected key: see note below.

OR


<F3 {use key}> or <F4 {ignore key}>

➔ These options can be used to select whether the macro is added to the key's original function, or if the original function is to be ignored and only the assigned macro executed.

<F8 {ok}>

➔ Exits the macro assignment facility.

Once the macro assignment has been made, pressing the key will activate the macro.

Note: keys for all hardware platforms are shown in this dialogue box. Please check that the chosen key actually exists on the hardware platform in use.

24.8.2 Function assign

Almost any key on the desk can be assigned to any available *ISIS®* function. This gives the operator the freedom to build up their own user interface. For example, the 'Link' function could be assigned to one of the other available keys.

All software functions are available in all hardware platforms, but smaller desks have less physical keys. The Function Assignment facility allows any of the *ISIS®* software functions to be associated with any of the physical keys. The assignment is made in the Setup options of the menu.

example of keystrokes

<Menu> <F7 {Setup}> <F3 {Keys Function}>

➔ Displays the Key Function Assignments dialogue box.

OR


wheel or <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Use the wheel or the down arrow to highlight a key, or type a command directly using the keyboard.

OR


<F1 {function}> wheel or <↓>
OR USE ALPHANUMERIC KEYBOARD DIRECTLY
➔ Displays the *ISIS*® functions. Use the wheel or the down arrow to highlight a function, or type a command directly using the keyboard.

<F8 {ok}> <F8 {ok}>
➔ Exits the Function Assignment facility.

If a key is reprogrammed with a different function, it LOSES ITS ORIGINAL FUNCTION - so it is important to not to reprogram any crucial keys!

24.8.3 Returning a key to its original function

A key that has been assigned a macro or alternate *ISIS*® function can have its original function restored, if required. The same dialogue boxes used to assign the macro or function to the key is used to remove it.

examples of keystrokes

<menu> <F5 {Tools}> <F1 {Macros}> <F2 {Assign}> <F1 {Keys}>

➔ Opens the Macro Assign dialogue box.

OR

<Menu> <F7 {Setup}> <F3 {Keys Function}>

➔ Displays the Key Function Assignments dialogue box.

OR


wheel or <↓>

OR USE ALPHANUMERIC KEYBOARD DIRECTLY

➔ Use the wheel or the down arrow to highlight a key or type a command directly using the keyboard.

<F2 {Delete}>

➔ Restores the original function to the selected key.

<F8 {ok}>

➔ Confirms the operation and exits the dialogue box.

24.9 Assigning a macro to an external line

The external lines provide a facility where simple analogue switches can be used to trigger pre-programmed macros. For example, a switch could be used to enable the stage manager to call up a working light state from the prompt corner, without even touching the lighting control desk.

Whenever the external switch contact closes or opens, it can trigger a macro. The required macro must be assigned to the correct external line and also enabled within the General Configuration dialogue.

As the setup allows the external lines to be disabled through the software, the switches can remain physically connected even when not in use.

examples of keystrokes

<Menu> <F5 {Tools}> <F1 {Macro}><F2 {Assign}> <F2 {External Lines}>
➔ Enters the External Lines dialogue box.

OR


wheel or <↓>
➔ Use the wheel or the down arrow to highlight an external line.
➔ A macro can be assigned to both the closing (make) and opening (break) operation of each switch.

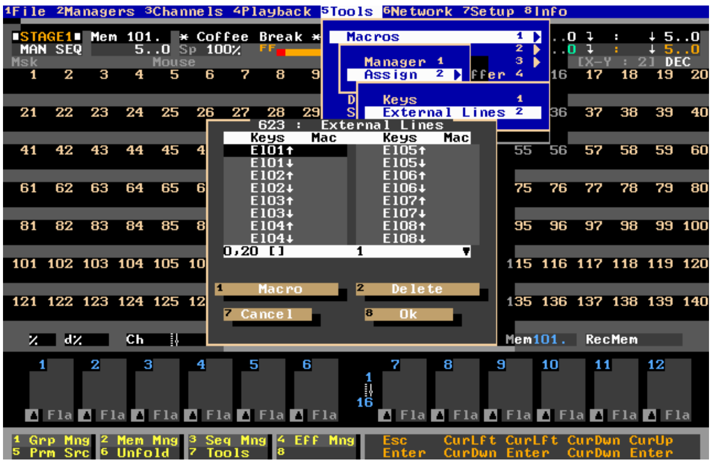
N°


<F1 {Macro}> <Macro#> <F8 {ok}>
➔ Assigns an existing macro to the selected external line.

<F8 {ok}>
➔ Confirms the external line assignment and exits the External Lines dialogue.

Note: a macro can be assigned to both the closing and the opening of a switch connected to each external line. For this reason, the External Line dialogue box has two entries for each external line.

The closing (make) event for each external line is illustrated with a down arrow: 01↓
The opening (break) event for each external line is illustrated with an up arrow: 01↑



*External Lines dialogue (Dialogue box *623*)*

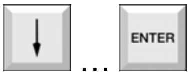
24.9.1 Enabling the external lines

Before the external lines can be used to trigger a macro, they must be enabled in the General Configuration dialogue box. Because the setup allows external lines to be disabled through the software, the remote switches can safely remain physically connected when not in use. When the external lines are disabled, pressing the associated switch will not run the assigned macro.

examples of keystrokes

<menu> <F7 {setup}> <F6 {general}>

➔ The General Configuration dialogue box gives access to all input options.



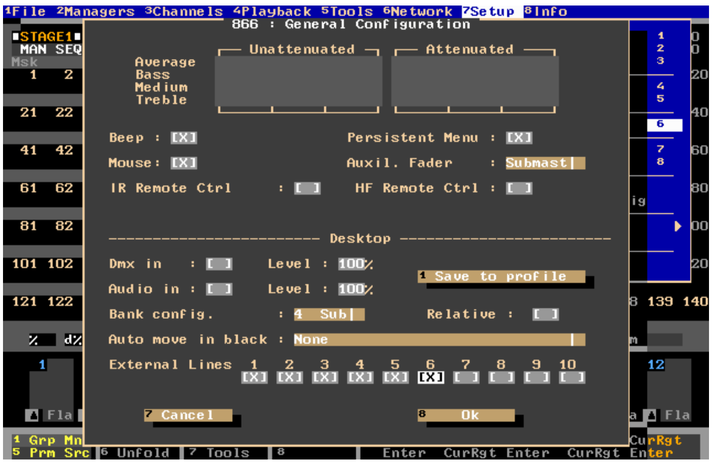
<↓> ... <enter>

➔ Move the cursor to the required external line input. Check the box with <ENTER> to enable the selected external line.

<F8 {ok}>

➔ Exit the General Configuration dialogue box.

When the external lines are enabled in this way, the macros assigned to any line will be triggered each time the switch connected to it is opened or closed.



*General Configuration dialogue with selected external lines enabled (Dialogue box*866*)*

24.10 Learn Profile

Sometimes it is not possible to create a crossfade or other action with the standard tools. *ISIS®* solves this problem with the Learn Profile function. This is the ideal function for creating artistic crossfades or other measured actions.

The Learn Profile function tracks time information as a macro is recorded in live mode. It gives the operator the opportunity to create timed macros using all functional possibilities of the desk.

24.10.1 Creating a Learn Profile

The Learn Profile function is automatically activated when a macro is recorded in live mode, and registers the time taken between each recorded action. This allows macros to be replayed with reference to the times taken to program the original macro. All functions on the desk can be used in the recording of a macro in live mode; hence the levels of faders and their movement profiles can be recorded and replayed.

Recording of the times starts when the first action is performed on the desk. Providing the recording is not stopped, all manipulations will be recorded in real time.

24.10.2 Using a Learn Profile

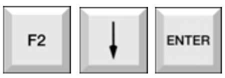
By default, the time information stored with a live macro is ignored on playback, and must be enabled in the Macro Manager.

example of keystrokes

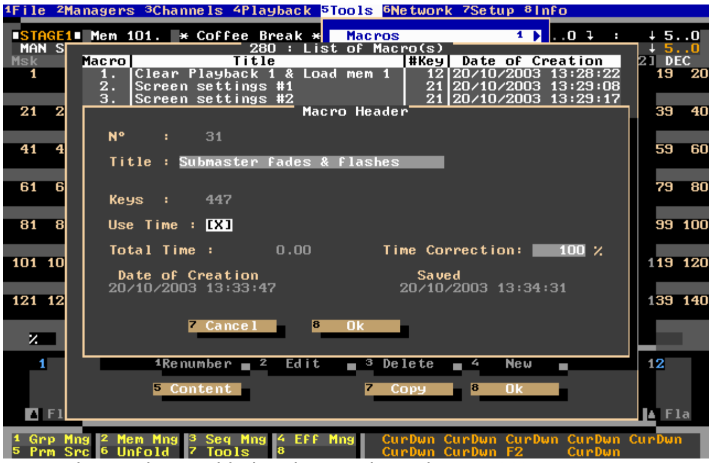
<Menu> <F5 {Tools}> <F1 {Macro}> <F1 {Manager}>
➔ Opens the Macro Manager.

OR


wheel or <↓>
➔ Use the wheel or the down arrow to highlight the required macro.



<F2> <↓> <enter>
➔ Enable the ‘Use Time’ option within the macro header dialogue box.



Macro time option enabled and correction value at 100%

A time correction value can also be set, allowing the operator to compress (increase %) or expand (decrease %) the global running time of the selected macro.

<↓>
➔ Move the highlight to the 'Time Correction' option.

use the keypad directly <enter>

<F8 {ok}> <F8 {ok}>
➔ Exits the Macro Manager.

24.10.3 Stopping a running Learn Profile

Macros that have been enabled with a Learn Profile can be stopped in the same way as normal macros.

example of keystrokes

<Shift + Macro>
➔ Stops all running macros and Learn Profiles.

Note: creating a new Macro in live mode is not possible whilst another macro is running.

24.10.4 Using a Learn Profile in the playback

A macro that has been enabled with a specific Learn Profile can be included in the playback Sequence in the same way as a normal macro, by way of an event. Please refer to the chapter 16 *Sequence Manager and Events* for further details.

Note: when recording a macro with Learn Profile, only keystrokes are recorded; the actual contents of the working fields are not recorded, unless the keystrokes include the related actions.

24.10.5 Modifying the content and times of a Learn Profile

Since the Learn Profile function is based upon the contents of a macro recorded in live mode, the content can be edited in the same way; each part of the macro can be modified, added or deleted. In addition, each action in the macro can be set to ignore the time recorded with it.

Modifications are made in the Macro Manager.

example of keystrokes

<menu> <F5 {tools}> <F1 {macros}> <F1 {manager}>

➔ Enters the Macro Manager from the Tools menu.

OR


Wheel or <↓>

Or use alphanumeric keyboard directly

➔ Use the wheel or the arrow key to select a macro for editing.

<F5 {content}>

➔ Display the content of the selected macro.

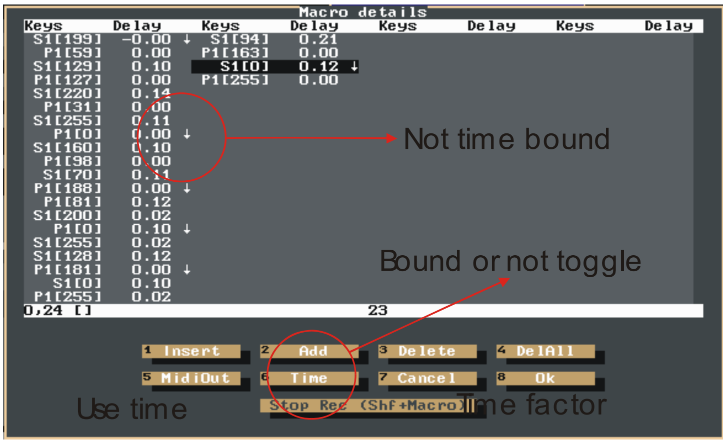
OR


Wheel or <↓>

➔ Use the wheel or the arrow key to select the required macro action to be modified.

<F6 {Time}>

- ➔ Toggles the time component on and off.
- ➔ A down arrow (↓) next to the action means that it is not time bound (time information is ignored).



Time bound function in a Learn Profile macro

<F8 {ok}> <F8 {ok}>

- ➔ Exits the Macro Manager.

25 SPECIAL CHANNEL NUMBERING

25.1 Introduction

Special channel numbering is a facility that allows non-consecutive channel numbers to be used in *ISIS*®. This can help with identification of different parts of the rig, as groups of similar luminaires can be given numbers within specific ranges, or a geographic mimic of the rig created.

Any channel, or list of channels, can be re-numbered to ease identification. The only restriction is that there can be no duplicated numbers. Once channels have been renumbered, the operator needs only use their chosen numbers; all references between old and new numbers the system are invisible to the user.

For example, if a lighting bar is physically numbered right to left, special channel numbering allows it to be re-numbered left to right. Alternatively, the operator may wish to skip some numbers or re-arrange them.
Perhaps no channels between 201 to 800 are being used, in which case channels 801 upwards could be re-numbered from 201 onwards. In this case, channels 201 to 800 would first have to be re-numbered with higher numbers to put them out of range, so that there is no clash between the original 201 to 800 and the newly re-numbered 201 upwards.

➔ When channels are renumbered, it is only the identification of the channel that is changed.

25.2 Special channel numbering

There are actually two sets of channel numbers within *ISIS*®: “internal” and “external”. The internal number is the number that the system uses, which is the original number. The external number is the number that is chosen and visible to the user.

As far as the system is concerned the external number is just a label for an existing channel. This is why the special channel numbering screen displays two columns: internal and external. Normally the internal and external numbers are the same, until a change is made.

The internal number is fixed and cannot be changed as it is the number that *ISIS*® uses. The external number is the number that the operator is aware of and can be changed to any value between 1 and 9999, as required.

Special channel numbering is different to and separate from the patch. The facility simply changes the number of each channel visible to the operator; to alter the patch, please turn to the chapter 7 *Output Patch*. As an example, suppose channel 601 is renumbered as channel 1, and this channel is to be patched to DMX address 801; the operator needs only to patch channel 1 to DMX 801. *ISIS*® however reads channel 1, understands it to mean 601, and patches channel 601 to DMX 801. The internal number - 601 - remains invisible to the user at all times.

Once special numbering has been saved, there is only one set of channel numbers - the external numbers - for the operator to use.

25.2.1 Renumbering existing channels

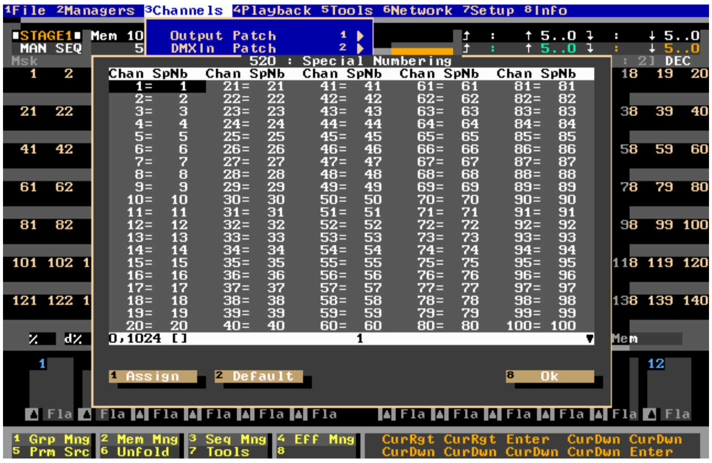
Renumbering a selection of channels to existing channel numbers is a simple operation. The example below demonstrates how to renumber channels 1 to 6 as channel 6 to 1.

examples of keystrokes

<Menu> <F3 {Channels}> <F7 {Special Numbering}>

➔ Displays the Special Numbering dialogue box *520*.

➔ The Channel (internal) number and corresponding Special Number (external) numbering is shown.



*The special channel numbering display (Dialogue box *520*)*

…

<ENTER>

➔ Each time <ENTER> is pressed, it selects the channel and moves to the next.

➔ For example, select channels 1 to 6 by pressing <ENTER> six times.

<F1 {Assign}>

➔ Displays the renumbering dialogue box.

target

➔ Enter a high number, to put these channels above the total number of channels available. A delta offset can be given, if it is required to separate the channels by a fixed value.

- For example, enter a target value of 1001.
- Make sure the target 1001 was not in use for other purpose first.

<F8 {OK}>
- Confirms the renumbering operation.

Channels 1 to 10 have disappeared from the monitors, as they are now numbered 1001 onwards.

OR


WHEEL or <↑>
OR USE the alphanumeric keyboard directly
- Use the wheel, the up arrow or the alphanumeric keyboard to select channel 1.

<F1 {Assign}>
- Displays the renumbering dialogue box.

target
- Enter the special number that is to be the new label for this channel.
- For example, enter 6 as the new reference for channel 1.

<F8 {ok}>
- Changes channel 1 to the special number entered.


…


<↓> <ENTER> <F1 {Assign}> … <F8 {ok}>
- Channel 2 is given a special number in the same way.
- For example, channel 2 could be assigned a special number of 5.

This procedure is repeated for the remaining channels, until channel 6 is assigned a special number of 1.

<F8 {OK}>
- Completes the operation and exits the Special Numbering dialogue box*520*.

The monitor now displays all channels from 1 upwards, but channel 1 now controls the luminaire which used to be number 6, and channel 6 will control the luminaire that used to be number 1 and so on.

Note: if an invalid target number is selected, the message "Can't renumber (n, n) to (n, m) Channel n already exists" appears. In this case, a new target number must be selected.

25.2.2 Re-numbering unused channels

Existing channels can be renumbered to channels that are not being used. In the example below, channels 301 to 400 are renumbered as channels 601 to 700.

examples of keystrokes

<MENU> <F3 {Channels}> <F7 {Special Numbering}>
➔ Display the Special Numbering dialogue box*520*.
➔ The dialogue box shows the Channel (internal) number and corresponding Special Number (external) numbering.

OR


WHEEL or <↓>
OR USE the alphanumeric keyboard directly
➔ Use the wheel, the up arrow or the alphanumeric keyboard to select channel 301.

…

<ENTER> ...
➔ Each time <ENTER> is pressed, it selects the channel and moves to the next.
➔ In this example, select channels 301 to 400.

<F1 {Assign}>
➔ Display the renumbering dialogue box.

"target"
➔ The target for the renumbering operation is entered.
➔ A target of 601 is used in this example.

<F8 {OK}> <F8 {OK}>

➔ The renumbering operation is confirmed. The monitors now show numbers 1 to 300, then 401 upwards. Channels 301 to 400 have disappeared, but channels 601 to 700 have appeared.

Note: depending upon how many channels a particular *ISIS*® system supports, the target numbers may have to be moved before using channels 700 upwards, as demonstrated in the first example of special channel numbering.

25.2.3 Restoring Channels Numbering to 1:1

While staying in the dialogube box*520*: Specail Numbering, press F2 (Default) to cancel all the special numbering assign ,the system goes back to the default which is 1 to 1(no special numbering, the internal number is the same as the external number).

examples of keystrokes

<F2 {Default }>

Then there is a message: Restoring Channels Numbering to 1:1
Are you sur?

<F8 {Yes }> to confirm the operation

25.3 Renumbering channels using a delta offset

A delta offset can be used between the new external channel numbers when the renumbering facility is used. The default delta value is 1, which means that the new numbers will increase in increments of 1 from the first selected number.

If the delta value is changed, the new numbers will increment by this value. For example, if channels 1 to 10 are renumbered 701 upwards, the following results will occur with differing delta offset values.

Delta	=	1	⇨	701, 702, 703, 704, 705, 706, 707, 708, 709, 710
Delta	=	2	⇨	701, 703, 705, 707, 709, 711, 713, 715, 717, 719
Delta	=	10	⇨	701, 711, 721, 731, 741, 751, 761, 771, 781, 791

26 DMX INPUT PATCH

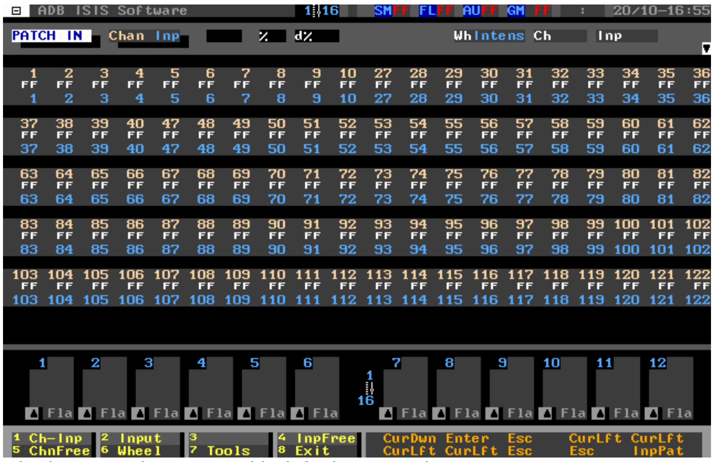
26.1 Introduction

Another desk (a complicated moving light desk, or a simple manual desk or DMX test device) can be connected to the DMX input of any *ISIS®* desk. When the two desks are connected in this way, the output from the external desk can be captured and recorded as a memory on the *ISIS®* desk, or the information can be passed straight to the Output. (For MENTOR users, this operation should be done through a network node)

The input patch sorts which desk channels (instrument numbers) are connected to which channels of the external desk or DMX device. The "Default Input Patch" connects *ISIS®* channel numbers to the same input numbers, and has a proportional factor of 100%: this is called a one-to-one patch. The input patch can be visualised on-screen in *ISIS®* at any time.

Within the input patch screen, channel numbers are displayed in beige, and the DMX input numbers in pale blue. If any channels are defined as moving lights, the parameter abbreviations are also shown. The proportional output factor is displayed in white beneath the *ISIS®* channel number.

The input patch screen can be displayed in two ways: channels to dimmers, or dimmers to channels; the display mode can be changed at any time to suit the preference of the operator.

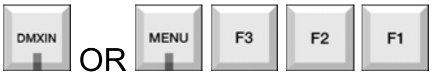


The input patch screen, with default 1:1 patch

26.1.1 Channels to inputs

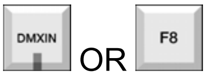
An easy way to think about patching is to decide which desk channels should be connected to which DMX input channels. This is known as channels to inputs patching.

examples of keystrokes



<INPUT PATCH> OR <Menu> <F3 {channels}> <F2 {dmxin patch}> <F1 {patch}>

➔ Enters the DMX input patch; the input patch is displayed as channels to inputs by default.



<DMX IN> or <F8 {EXIT}>
Or any other working field key

➔ Exits the input patch screen.

26.1.2 Inputs to channels

Some operators find it easier to think the other way around: which inputs should be connected to which desk channels.

ISIS® allows the default screen display to be reversed, so that the display is inputs to channels, rather than channels to inputs. Operationally, the system is the same; it is just the display that has changed. Displaying inputs to channels can be helpful when inspecting the moving light patch.

examples of keystrokes

<Dmxin> <F1 {Ch-inp}>

➔ Toggles the screen display to inputs to channels.

Note: this feature is a toggle function: repeated use of the <F1> key will swap between the two displays.

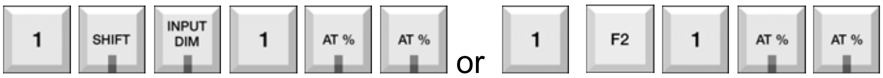
26.2 Patching a single DMX input to a single desk channel

In the same way as the output patch, inputs can be patched to desk channels individually.

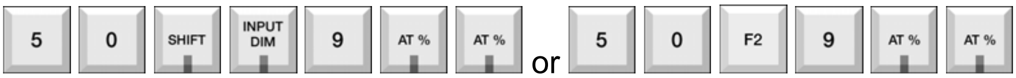
examples of keystrokes

<INPUT PATCH> OR <Menu> <F3 {channels}> <F2 {dmxin patch}> <F1 {patch}>

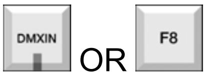
➔ Enters the DMX input patch.



<1> <Input> <1> <At> <At>
➔ Patches desk channel 1 to DMX input 1.



<5><0> <Input> <9> <At> <At>
➔ Patches desk channel 50 to DMX input 9.

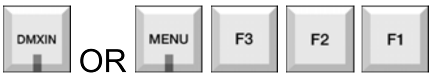


<Dmxin> or <F8>
or any other working field key
➔ Exits the input patch.

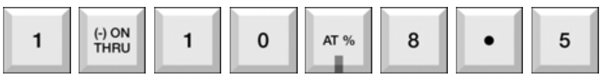
26.3 Proportional input factor

In a similar fashion to the output patch, a proportional factor can be given to channels in the input patch to limit the channels when they are being controlled by a DMX input.

examples of keystrokes

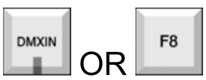


<dmxin> or <menu> <F3 {channels}> <F2 {dmxin patch}> <F1 {patch}>
➔ Enters the DMX input patch screen.



<1> <thru> <1><0> <at> <8><.><5>
➔ Gives channels 1 to 10 a proportional factor of 85%.

<1> <input> <7> Wheel
➔ Patches channel 1 to DMX input 7 at a proportional factor set by the wheel.



<dmxin> or <F8 {exit}
or any working field key
➔ Exits the DMX input patch.

26.4 The DMX input virtual fader

When an external desk is connected to the DMX input, the input patch is subject to the level of the DMX input fader. This fader is entirely virtual and its value is set and enabled from the General Configuration dialogue box in the setup menu, or by assigning the wheel to control this function.

examples of keystrokes

<menu> <F7 {setup}> <F6 {general}>

➔ Displays the General Configuration dialogue box, giving access to all input options.

➔ Use the up or down key to highlight the Dmx in box

<enter>

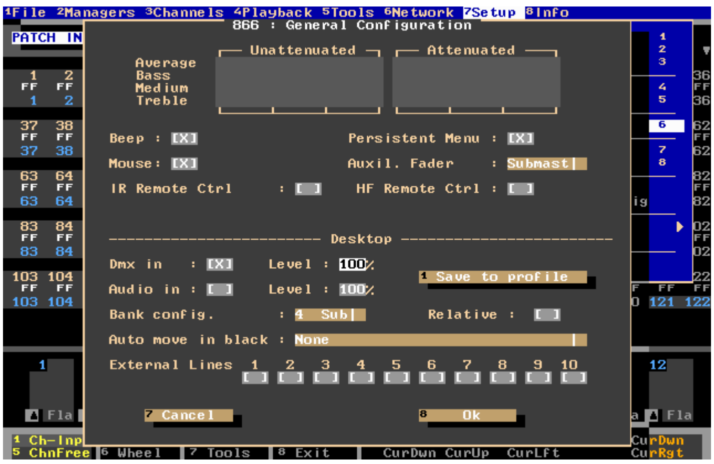
➔ Enable the DMX input by checking the box.

<↓> Wheel

➔ Moves the cursor to the DMX input level. The DMX input level can be set proportionally: 0% is the minimum, 100% is the maximum. A value of 50% will produce an output of half the DMX input levels. The fader wheel can be used to set the input level, or it may be entered directly from the keypad.

<F8 {ok}>

➔ Confirms the operation and closes the dialogue box *866*.



*DMX input virtual fader settings (Dialogue box*866*)*

For easier adjustment of the DMX input fader level, it can be temporarily assigned to the wheel.

examples of keystrokes

<F7 {Tools}> <F6 {Wheel}> <F5 {DMX in}>
➔ Assigns the wheel to control the DMX input fader.

Wheel
➔ Adjusts the level of the DMX input fader.

<F7 {Tools}> <F6 {wheel}> <F1 {intens}> or press clear, clear twice
➔ Reassigns the wheel to intensity control.

While the wheel is assigned to the DMX input fader, the wheel box in the information bar on monitor 1 changes from “Wh Intens” to “Wh Dmx In” to indicate the special function of the wheel.

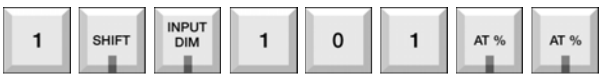
Note: the DMX input fader can also be assigned to one of the submaster faders, using the Manual Table function. Please refer the chapter 6* Setup→ 6.3Fader Configuration and the Manual Table function* for further details.

26.5 Instruments in the input patch

When channels have been assigned specific instrument definitions, the input patch recognises the motion parameters separately from the intensity channels. If moving lights are controlled from the external desk or DMX provider, the DMX channels which are parameters are subjected to all the rules of output priority, and captured in the DMX buffer when sent to the Output.

Patching instruments in the DMX input patch is done in the same way as for a standard channel.

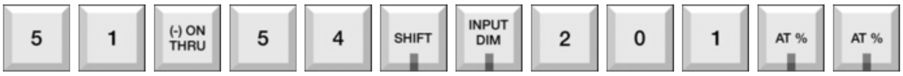
examples of keystrokes



or


<1> <input> <1><0><1> <AT> <AT>
➔ In the input patch, patches instrument 1 to DMX inputs 101 onwards.

In addition, several instruments can be patched in a single operation, if they are of the same instrument definition.



<5><1> <Thru> <5><4> <Input> <2><0><1> <AT><AT>
➔ Patches instruments 51 to 54 to DMX inputs 201 onwards.
➔ All parameters are patched automatically according to the instrument definition.

26.6 Erasing a range of inputs and their patched channels

When patching, it can be useful to remove the current settings for a range of channels. This can be achieved by using the Erase function.

examples of keystrokes

<1> <Thru> <1><0><0> <Erase> <Erase>
➔ Removes channels 1 to 100, and their patched inputs.
➔ Channels 1 to 100 no longer respond to the external DMX desk or device.

26.7 Free Inputs

In the input patch, there is a function to display all the non-patched inputs. This can provide the operator useful information during a patch operation.

examples of keystrokes

OR


<dmxin> or <Menu> <F3 {Channels}> <F2 {DmxIN Patch}> <F1 {Patch}>
➔ Enters the DMX input patch screen.

<F4 {inpFree}>
➔ Displays the Free Inputs information dialogue box *560*.

26.8 Deleting the input patch

If a complicated patch is required, it can be easier to start with all DMX inputs disconnected from the desk control channels. This is called deleting the patch.
Deleting the patch removes the connections between the external desk and the *ISIS*® system. In this way, it is safe to leave the two desks physically connected while the external desk is not required.

examples of keystrokes

<menu> <F3 {channels}> <F2 {dmxin patch}>
➔ Select the input patch options from the Channels menu.

<F2 {delete}>
➔ Deletes the patch - input channels will not control any desk channels.

A warning is issued:
➔ A warning is given:The patch will be deleted – Are you sure?

<F8 {yes}>
➔ Confirms the operation.

26.9 Returning to the one-to-one patch

The one-to-one patch is the default setting. The input patch can be returned to its original configuration: input channel numbers matching desk channel numbers.

examples of keystrokes

<menu> <F3 {Channels}> <F2 {dmxin patch}> <F3 {one-to-one}>
➔ Selects the input patch One-To-One option.

A warning is issued:
➔ A warning is given: Set Patch one to one – Are you sure?

<F8 {yes}>
➔ Confirms the operation.

27 COPY AND PART FUNCTIONS

27.1 Introduction

The Copy function has been mentioned in other chapters and can be used in conjunction with many *ISIS®* functions. Copy can be used to copy:

Submaster	to	Submaster	Memory list	to	Submaster list
Submaster	to	Playback Field	Group	to	Group
Submaster	to	Memory	Chaser	to	Chaser
Playback Field	to	Playback Field	Effect	to	Effect
Playback Field	to	Submaster	Loop	to	Loop
Playback Field	to	Memory	Motion Control Library	to	Motion Control Library
Memory	to	Memory	Submaster Bank	to	Submaster Bank
Memory	to	Submaster	Macro	to	Macro

The syntax for the Copy function in any situation is the same:
SOURCE SELECTION → COPY FUNCTION → DESTINATION SELECTION → COPY FUNCTION.

The Part functions are useful tools for manipulating part of one entity and incorporating it into another. For example, copying only the motion parameters of one field or memory and loading them into another.

Part Copy is used to copy a list of channels from one place to another and can copy the channels' intensities, parameter values, or both. It can be used for copying the intensities or the parameters of one memory to another, or into another working field.

Part Record records a channel selection from a working field into a memory, while Part Sum records a channel selection from the Output into a memory. In either case, the function can record either the selected channels' intensities, the parameters only, or both.

Part Load is used for loading the intensities and/or parameters of a channel range from an existing memory into a working field. Unlike the Load function, Part Load does not replace the existing working field contents, it adds to it.

The Clipboard is a useful area of the desk to store channel intensities and parameters that are regularly required, or as a temporary location. The Clipboard contents are retained until they are replaced, or until the Clipboard is erased. A selection of the Clipboard's contents can be loaded if required, rather than the whole state.

It is not necessary to prefix a memory with the <MEM> key when using the Part Record, Part Sum and Part Load functions as *ISIS®* expects a memory number. However, the <MEM> key will not affect the function if it is used.

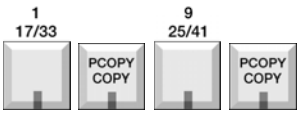
27.2 Copy working field contents

The method for all copy functions is always the same: SOURCE - COPY - DESTINATION - COPY. This method applies to both copying between working fields and copying from lists using only keypad commands. The contents of one working field can be copied into another, although certain manipulations are invalid, such as copying a submaster to a playback, if the submaster content is a chaser.

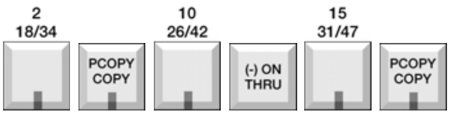
27.2.1 Copy submaster content

The content of submasters can be copied individually, or in lists. Copies of existing submaster contents can be used as building blocks for new lighting states, or the Copy function used in this way to reorganise the submaster contents into a more logical order.

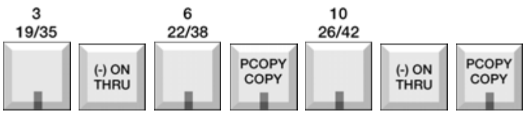
examples of keystrokes



<Sub1> <Copy> <Sub9> <Copy>
- ➔ Copies the contents of submaster 1 to submaster 9.
- ➔ The content can be anything: channels, groups, memories, chaser or effect.



<Sub2> <Copy> <Sub10> <Thru> <Sub15> <Copy>
- ➔ Copies the content of submaster 2 to submasters 10 to 15.

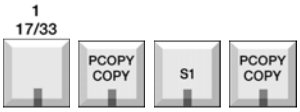


<Sub3> <Thru> <Sub6> <Copy> <Sub10> <Thru> <Copy>
- ➔ Copies the contents of submasters 3 to 6 into submasters 10 to 13 consecutively.
- ➔ The contents are not merged, and all intensities, parameters, times, and titles are copied into the destination submasters.

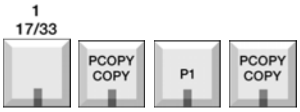
27.2.2 Copy submaster content to the playback

Submasters containing channels, groups, memories, and any combinations of those can be copied to the playback fields. <u>If a submaster's content is a chaser or effect, it cannot be copied to the playbacks.</u>

examples of keystrokes



<Sub1> <Copy> <S1> <Copy>
➔ Copies the content of submaster 1 to Stage 1 (channels, groups or memories only).

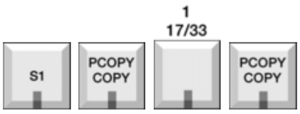


<Sub1> <Copy> <P1> <Copy>
➔ Copies the content of submaster 1 to Preset 1.

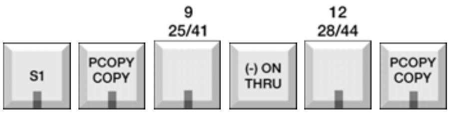
27.2.3 Copy playback content

Channels, groups and memories in any playback field can be copied to any submaster, or list of submasters, or any other playback field.

examples of keystrokes



<S1> <Copy> <Sub1> <Copy>
➔ Copies the content of Stage 1 to submaster 1.



<S1> <Copy> <Sub9> <Thru> <Sub12> <Copy>
➔ Copies the content of Stage 1 into submasters 9 to 12.
➔ All the submasters will have the same contents.

27.3 Copy combinations

As well as copying type to type, it is possible to copy memories to working fields, and working field contents to memories.

27.3.1 Copy submaster or playback content to a memory

When a lighting state is built in a submaster or playback, it can be copied into a memory.
This can include times and parameters, but a title can only be included if the content of the field started as a memory that was already titled. Using Copy in this way is the same as the Record function.

examples of keystrokes

<S1> <Copy> <Mem> <5><1> <Copy>
➔ Copies the content of Stage 1 into memory 51.
➔ All intensities, parameters, times, special times and title (where applicable) are copied.

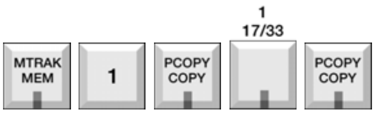
<S1> <Copy> <Mem> <6><1> <+> <Mem> <7><4> <Copy>
➔ Copy the contents of Stage 1 into memories 61 and 74.

<sub1> <thru> <sub3> <copy> <mem> <7><6> <thru> <copy>
➔ Consecutively copies the contents of submaster 1 thru 3 to memories 76 to 78.
➔ This operation is not possible if the range of submasters contains chasers or effects.

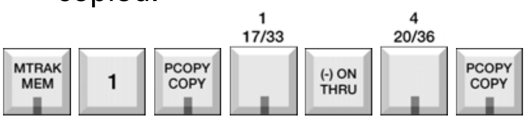
27.3.2 Copy memory to working fields

A memory can be copied from the memory list into selected working fields. <u>Using Copy in this way is the same as the Load function.</u>

examples of keystrokes



<Mem> <1> <Copy> <Sub1> <Copy>
➔ Copies the contents of memory 1 into submaster 1.
➔ All intensities, parameters, times, special times and title where applicable are copied.



<mem> <1> <Copy> <Sub1> <Thru> <Sub4> <Copy>
➔ Consecutively copies the contents of memory 1 into submasters 1 to 4.

27.4 Copy chasers & effects, loops, libraries, memories and groups

All entities can be copied. Sometimes copying a chaser, for example, and making a small modification is a quicker method than creating a new chaser from scratch.

examples of keystrokes

<Chaser> <1> <Copy> <5><9> <+> <6><0> <Copy>
➔ Copies chaser 1 to chaser 59 and 60.

<Effect> <1> <Thru> <3> <Copy> <7><0> <Thru> <Copy>
➔ Copy the contents of effects 1 to 3 consecutively to effects 70 to 72.

Other entities can be copied using the same method. Please see the relevant chapter for further details in each case.

Note: for the MENTOR users, please follow the same instructions as the operations can not be achieved from the touch screen.

27.5 Copy Live

Copy Live function allows to copy the output value (as on DMX output) of several submasters into one submaster.

Syntax:
<Range of Submasters> <Copy Live> <Submaster # > <Copy Live>

examples of keystrokes

Submaster 1@ 70%, ch1@ 80-ch2@ 60
Submaster 2 @ 40%, ch3 @60-ch4@70-ch7@80

<submaster1> <THRU> <submaster2> <COPY LIVE> <submaster3><COPY LIVE>
➔ Copy the contents of submaster1 to 2 to submaster 3.

Values in submaster 3:

Channel 1: 70% * 80=56
Channel 2: 70% * 60=42
Channel 3: 40% * 60=24
Channel 4: 40% * 70=28
Channel 7: 40% * 80=32

The Value at the output will be as described above if submaster3 is at full.

Note: **the Live key is now Copy Live key**. Live function can only be accessed by pressing **Shift + Live**.

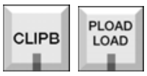
27.6 The Clipboard

A selection of channels with intensities and parameters can be temporarily stored on the Clipboard so that they are always available for use in any working field. The channels stored on the Clipboard can be loaded selectively if required.

examples of keystrokes

… 

<Channel selection> <clipboard> <REC>
➔ Records the selected channels intensity and parameter values to the Clipboard.

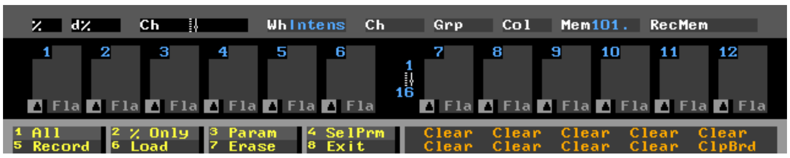
… 

<Channel selection> <clipboard> <load>
➔ Loads the selected channels intensity and parameter values from the Clipboard.

All original channel values remain on the Clipboard and can be used again. The contents remain in the Clipboard until new content is recorded, or the Clipboard is erased.

<Clipboard> <Erase> <Erase>
➔ Erases the contents of the clipboard.

Using the Clipboard function changes the role of the function keys; this enables only intensities, parameters or selected parameters to be recorded to, and loaded from, the Clipboard. The function keys can also be used to record, load, and erase the Clipboard.



Clipboard functions assigned to the function keys are displayed in the footer

examples of keystrokes

… 

<Channel selection> <clipboard> <F2 {% only}> <F5 {REC}>
➔ Records only the selected channels intensity values to the Clipboard.

<Channel and parameter selection> <clipboard> <F4 {selprm}> <F6 {load}>
➔ Loads only the selected parameter values from the Clipboard.

Note: for MENTOR series, the Clipboard hard key does not exist, but any of the free key can be assigned to this function.

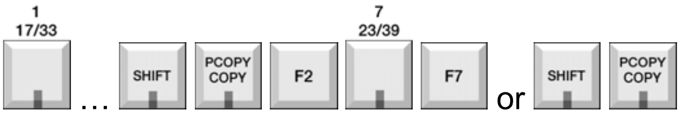
27.7 Part Copy

Part Copy is a function that allows parts of one field or memory to be copied into another. For example, the motion parameters but not the intensities may be required, or the intensities of just some of the channels.

27.7.1 Part Copy intensities

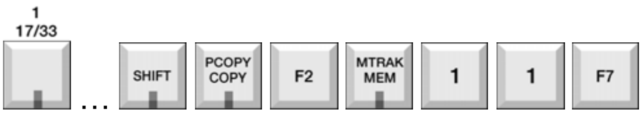
Some or all channel intensities may be copied from one working field to another, from a working field to a memory and vice versa, or from one existing memory to another.

examples of keystrokes



<sub1> <channel selection> <pcopy> <F2 {% only}> <sub7> <F7 {pcopy}> or <PCOPY>
➔ Copies the intensities of the selected channels from submaster 1 to submaster 7.

Note: some hardware platforms have a direct access key to the Part Copy function.



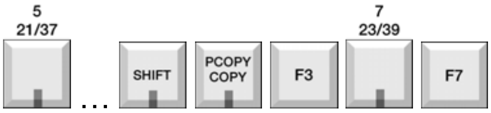
<sub1> <channel selection # > <Pcopy> <F2 {% only}> <Mem> <1><1> <F7 {pcopy}>
➔ Copies the intensities of the selected channels from submaster 1 to memory 11.

27.7.2 Part Copy parameters

Some or all of an instrument's parameter values may be copied from one working field to another, from a working field to a memory and vice versa, or from one existing memory to another.

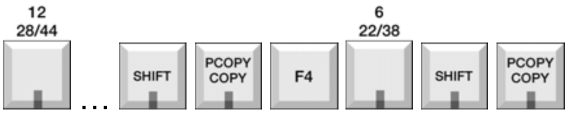
Note: using motion control elements, the syntax used to Part Copy intensity and parameter values from fixture to fixture in the same field is the same as copying between fields.

examples of keystrokes



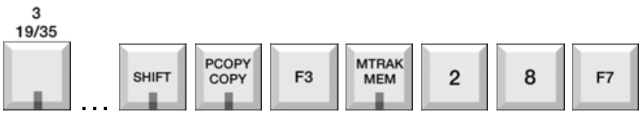
<sub5> <channel selection> <pcopy> <F3 {param}> <sub7> <F7 {pcopy}>

➔ Copies all parameter values of the selected instruments from submaster 5 to submaster 7.



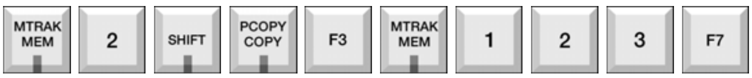
<sub12> <channel selection> <pcopy> <F4 {selprm}> <sub6> <pcopy>

➔ Copies the values of only selected parameters from submaster 12 to submaster 6.



<sub3> <channel selection> <pcopy> <F3 {param}> <mem> <2><8> <F7 {pcopy}>

➔ Copies the parameter values of the selected instruments from submaster 3 to memory 28.



<mem> <2> <pcopy> <F3 {param}> <mem> <1><2><3> <F7 {pcopy}>

➔ Copies the parameter values of all channels in memory 2 to memory 123.

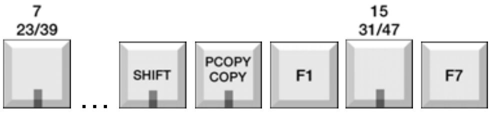
<channel 1 selection> <pcopy> <channel 2 selection> <pcopy>

➔ Copies the settings of the first instrument to the second instrument in the selected field.

27.7.3 Part Copy intensities and parameters

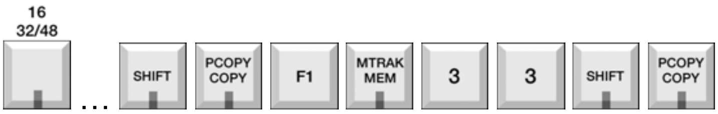
Both the intensity and parameter values of selected instruments can be copied simultaneously.

examples of keystrokes



<sub7> <channel selection> <pcopy> <F1 {all}> <sub15> <F7 {pcopy}>

➔ Copies the intensities and parameter values of the selected instruments from submaster 7 to submaster 15.



<sub16> <channel selection> <pcopy> <F1 {all}> <mem> <3><3> <pcopy>

➔ Copies the intensities and parameter values of the selected instruments from submaster 16 to memory 33.

27.7.4 Part Copy combined with EDMEM (Edit Memory)

Part Copy function in combination with Edit Memory (EDMEM) allows to copy the intensity or / and some or all of the instrument's parameter values of a selected channel to other channel(s) in several memories at once. The new intensity and / or parameter values are copied to the target channel or fixture in each memory, with the exact same values that the source fixture has in each memory. This allows the operator to copy across a range of memories the values of a fixture to other fixtures of the same type, copying the values through the range.

Example:

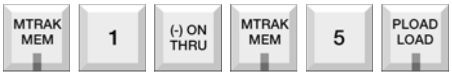
Channel 1 is a moving light and is used in the memories below:

Memory 1: ch1@ 40% in Red and PAN&TILT to Left
Memory 2: ch1@ 85% in Red and PAN&TILT to Left
Memory 3: ch1@ 0% in Blue and PAN&TILT to Center
Memory 4: ch1@ FF% in Magenta and PAN&TILT to Right
Memory 5: ch1—not used in this memory

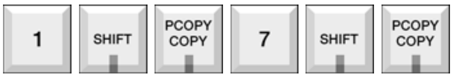
Channel 7 is the same type of moving light and we want it to have the same intensity and parameter values as channel 1 in the memories 1 to 5.

examples of keystrokes

<EDMEM>



<Mem> <1> <Thru> < Mem> <5> < Load>



<Channel1> <Pcopy> <Channel7> <Pcopy>

The above keystrokes will give the following result:

Memory1: Ch1@40% in Red and PAN&TILT to Left and Ch7@40% in Red and Pan&TILT to Left
Memory2: Ch1@85% in Red and PAN&TILT to Left and Ch7@85% in Red and PAN&TILT to Left
Memory3: Ch1@0% in Blue and PAN&TILT to Center and Ch7@0% in Blue and PAN&TILT to Center
Memory4: Ch1@FF% in Magenta and PAN&TILT to Right and Ch7@FF% in Magenta and PAN&TILT to Right
Memort5: Ch1---not used in this memory and Ch7 is also not used in this memory

Tips: Memory can always be recovered from the memory recovery tool.

27.8 Part Record

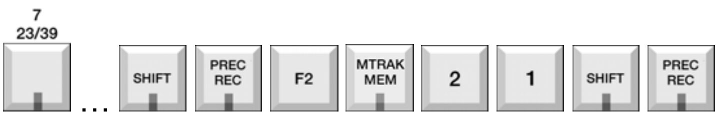
The Part Record function allows intensities or parameters (or both) of a selection of channels to be recorded, instead of the whole contents of the selected working field.

Note: some hardware platforms have a direct access key to the Part Record function.

27.8.1 Part Record intensities

The intensities of all or some of the channels within the selected working field can be recorded as a memory.

examples of keystrokes

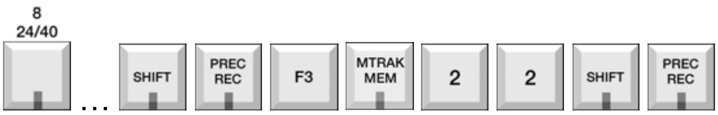


<Sub7> <Channel selection> <Prec> <F2 {% only}> <Mem><2><1> <prec>
➔ Records the intensities of the selected channels in submaster 7 as memory 21.

27.8.2 Part Record parameters

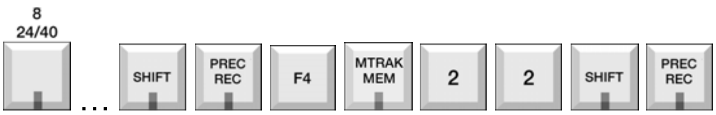
The parameter values of all or some of the instruments within the selected working field can be recorded as a memory.

examples of keystrokes



<Sub8> <Channel selection> <Prec> <F3 {Param}> <Mem><2><2> <Prec>

➔ Records all parameters of the selected channels in submaster 8 as memory 22.



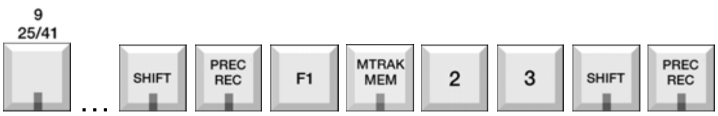
<Sub8> <Parameter selection> <Prec> <F4 {Selprm}><Mem> <2><2> <prec>

➔ Records only the selected parameters of the selected channels in submaster 8 as memory 22.

27.8.3 Part Record intensities and parameters

Both the intensity and parameter values of selected instruments can be recorded simultaneously.

examples of keystrokes



<Sub9> <Channel selection> <Prec> <F1 {All}> <Mem><2><3> <Prec>

➔ Record the intensities and parameters of the selected channels in submaster 9 as memory 23.

27.9 Part Sum

Part Sum records the intensities and parameters of the selected channels, but takes their levels from the current desk Output.

examples of keystrokes

<Channel selection> <Psum> <3><4> <Psum>

➔ Records the current intensity and parameter values of the selection at the Output as memory 34.

➔ It is not necessary to prefix the memory with the <MEM> key, as the system expects a memory number after the Part Sum function is used.

27.10 Part Load

Part Load is a function that allows part of a channel selection from one memory to be loaded into any working field. The existing contents are not replaced by the Part Load function.

➔ Unlike the Load function, Part Load does not replace the existing working field contents, it adds to it.

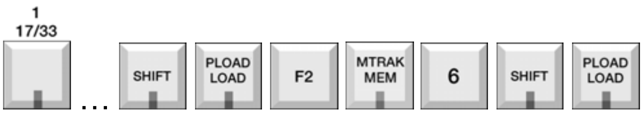
The function keys allow intensities, parameters or selected parameters, or both to be loaded using the Part Load function. For example: the motion parameters but not the intensities may be required, or the intensities of just some of the channels.

Note: some hardware platforms have a direct access key to the Part Load function.

27.10.1 Part Load intensities

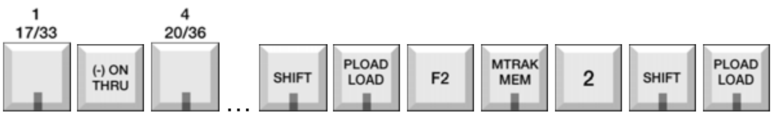
Only the intensity values of a selected list of channels from a selected memory are loaded into a submaster selection or the playback.

examples of keystrokes



<sub1> <channel selection> <pload> <F2 {% only}> <Mem><6> <pload>

➔ The selected channel intensities from memory 6 are loaded into submaster 1.



<sub1> <thru> <sub4> <channel selection><pload> < F2 {% only}><Mem> <2> <Pload>

➔ The selected channel intensities from memory 2 are loaded into submasters 1 to 4.

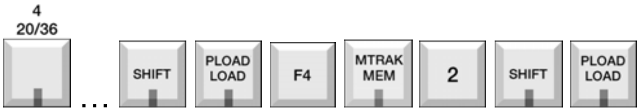
27.10.2 Part Load parameters

Only the parameter values of a selected list of channels from a selected memory are loaded into a submaster selection or the playback.

examples of keystrokes

<sub1> <channel selection> <pload> <F3 {param}><Mem><6> <pload>

➔ The selected channel's parameters are loaded from memory 6 into submaster 1.



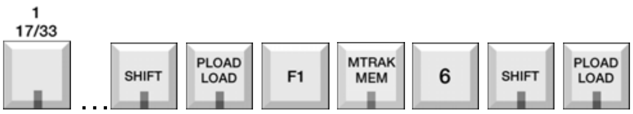
<sub4> <channel selection> <pload> <F4 {selprm}> <Mem> <2> <pload>

➔ The selected parameters of the channel selection are loaded from memory 2 into submaster 4.

27.10.3 Part Load intensities and parameters

The intensities and parameters of a selected list of channels can be loaded together into a submaster selection or playback.

examples of keystrokes



<sub1> <channel selection> <pload> <F1 {all}> <Mem> <6> <pload>

➔ Intensities and parameters of selected channels are loaded from memory 6 to submaster 1.

28 MIDI Control

28.1 Introduction

ISIS® software provides MIDI functionality, and can both receive and transmit MIDI data. Details of the MIDI control functions and the MIDI IN and OUT configurations are explained in a separate manual.

29 HTP – FTP – LTP MODES

29.1 Introduction

It is important to understand the ways in which working fields interact with each other. The output philosophy is different from standard channels (generic luminaires) and channels that have been defined a specific definition (instruments).

ISIS® offers a number of modes to control channels: these are described more fully below. The standard mode used for generic (intensity only) channels is on a highest-takes-precedence (HTP) basis, and will be familiar to all operators. In HTP mode, the field containing the highest intensity level will be the one contributing to the desk Output.

Whilst this mode is sensible for intensity values, problems arise when it is used for instrument parameters. For this reason, ADB offers two alternate modes for controlling parameters. The first establishes a system of priority through the working fields, and gives a definite logic to which field has control of a parameter at the Output. This mode is known as first-takes-precedence (FTP), because the working fields obey a strict order of superiority. It is therefore easy to tell where a parameter is controlled from, and what will happen if it is removed from the current field.

The second method of controlling parameters is called latest-takes-precedence (LTP) mode, and provides a powerful means of control. The operator can use the fields in any order required, and the desk Output is taken from the last field used. Some lighting desks designed for the control of moving lights always work on this basis; operators who are used to this method will prefer this operating mode in *ISIS®*.

However, the real strength of *ISIS®* is in the combination of these three operating modes.
Every single control channel (generic, colour changer, or moving light) can be independently configured in any of the three modes. In addition, *each individual parameter* of an instrument definition can be configured independently into HTP, FTP or LTP mode.

By default, generic channels are configured to work on a highest-takes-precedence mode. Motion control instrument parameters are configured on a latest-takes-precedence mode, except for the intensity which works in the same way as a generic channel.

- ➔ HTP is the normal operating mode for intensities: channels used in more than one field are output at the highest level used.
- ➔ FTP introduces a system of priority through the working fields: parameters used in more than one field will be output from the first field in the priority list.
- ➔ LTP offers complete flexibility for the advanced moving light programmer: desk output is taken from the last used field.

The HTP, FTP and LTP concepts and their use on the desk provides the operator with complete flexibility and control when programming and using moving lights and colour changers.

In addition, this chapter explains some of the intricacies of the submaster modes when used with instruments. Submasters can be configured to send parameter values immediately to the Output when the fader level exceeds 5%, to alter parameter values in relation to the fader level, or work in a crossfade mode.

29.2 Visualising intensity and parameter source

The working field contributing the level of each channel can be readily seen on the Output intensity screen. Beneath the channel number is displayed its intensity level; in the information bar below that, the working field sending the intensity level to the Output is displayed. In this way, the field contributing to the Output of each channel can be quickly identified.

In addition to the working field indication, different field types and configurations display the channel's intensity values in a different colour, to aid identification.

By default, display colours are defined on the Output screen as follows:

Information Bar		**Intensity**	**Working Field**
Text	**Colour**	**Colour**	**Contributing to the Output**
01 – 48	Blue	White	Submaster – normal mode
01 – 48	Blue	Purple	Submaster – Bypass mode
01 – 48	Blue	Yellow	Submaster – Inhibit mode
S1 or S2	Orange	Orange	Stage
LI	Red	Red	Live (Shift + Live)
IN	Black	White	DMX input

If several working fields are controlling instrument parameters, the actual Output values could be a mix from different fields. Whenever there is any doubt about which parameters are controlled from which fields, the parameter source can be viewed on the output screen instead of the parameter values.

Viewing the source can be helpful when working with multiple fields, masking and disconnected parameters. The function is available via the default F5 {Prm Src} function key.

examples of keystrokes

<PARAM>
➔ Displays the motion control parameters on-screen.

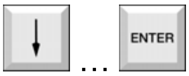
<F5 {Prm SrC}>
➔ Toggles between intensity and parameter values and their source.

Parameter source is indicated by the text 01 to 48 for submasters, S1 or S2 for Stage, LI for Live and MI for settings generated by the Move in Black function.

The parameters can be displayed as source by default via the menu, if preferred.

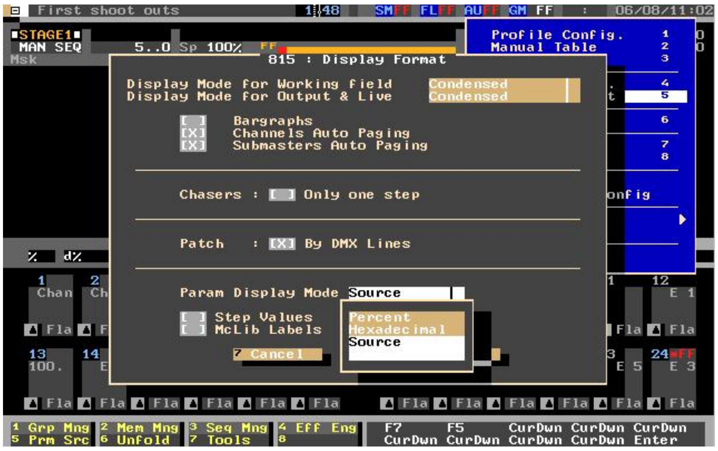
examples of keystrokes

<MENU> <F7 {Setup}> <F5 {Display format}>
➔ Displays the Display Format dialogue box



<↓> … <Enter>
➔ Use the down arrow to navigate to the ‘Param Display Mode’ option.
➔ Use <ENTER> to display the drop-down list of options.

<↓> … <Enter> <F8 {ok}>
➔ Use the down arrow and <ENTER> to select the required display mode for parameters.
➔ Confirms the changes and exits the Display Format dialogue box*815*.



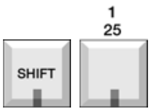
*Display Format (Dialogue box*815*)*

29.3 Sending parameters directly to the Output

ISIS® includes a function to send the parameter contents of any working field directly to the Output. This can be useful when a particular field contains the precise settings required for a moving light or colour changer, but the output priority would not normally allow the values to be recognised.

examples of keystrokes

OR



<SHIFT + FIELD SELECTOR KEY>

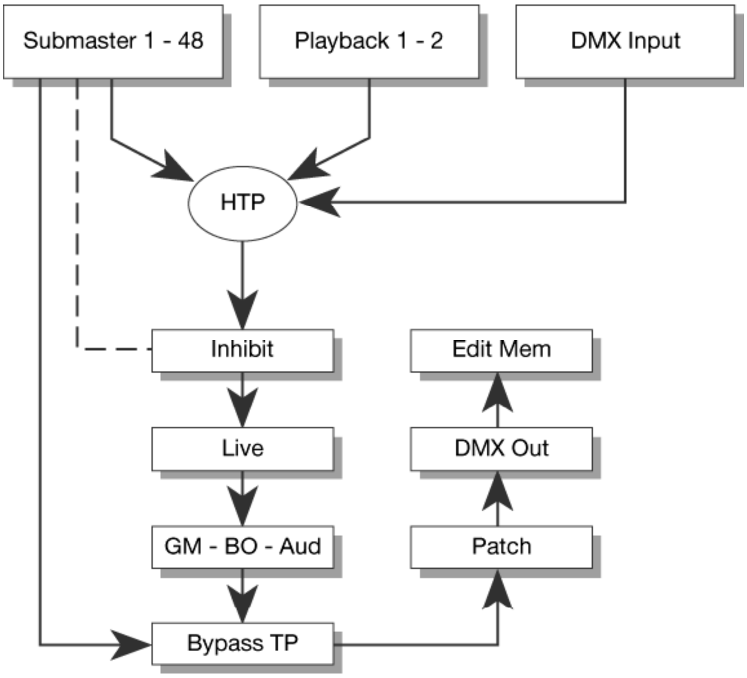
➔ Sends the parameter value of the selected field directly to the output.

29.4 Priority of intensities: HTP

When more than one working field is in use simultaneously, any intensity values that appear in multiple fields will be sent to the Output on a highest-takes-precedence (HTP) basis: the working field contributing the highest intensity value for a given channel will be the one sent to the desk Output.

For example, if channel 1 is at 40% in submaster 1 and 70% in submaster 2, and both submaster faders are raised to full, channel 1 will be seen at 70% - the higher of the two values. If submaster 2 is lowered to 50%, the value of channel 1 will drop to 40% - because this channel level in submaster 1 is 40%, and its level from submaster 2 is now 35% (50% of the 70% intensity level).

Normal submasters, and the playbacks, merge intensities on an HTP basis. They all have equal status and are lowest in the chain of output. There are several other functions that override this output, as demonstrated in the illustration below.



Intensities are sent to the Output by the field contributing the highest level.

- A submaster in Inhibit mode can cut or boost its contents from the desk Output, thus overriding the levels from other working fields.
- Intensity manipulations made in the Live working field are "captured", and cannot be further changed at the Output from any other normal working field.
- A submaster in Bypass mode is the most powerful place of all: the highest part of the priority chain. Intensities in a bypassed submaster cannot be modified at the Output by any other area of the desk.

29.5 Priority of other parameters

A motion control instrument (such as a moving light or colour scroller) has more than just an intensity parameter – all of which can be adjusted from the control desk. These parameters may be controlled on an HTP basis, but it is more usual to utilise the first-takes-precedence (FTP) or latest-takes-precedence (LTP) principles.

Each motion control instrument can be set to respond in any of the three modes, selected as required by the operator. In addition, *each individual parameter* of an instrument may be set to work in any of the modes, independently.

In each operating mode, the same rules for the Live field and submasters in Bypass mode apply to the parameters. Submasters in Inhibit mode do not affect parameters; the Inhibit function only controls the intensity attribute of each channel.

Note: the intensity parameter of an instrument is always configured to work on an HTP basis by default.

29.5.1 Highest-takes-precedence (HTP)

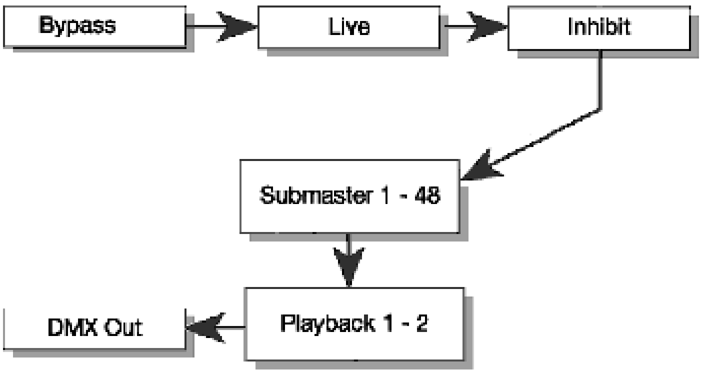
HTP mode is normally used with instrument intensities. Other instrument parameters can be set to work in this mode, but care should be taken when doing so.

If a parameter is put into HTP mode, it will always be output at the highest value from the working fields.

29.5.2 First-takes-precedence (FTP)

When working with moving lights or colour scrollers, HTP mode for parameters is - in most cases - unsuitable. For this reason, a first-takes-precedence (FTP) mode can be used for instrument parameters. FTP introduces an order of priority through the working fields, enabling a system of control to be implemented with the parameters.

The order of priority at the Output is as illustrated below.



Using the FTP operating mode, the value of each parameter sent to the Output will originate from the first working field in this priority list. If the level of this field goes to zero, Output will jump to the next field in the list.

- ➔ In the list of priority, if all these fields are in use, what is seen at the Output is what is in the Bypass submaster.
- ➔ If that submaster is lowered, the intensity remains off (because the bypass submaster is at zero), but the parameters jump to what is in the Live working field.
- ➔ When parameters in Live are freed, the submasters take over. Submaster 1 takes priority until it is lowered, at which point submaster 2 takes over. The priority then moves through all the submasters to submaster 48, then finally on to playback 1 and playback 2.
- ➔ If there are no parameters in any lower priority working field, the last used parameter values are stored at the Output to prevent sudden unwanted movements of instruments. This function is known as the DMX buffer and it can be cleared through the menu when the values it contains need to be removed.

The FTP system of priority still makes the playbacks useful places to replay moving light cues, safe in the knowledge that if manual control needs to be regained, the instrument can be controlled in any submaster, and that submaster will override the playback.

With a system of priority such as FTP, it can be seen at a glance where each parameter of each instrument is being controlled. It also means that it is easy to override any of the instruments currently contributing to the Output by working in a field with higher priority.

29.5.3 Latest-takes-precedence (LTP)

Whilst FTP is a reasonable mode for motion control, and may be useful for the operator only beginning to use moving lights or scrollers, it is not powerful enough for the advanced moving light programmer. In this instance, latest-takes-precedence (LTP) is the solution.

LTP allows the operator to use the working fields in any order required, as the desk Output is always taken from the last field used. This provides the operator great flexibility in control of moving lights and scrollers. Once again, the priority rules of Bypass, Live and Inhibit are not affected (note that Inhibit controls intensities only, it does not affect parameters).

If the fader level of the current working field is moved to zero, the value of the parameters at the desk Output will not change until another working field is used – they will not automatically jump to the values in another field.

This means that the fader can be used to fade out the intensity attribute, but all other parameters will remain unchanged: the position and settings of the instrument will not alter. If the fader is raised once more, the lamp intensity will fade up and the instrument will appear exactly as it was before the intensity was decreased.

Note: LTP is the default mode for instrument parameters (except intensity).

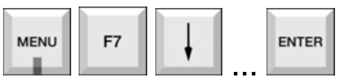
29.6 Submaster and playback LTP configuration

The operator can select which areas of the desk respond to the LTP mode, providing further flexibility in motion control operation. Note that if the submaster and playback fields are not configured for LTP, no LTP action will work.

The LTP Configuration dialogue box allows fields and events which should respond to LTP mode to be selected. The default configuration is: *Submaster, Flash, Go* and *Crossfade Faders* enabled.

Additionally, submasters and playbacks can be configured to work in LTP mode in a single direction (upwards only). This allows, for example, a submaster fader to be moved to zero intensity without affecting the parameters currently being output by another (later selected) submaster. The default configuration is: *Submasters going up only.*

examples of keystrokes



<MENU> <F7 {SETUP}> <LTP CONFIG>
➔ Displays the LTP Configuration dialogue box from the Setup menu.

 … 

<↓> ... <ENTER>

➔ Use the down arrow to select an LTP area or event and <ENTER> to enable LTP.

*Configure LTP events (Dialogue box*885*)*

<F8 {ok}>

➔ Confirms the settings and exits the LTP Configuration dialogue box*885*.

29.7 The ADB Pool of instrument definitions

Every control channel has a definition associated with it: this tells the system what sort of channel it is and how it should behave. *ISIS®* must know the definition, or personality, of each instrument being used before it can control them correctly.

There are a considerable number of pre-defined instrument definitions in the *ISIS®* software: these are termed as the ADB Pool. These definitions cover the most common moving lights and colour changers, and the list is updated as new instruments are manufactured. Nevertheless, a new instrument definition can be easily created if it is required.

The ADB pool of instrument definitions is set up in HTP mode for intensities, and LTP mode for all other parameters by default. The mode can be changed for each definition, without changing the channel allocation or patch information. The section below explains how to select the required operating mode.

Note: if a show created in a version of *ISIS®* software prior to version 1.41 is loaded, there will be a difference in the mode used in the definitions. What was recorded in *ISIS®* before v1.41 will now be FTP mode.

Any show created prior to *ISIS®* v1.41 and loaded into a later version of the software will work as it did when it was first created. However, if changes are made today in a show created prior to *ISIS®* v1.41, be aware that this can lead to different effects on the moving fixtures.

29.8 Selecting the required mode

The operating mode of each instrument is defined in its definition. Any parameter of an instrument can be assigned any one of the three modes. Parameters can be changed together or individually, but the intensity attribute can only be changed individually.

The following examples assume that at least one instrument definition has been imported into the current show. Importing and creating new definitions is covered in the chapter *Motion Control Setup*.

29.8.1 All parameters in the same mode, except intensity

This is the most common requirement for motion control instruments, and is the normal setting for each definition. The definition can be modified from the default LTP mode for parameters to FTP or HTP if required.

examples of keystrokes

<MENU> <F3 {channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Definitions used in the current show.

OR


wheel **or** <↓> **Or** use the alphanumeric keyboard directly
➔ Use the wheel, down arrow or keyboard to select the required definition.

<F2 {PARAM}> <F6 {LTP/FTP}>
➔ Toggles all parameters (except intensity) between HTP, FTP and LTP operating modes.

29.8.2 Individual mode selection per parameter

It may be required to change the operating mode of only one (or a selection) of the parameters in an instrument's definition. In this case, it is necessary to go into the definition file in more detail, and edit each parameter individually.

examples of keystrokes

<MENU> <F3 {channels}> <F5 {Motion Control}> <F1 {Definitions}>
➔ Displays the List of Definitions used in the current show.

ADB Lighting Technologies

 OR 

wheel or <↓> Or use the alphanumeric keyboard directly

➔ Use the wheel, down arrow or keyboard to select the required definition.

<F2 {PARAM}>

➔ Displays the list of parameters used by the selected instrument definition.

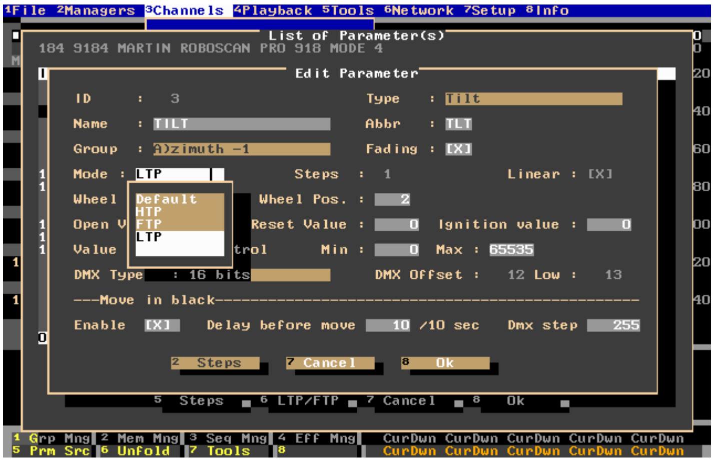
 OR 

wheel or <↓> Or use the alphanumeric keyboard directly

➔ Use the wheel, down arrow or keyboard to select the required parameter within the definition.

<F2 {Edit}>

➔ Displays all the information and settings of the selected parameter.



Edit parameter mode

 … 

<↓> … <Enter>

➔ Use the down arrow to navigate to the 'Mode' option; pressing <ENTER> displays the list of options.

 … 

<↓> … <Enter>

➔ Select the required operating mode for the selected parameter.

<F8 {ok}>
➔ Confirms the changes and returns to the list of parameters for the current definition.

Modify other parameters
➔ Repeat the operation as required for each parameter in the list.

<F8 {ok}>
➔ Confirms the changes and returns to the list of definitions.

29.8.3 Jump-type and fade-type parameters

It is worth explaining here that each instrument parameter can be set to either jump-type or fade-type in the definition, and that each parameter can be split into a number of sections, or steps.

Parameters are usually set to fade type. In this case, the parameter value at the Output will increase proportionally to its control level. The most obvious example of a fade type parameter is the intensity attribute of an instrument, although other parameters such as pan, tilt and iris will also use this setting.

Jump type is usually used for parameters that have a fixed number of steps. A jump type parameter will jump between fixed points as its control value is increased. For example, a colour wheel with six discrete colours: this should be a jump type parameter because there a six definite positions (or steps) for the wheel to be in.

Parameter steps can be linear or non-linear: they will function differently according to this setting. Fade type steps are usually linear, allowing control over the full range of each step. Jump type steps are normally set to non-linear, as it is usually only required to select one of the available steps, not to control the value within each independent step.

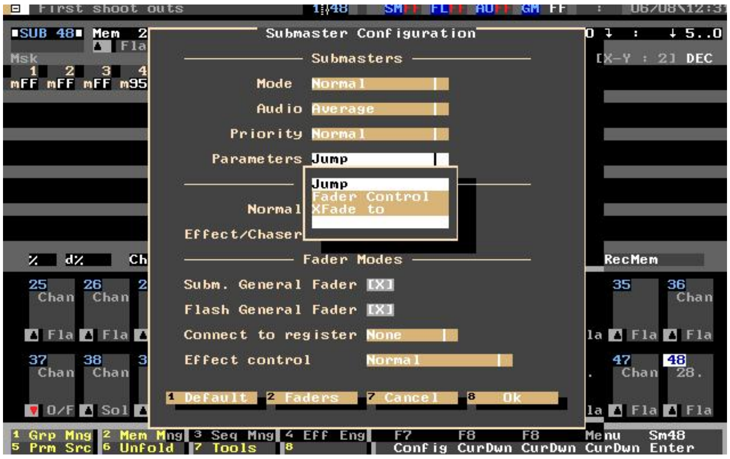
Jump type steps set to linear mode are intended for a different type of step. A single parameter may have two separate functions (therefore requiring two steps), but with linear control required within each step. For example, a special function such as vari-speed rotation may have control of forwards and backwards rotation on the same channel. In this case, 0% to 50% of the parameter will be the first function and 51% to 100% the second.

This type of parameter should be set to linear, which gives full control from 0% to 50% (variable forward spin speed) and also from 51% to 100% (variable reverse spin speed), rather than simply selecting between two fixed steps (forward or reverse spin at a fixed speed).

The combination of instrument parameter settings, HTP-FTP-LTP operating mode, and submaster control mode will affect the operation of motion control elements. The various settings are explained below.

29.9 Submaster control modes for parameters

Behaviour of the intensity and parameter values within a submaster is dependent on the submaster's settings. Parameter values within a submaster can be set to jump or fade with respect to the fader movement; this action is independent of, and separate to, the parameter type. The default mode for parameters in all submasters (for example after an Initialisation) is Jump.



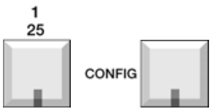
Submaster control modes for parameters

29.9.1 Submaster Jump mode

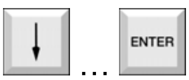
When a submaster is configured to Jump mode, motion control intensities will fade with the submaster movement, whilst all parameters will immediately jump to their stored value when the submaster level exceeds 5%.

➔ A manual Move in Black operation is therefore possible in this mode.

examples of keystrokes



<SUB#> <CONFIG>
➔ Displays the Submaster Configuration dialogue box for the selected submaster(s).



<↓> <Enter>
➔ Navigate to 'Parameters' and display the drop-down list of options.

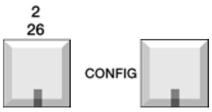
<↓> <Enter> <F8 {ok}>

➔ Select Jump mode.

29.9.2 Submaster Fader Control mode

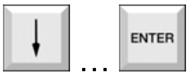
When a submaster is set to Fader Control mode, motion control intensities and fading-type parameters will fade with the submaster movement, whilst jump-type parameters will jump through their steps.
The final Output values will be dependent upon the level of the submaster fader and the content of the submaster.

examples of keystrokes



<SUB#> <CONFIG>

➔ Displays the Submaster Configuration dialogue box for the selected submaster(s).



<↓> <Enter>

➔ Navigate to ‘Parameters’ and display the drop-down list of options.

<↓> <Enter> <F8 {ok}>

➔ Select Fader Control mode.

29.9.3 Submaster Fader Control in Auto mode

A submaster configured in Fader Control mode can also be set to Auto. Auto mode changes the submaster from a manual fader into an automatic timed fader, executed either by pressing the associated flashkey or by movement of the submaster fader.

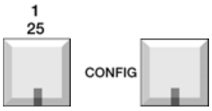
Under such conditions, motion control intensities and parameters will fade in a set time. The final Output values will be dependent upon the submaster contents - and the level of the submaster control if it is used.

Note: some hardware platforms have a direct access key for the Auto mode function.

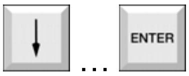
29.9.4 Submaster XFade mode

A submaster configured to the XFade mode allows the operator to fade from the current Output values to the parameter values in the submaster. This is a powerful feature when controlling moving lights and subtle changes are required.

examples of keystrokes



<SUB#> <CONFIG>
➔ Displays the Submaster Configuration dialogue box for the selected submaster(s).



<↓> <Enter>
➔ Navigate to ‘Parameters’ and display the drop-down list of options.

<↓> <Enter> <F8 {ok}>
➔ Select XFade To mode.

29.10 Flashkey control modes for parameters

Output derived from use of the flashkeys will change with the selection of HTP-FTP-LTP operating mode. The table below illustrates the changes seen at the Output of the desk, in different modes.
If a submaster contains instruments that have been given different operating modes in their definition, each instrument type will behave differently when the flashkey is pressed.

Submaster contents will be sent immediately (snap) to the Output in Jump and Fader Control modes, and will fade in time to the Output in Auto Fader Control mode. In each case, Output will return to the previous values when the flashkey is released (or pressed a second time in On/Off mode).

Mode	HTP	FTP	LTP
Normal	Contents will be sent to the Output if greater than the current value.	Contents will be sent to the Output if priority allows.	Contents will always be sent to the Output.
Solo	Contents will always be sent to the Output. All other intensities will be set to zero, however all other parameters will remain unchanged.		
On/Off	Contents will be sent to the Output if greater than the current value.	Contents will be sent to the Output if priority allows.	Contents will always be sent to the Output.
Preset	Contents set by the submaster level will be sent to the Output if greater than the current value.	Contents set by the submaster level will be sent to the Output if priority allows.	Contents set by the submaster level will always be sent to the Output.

29.11 Parameter modes in the playback

The playbacks will operate crossfades manually or automatically for instruments in any of the three control modes: HTP, FTP or LTP. Depending on the parameter's mode, the action of the playback will create different results. The following sections demonstrate the possibilities.

Note: if instruments are used in LTP mode (the default setting for each definition), it must be remembered to configure the playbacks for LTP: this is explained in section 29.6 above.

29.11.1 HTP mode

During a crossfade, the content of Preset will be sent to the Output if it becomes higher than the Stage content: Output values can thus change at any point during the crossfade. If the current Output value is higher than the content of the Preset field, there will be no change to the parameters during the crossfade.

If intensities or parameters need to change at a specific point during a crossfade, a special time must be assigned. This feature provides complete freedom to the operator as each parameter and intensity can have a special time associated to it. Please see *Recording & Modifying Times* for more information.

29.11.2 FTP mode

In FTP mode, the submasters have priority over Playback1, which has priority over Playback2. An active submaster will prevent the contents of a Playback from reaching the Output. If the playback suddenly gets priority (for example, all submaster levels are moved to 0%), then the current values from the crossfade will jump (snap) to the Output, followed by a fade of the contents to their values in Preset.

29.11.3 LTP mode

Control in LTP mode can be taken by the <GO> <BACK> and <PILE> keys, or manually by the Stage and/or Preset faders. The following descriptions cover manual and automatic crossfades. The same philosophy applies to the Back and Pile functions.

Depending upon the starting conditions, the following situations will occur.

Stage & Preset have motion control intensities and parameters;
Output is coming from Stage.
If a crossfade is started, the values of intensity and parameters will go in the fade times to the Output.

Stage & Preset have motion control intensities and parameters;
Output is not from Stage.
If a crossfade is started, the values of intensities and parameters will jump (snap) to the values held in Stage, then fade in time to the new values in Preset.

Stage is empty, Preset has motion control intensities and parameters;
Output is not from Stage.
If a crossfade is started, values of intensities and parameters will fade in time to the values held in Preset.

Stage & Preset have motion control intensities and parameters;
A crossfade is running.
If another field takes control (LTP), Output will be controlled by that field only.

Stage & Preset have motion control intensities and parameters;
A crossfade is running, control has been taken by another field.
If the playback retakes control (for example, pressing <SHIFT + S1>), the Output values will jump (snap) to the current values of the crossfade, followed by a fade in time to the new values held in Preset.

30 TOUCHSCREEN CONTROL

30.1 Introduction

Certain hardware platforms offer an LCD touchscreen, providing access to *ISIS*®
functions as well as displaying additional information. The touchscreen can be set in any one of the five display modes at any time, each of which has its own application.

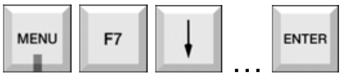
30.2 Touchscreen setup and operation

Once operation of the touchscreen has been mastered, it offers an extremely quick way to select functions and items. Using the touchscreen is extremely simple and requires only minimal configuration.

30.2.1 Configuring the touchscreen

The touchscreen can be configured through the setup options of the menu, or via the dedicated <LCD> key where available. The operator can adjust the contrast setting and set the backlight and click mode.

examples of keystrokes



<Menu> <F7 {Setup}> <TouchPanel> <Enter >
➔ Displays the Edit Touch Panel Configuration dialogue box*884*.

<F8 {Ok}>
➔ Closes the dialogue, once the required settings have been made.

By default, the backlight is set to switch off automatically after 30 seconds of inactivity, although this time period is adjustable. It is also possible to turn the backlight on continually, or to switch it off altogether.

In addition to setting the LCD contrast via the Touchscreen Configuration dialogue, it can also be adjusted directly by using the <ALT> key in association with the wheel.

examples of keystrokes

<ALT + Wheel>
➔ Adjusts the LCD contrast.

30.2.2 Selecting touchscreen modes

The touchscreen can be used to display a variety of information and functions, and can be changed at any point by the operator. Mentor offers dedicated keys to change the display mode; these are located next to the touchscreen. Other hardware platforms require the LCD mode functions to be assigned to other keys.

> Note: assigning a function to a key is explained in the chapter *Macros & Learn Profile*.

The available touchscreen modes are described below.

Mode	Type	Description
LCD 0	Dynamic	Touchscreen functions change relative to the operator's use.
LCD 1	Static	A number of functions are permanently displayed.
LCD 2	XFade	The sequence of playback 1 is displayed.
LCD 3	Output	Channel intensities at the Output are displayed.
LCD 4	Field	Channels in the working field can be selected and intensities displayed.

30.2.3 Selecting functions and other items.

Functions and other items displayed on the touchscreen are selected by pressing the associated touch-key. An item is selected when it is shown in [redacted] colour, pressing a selected item a second time will remove the selection.

30.3 First touch

By default, the LCD backlight is automatically switched off when the touchscreen has not been used for a period of time; this is designed to prolong the life of the light. The backlight will be switched on when the touchscreen is pressed by the operator. (This only affects P10 platforms, for Mentor, LCD screen stays On.)
This first touch has no function, and will not select any options on the touchscreen display – it will only switch on the LCD backlight.

A	B	C	D	Param
Unsel	Off	Grab	Fill	
Home	Open	Ignit	UnLink	Reset
				Mclib
				List
Macro	Group	Chaser	Effect	Memory
List	list	list	list	list

Non-active LCD touchscreen (example contents)

A	B	C	D	Param
Unsel	Off	Grab	Fill	
Home	Open	Ignit	UnLink	Reset
				Mclib
				List
Macro	Group	Chaser	Effect	Memory
List	list	list	list	list

Active touchscreen after first touch

30.4 Static mode (LCD1)

30.4.1 Introduction

When the touchscreen is set to Static mode, a number of functions remain permanently displayed. These have been selected to present the operator with the most useful options, and to provide access to those functions not directly available on all hardware platforms.

A	B	C	D	Param
Unsel	Off	Grab	Fill	
Home	Open	Ignit	UnLink	Reset
				Mclib
				List
Macro	Group	Chaser	Effect	Memory
list	list	list	list	List

Touchscreen display in Static mode

The touchscreen can be used for selecting parameter groups, and certain motion control functions. Selecting one of the 'list' options displays the Direct Load function for the selected entity, if it is applicable. Selecting any of the macro, group, chaser, effect or memory options changes the touchscreen to the relevant display, as indicated below.

30.4.2 Macro display

Selecting the macro option changes the display as shown below. A selected macro can be run directly from the touchscreen, or assigned to a key on the desk. The Macro Manager can also be entered from the touchscreen.

Macros that have recorded contents are indicated with an asterisk (∗), and the operator can select condensed mode if only recorded macros are to be displayed.

1	2	3	4	Mac Mgr
5	6	7	8	All Condens
9	10	11	12	Ass. Key
13	14	15	16	Run
17	18	19.	20	Learn
21	22	23	24	
▲▲	▼▼	Home	1/999	ESC

Macro display mode

A selected macro can be recorded in live mode, by pressing the LEARN function. All subsequent actions made by the operator will then be recorded in a macro, until LEARN is pressed for a second time or the stop macro command is made.

The ESC function returns the touchscreen display to the Static mode.

30.4.3 Group & memory displays

In a similar manner to the macro mode, groups and memories can be displayed on the touchscreen. The relevant manager can be entered directly, and a selected group or memory can be loaded in the current working field. A selected memory number can be recorded directly using the REC function.

1	2	3	4	Grp Mgr
5	6	7	8	All Condens
9	10	11	12	
13	14	15	16	Load
17	18	19	20	
21	22	23	24	
▲▲	▼▼	Home	1/999	ESC

Group display mode

1.	2.	3.	4.	Mem Mgr
5.	6.	7.	8.	All Condens
9.	10.	11.	12.	
13.	14.	15.	16.	Load
17.	18.	19.	20.	Rec
21.	22.	23.	24.	
▲▲	▼▼	Home	End	ESC

Memory display mode

30.4.4 Chaser & Effect displays

Selecting a chaser or effect display mode provides a similar format on the touchscreen. All functions displayed are as described in the chapter *Chasers & Effects*.

1	2	3	Config.	All Condens
4	5	6	Step +	Step –
7	8	9	Add Step	Del Step
10	11	12	Start	Stop
13	14	15		Speed
16	17	18	GoOne	Pause
▲▲	▼▼	Home	End 1/99	ESC

Chaser display mode

1	2	3	Config.	All Condens
4	5	6	Step +	Step –
7	8	9	Add Step	Del Step
10	11	12	Start	Stop
13	14	15		Speed
16	17	18	GoOne	Pause
▲▲	▼▼	Home	End 1/99	ESC

Effect display mode

A loaded chaser or effect can be configured using the CONFIG touch-key, and presents the touchscreen display indicated below. The effect type can also be selected directly from the touchscreen when the TYPE function is pressed.

Mode	Dir	Fade	Cycle	
+	Right	Square	Infinite	
–	Left	Triangle	Input	
Audio +	Pendulum	Saw		
Audio –		Inv Saw		
Midi +		Cross		
Midi –				Back

Chaser & effect configuration

1	Basic Effect			
2	Basic Effect with Audio Speed			
3	Symmetric Effect			
4	Symmetric Effect with Audio Speed			
5	Build Effect			
6	Build Effect with Audio Speed			
▲▲	▼▼	Home	End	Back

Effect type selection (Basic Effect selected)

30.4.5 Effect generator display

When an effect is created using the effect generator, the touchscreen can be used to make selections and assign functions to the wheel. All functions are explained in the chapter *Effect Generator*.

Size	Law	A	Config	Rec.
Speed	Prm Sel.	B	Step +	Step –
Delay	Group	C	Add Step	Del Step
		D	Ch. Up	Ch. Dn
			←	→
Rota.	Shift	Phase	MC	COL
X Up	X Cntr	X Down		Exit

Effect generator functions

The effect law and selected parameter can be chosen from the touchscreen, by using the LAW or SEL PRM functions. This allows the operator to make a selection from a list, and confirm with ENTER.

1	Circle Clockwise X-Y			
2	Circle CounterClockwise X-Y			
3	Square Clockwise X-Y			
4	Square CounterClockwise X-Y			
5	8 Clockwise X-Y			
6	8 CounterClockwise X-Y			
▲▲	▼▼	LAW	Enter	Back

Effect generator law selection (Circle selected)

1	Pan			
2	Tilt			
3	Gobo Wheel 1			
4	Indexing Gobo			
5	Gobo Wheel 2			
6	Focus			
▲▲	▼▼	PARAM	Enter	Back

Effect generator parameter selection (Gobo selected)

30.5 Dynamic mode (LCD0)

30.5.1 Introduction

In Dynamic mode, the touchscreen changes to the most relevant display. For example, if a moving light or colour changer channel is selected, the touchscreen will display the instrument parameters and other motion control functions.

Dynamic mode will automatically change the touchscreen contents between the display modes listed below, as applicable. If none of these options is relevant, the Static display mode is shown.

- Instrument parameters & motion control functions;
- Chaser settings;
- Effect settings;
- Effect Generator settings.

The touchscreen displays for chasers, effects and the effect generator are described above. Displays for a selected instrument are explained below.

30.5.2 Instrument mode

When an instrument is selected in Dynamic mode, the touchscreen is updated to show specific information for the selected instrument, together with motion control functions. The example below illustrates the touchscreen display for a Martin Professional Roboscan Pro 918 in mode 4.

A	B	C	D	9184
1 PAN	3 GW1	C1	ASP	MC Mana.
2 TLT	4 IDX	C2	ESP	MCLib
	GW2		STB	
	FOC			
Unsel	Off	Grab	Fill	Steps
▲▲	▼▼	Home	End	Esc

Instrument mode for a selected instrument (Martin 918)

The touchscreen indicates which parameters are connected to the encoder wheels, where these are available, and allows parameter groups to be selected directly. Pressing the touch-key of an individual parameter will select or unselect that parameter. Other common motion control functions are available at the bottom of the touchscreen.

If the selected instrument definition contains stepped parameters, these can be displayed and selected from the LCD touchscreen by pressing the STEPS function. One parameter is displayed at a time, together with the steps and any labels that have been assigned. Pressing a step touch-key sends this value directly to the current working field.

OPEN 27	GOB1 65	GOB2 85	GOB3 105	9184	
GOB4 125	GOB5 145	GOB5 165	GOB4 185	GW1	
GOB3 205	GOB2 225	GOB1 245			
				ESC	
▲▲	▼▼	Home	00/00	◄◄	►►

Steps function selected from Instrument mode

0001 A ….	0001 B ….	0001 C ….	0001 D ….	Lib Mgr	
0002 A ….	0002 B ….	0002 C ….	0002 D ….	Record	
0003 A ….	0003 B ….	0003 C ….	0003 D ….	Zoom	
0004 A ….	0004 B ….	0004 C ….	0004 D ….	Load	
0005 A ….	0005 B ….	0005 C ….	0005 D ….	Steps	
MC Home	Open	Ignit	Reset	ESC	
▲▲	▼▼	Home	End	◄◄	►►

MCLib function selected from Instrument mode

From the Instrument mode touchscreen, it is possible to display the contents of Motion Control Libraries (MCLibs). By default, the content of five libraries are shown, allowing the operator to select from the MCLib groups and either record the libraries directly using REC, or to apply a library selection to the selected instrument by using LOAD. Zoom can be used to display MCLib groups individually, one screen at a time.

Other motion control functions are available from the bottom of the touchscreen display, and the operator can return to the Instrument mode by pressing ESC.

30.6 Xfade mode (LCD2)

If the Xfade mode is selected, the touchscreen is used to display the sequence of playback 1. The information displayed is identical to a monitor footer configured to show the playback.

The Xfade display mode is purely informational, and allows the operator to visualise the playback sequence. No selections can be made from the touchscreen in this configuration.

MAN SEQ	Sp 100%	FF		– – – – – –		6..0
Event	Mem	1..0	5..0	1..0	5..0	
	0.5	2..0	2..0	Preset		
	1.	7..0	7..0	Blackout		
	2.	5..0	5..0	Cue 1		
	3.	4..0	6..0	Cue 2		
	4.	5..0	5..0	Cue 3		

Touchscreen display in Xfade mode

30.7 Output mode (LCD3)

The Output mode is another information display, and provides the operator with a display of channel intensities at the desk Output. No channel selections can be made from the touchscreen in this configuration.

The operator can select whether to display all channels or only channels that have an intensity (condensed display). In both cases, the display page can be changed by using the ▼▼ and ▲▲ touch-keys and the first page can be selected by pressing HOME.

1	2	3	4	5	6	7	8	9	10
50	50	50	50	50	50				
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
	FF	FF					FF	10	
31	32	33	34	35	36	37	38	39	40
				15	15				
41	42	43	44	45	46	47	48	49	50
						FF			25
51	52	53	54	55	56	57	58	59	60
25		25							

▲▲	▼▼	Home	OUTPUT	Condens

Touchscreen display in Output mode, showing channel intensities.

1	2	3	4	5	6	22	23	28	29
50	50	50	50	50	50	FF	FF	FF	10
35	36	47	50	51	53				
15	15	FF	25	25	25				

▲▲	▼▼	Home	OUTPUT	All

The same Output display in condensed format.

30.8 Field mode (LCD4)

The Field mode displays the contents of the selected working field, showing channel intensities. It is similar to the Output mode, in that channels can be shown in condensed mode if required. Navigation is identical to the Output mode.

1	2	3	4	5	6	7	8	9	10
FF	FF	FF	FF						
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
				50					
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

▲▲	▼▼	Home	Sub 01	Condens

Touchscreen display in Field mode

1	2	3	4	5	6	7	8	9	10
FF	FF	FF	FF						
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
			50						
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60

▲▲	▼▼	Home	Sub 01	Condens

Channels selected directly from the touchscreen

The extra feature of the Field mode is allowing the operator to select channels directly from the touchscreen. This can be much faster than typing in a selection of channels on the keypad. Selected channels can be modified immediately by using the wheel or keypad to assign an intensity, or they can be recorded as a group.

31 USING THE ALPHANUMERIC KEYBOARD

31.1 Introduction

All *ISIS*® functions can be controlled from the alphanumeric keyboard by way of coded mnemonics. These are designed to be easy to remember – they consist mainly of the initial letters of the function, preceded by a symbol representing the type of command. For example, the abbreviation for the function REC is "**/RE**". Certain frequently used commands are always available on the function keys, in conjunction with the <CTRL>, <ALT>, and <SHIFT> keys.

The keyboard codes can be used on the main lighting systems, should it be necessary to use only the alphanumeric keyboard instead of the operating surface. If any system should suffer a front panel failure, work can continue by using the alphanumeric in this way. The keyboard is the only way of controlling an RB backup processor or an *ISIS*® laptop.

To be proficient at operating *ISIS*® from the alphanumeric keyboard, whether this is a main desk, a backup crate, a backup PC, or a laptop for off-line editing, the following commands must be learned.

31.2 Commands on the function keys

The most common commands are available from the function keys of the alphanumeric keyboard. Some are accessed in conjunction with the <CTRL>, <ALT>, and <SHIFT> keys. The table below lists the available functions.

KEY	-	SHIFT	CTRL	ALT
F1	*Screen*	Go 1	Pile 1	S1
F2	*Screen*	Hold 1	Backjump 1	P1
F3	*Screen*	Back 1	Jump 1	S2
F4	*Screen*	Cut 1	Sequence 1	P2
F5	*Screen*	Go 2	Pile 2	Free
F6	*Screen*	Hold 2	Backjump 2	CopyLive
F7	*Screen*	Back 2	Jump 2	Edit Memory
F8	*Screen*	Cut 2	Sequence 2	Patch
F9	Monitor 1	Memory	MCLib	Copy
F10	Output	Group	Effect	Rec
F11	Help	Colour	Chaser	Sum
F12	Menu	Dimmer	Loop	Blackout

31.3 List of keyboard functions

The alphanumeric keyboard can be used for access to all functions.

Some functions are available directly from the keyboard, with no prefix: they are direct access keys. For other functions, the symbol “/” is pressed, followed by the required function mnemonic.

Some functions can be forced into a specific mode, instead of toggling the function. Examples include the submaster Bypass mode and playback Sequence mode. Such functions are forced by pressing “,” (comma) followed by the required abbreviation.

The keyboard can also be used to control faders, such as submasters, the Grand Master and other virtual levels. To assign a fader, the symbol “=” is pressed, followed by the required abbreviation for the fader. Once the fader has been assigned, the level is controlled using the <PG UP> and <PG DN> keys.

The alphanumeric functions are listed in the table on the following pages.

Function	**Keystrokes**	**Force Mode**	**Direct Key**	**Function Key**
+x %	/+x			
–x %	/–x			
A Group (select all)	/ag			
A Group (select parameters)	/aw			
Add Step	/as			
Alias	/ls			
All	/al		a	
Assign	/an			
At	@		*	
Audio submaster mode	/ad	,ad		
Auto submaster mode	/au	,au		
Autogo (memories)			v	
Autogo Playback 1	/a1	,a1		
Autogo Playback 2	/a2	,a2		
B Group (select all)	/bg			
B Group (select parameters)	/bw			
Backjump Playback 1	/u1			CTRL F2
Backjump Playback 2	/u2			CTRL F6
Bank	/ba		b	
Blackout	/bo			ALT F12
Blackout Aux	/bx			
Buffer (clear output buffer)	/bu			
Bypass submaster mode	/by	,by		
C Group (select all)	/cg			
C Group (select parameters)	/cw			
Channel Tracking	/ct			
Chaser	/ch		c	CTRL F11
Clear				SPACE
Clipboard	/cb			
Colour	/co			SHIFT F11
Config submaster	/cf	,co		
Copy	/cp			ALT F9
Cursor Down				Cursor Down
Cursor End				END
Cursor Home				HOME
Cursor Left				Cursor left

Function	Keystrokes	Force Mode	Direct Key	Function Key
Cursor Right				Cursor right
Cursor Up				Cursor Up
Cut Playback 1	/c1			SHIFT F4
Cut Playback 2	/c2			SHIFT F8
D Group (select all)	/dg			
D Group (select parameters)	/dw			
Delete Step	/ds			
Diagnostics	/dc			
Dimmer	/di		&	SHIFT F12
Dimmer Law	/dl			
Direction	/dr			
Disconnect Parameters	/of			
Down Time	/dt		d	
Edit Library	/el			
Edit memory	/em			ALT F7
Effect	/ef		e	CTRL F10
Enter				ENTER
Escape				ESC
F1 screen softkey				F1
F2 screen softkey				F2
F3 screen softkey				F3
F4 screen softkey				F4
F5 screen softkey				F5
F6 screen softkey				F6
F7 screen softkey				F7
F8 screen softkey				F8
Fade (special effects)	/fa			
Fader: Audio	=ad			
Fader: Auditorium	=au			
Fader: Auxiliary	=ax			
Fader: Colour	=co			
Fader: DMX In	=di			
Fader: Effect Speed	=de			
Fader: Intensities	=%			
Fader: Master	=gm			
Fader: Override	=ov			
Fader: P1	=p1			
Fader: P2	=p2			
Fader: S1	=s1			
Fader: S2	=s2			
Fader: Speed 1	=d1			
Fader: Speed 2	=d2			
Fader: Sub Flash	=fl			
Fader: Sub General	=sm			
Fader: Submaster 1	=01			
Fader: Submaster 48	=48			
Fader: XX	=xx			
Fader: YY	=yy			
Fill	/fi			
Flash Mode	/fl	,fl		
Flash: Submaster 01	,01			
Flash: Submaster 48	,48			
Flip	/fp			
Free	/fr			ALT F5
From Disk	/fd			
Full			f	
Go Playback 1	/g1			SHIFT F1
Go Playback 2	/g2			SHIFT F5
Go Back Playback 1	/b1			SHIFT F3

Function	Keystrokes	Force Mode	Direct Key	Function Key
Go Back Playback 2	/b2			SHIFT F7
Grab	/gb			
Group	/gr		g	SHIFT F10
Help			?	F11
Hold Playback 1	/h1			SHIFT F2
Hold Playback 2	/h2			SHIFT F6
Home	/ho			
If Down	/if			
Ignition	/ig			
Inhibit	/in	,in		
Input	/ip			
Input Patch	/pi			
Invert	/iv			
Jump Playback 1	/j1			CTRL F3
Jump Playback 2	/j2			CTRL F7
K0	/k00			
K1	/k01			
K2	/k02			
K3	/k03			
K4	/k04			
Last	/la		l	
Link	/lk			
CopyLive	/li			ALT F6
Load			INSERT	
Lock	/lc			
Loop	/lo			CTRL F12
Macro	/ma		#	
Mask	/mk			
MCLib	/ml			CTRL F9
Memory	/me		m	SHIFT F9
Memory Track	/mt			
Menu				F12
Minus			-	
Mode (Effects)	/mo			
Monitor 1	/m1			F9
Monitor 2	/m2			
Monitor 3	/m3			
Monitor 4	/m4			
Network	/nw			
Next Channel	/ne		n	
Next Existing Memory			}	
Next Non-existing Memory			]	
Open	/op			
Output	/ou		o	F10
Output Patch	/pa			ALT F8
Page– (parameters)	/p–	,p–		
Page+ (parameters)	/p+	,p+		
Page Down				PGDN
Page Up				PGUP
Parameters	/pm			
Part Copy	/pc			
Part Load	/pl			
Part Record	/pr			
Part Sum	/ps			
Pause	/sp	,sp	;	
Pile Playback 1	/l1			CTRL F1
Pile Playback 2	/l2			CTRL F5
Plus			+	
Point			.	

Function	Keystrokes	Force Mode	Direct Key	Function Key
Preset 1 Field	/p1			ALT F2
Preset 2 Field	/p2			ALT F4
Previous Channel	/pe		p	
Previous Existing Memory			{	
Previous Non-existing Memory			[	
Print	/pt			
Record	/re			ALT F10
Remote Control	/rc			
Replace	/rp			
Return	/rt		r	
Sequence Playback 1	/q1	,q1		CTRL F4
Sequence Playback 2	/q2	,q2		CTRL F8
Solo	/so			
Special Times	/st		t	
Stage 1 Field	/s1			ALT F1
Stage 2 Field	/s2			ALT F3
Step– (parameters)	/s–	,s–		
Step+ (parameters)	/s+	,s+		
Step Back			<	
Step Forward			>	
Sub/Ch Select mode			s	
Sub/Param Select mode				F6
Submaster 01 Field	/01			
Submaster 48 Field	/48			
Sum	/su			ALT F11
Synchro	/sy			
Test	/te			
Thru				TAB
Thru-On				SHIFT TAB
To Disk	/td			
Trackball	/tr	,tr		
Unfold				F6
Unlink	/uk			
Unselect (parameters)	/un			
Up Time	/ut		u	
Wait Time	/wt		w	
X&Y	/xy			
XX Only	/xx			
YY Only	/yy			
Zoom (MCLib)			z	

32 SYNCHRONISED TRACKING BACKUP

32.1 Introduction

ISIS® software provides advanced Ethernet networking, based on the industry standard ArtNet communication protocol. An Ethernet network allows *ISIS®* to transmit multiple universes (lines) of DMX data, connect to other *ISIS®* lighting desks, communicate with visualiser software (such as WYSIWYG and MSD), and establish remote file servers for storage of show data. These are advanced functions, and are explained in a separate manual(ADB Ethernet Network Guide, free download from the ADB website).

The Ethernet network can also be used to create a simple back-up network, utilising two *ISIS®* systems. This allows one desk to be the "Master" and the connected desk the "Slave". The Slave is synchronised to the Master system, and tracks all operations made. If the Master system fails for any reason, the Slave desk automatically transmits the DMX data, and allows the operator to take control from the same point in the show. This is called Synchro Networking.

32.2 Connecting two *ISIS®* systems using Ethernet

Any two *ISIS®* systems can be connected by Ethernet, and configured as a tracking backup system. It is recommended to keep the physical connection between the two systems in place at all times; the synchro function can be disabled from the software if not required.

The Master and the Slave systems synchronise via the Ethernet network ports and authorise a fast communication running at 100MB/s. The systems can be connected by two standard Ethernet cables and a Hub, or via a single Ethernet crossover cable. Wiring between devices should use Unshielded Twisted Pair (UTP) Cat5 cable, using RJ45 connections and limited to 100metres maximum.

32.3 Desk Synchro Setup

The ADB Ethernet network allows three kinds of desk identities: Master, Slave & Screen. Each has a different function, as illustrated below.

Desk Type	Description
Master	The Master system is in control of the DMX512 data: it is the console normally used to control the lighting systems and transmits DMX512 data across the Ethernet network.
Slave	The Slave system tracks all manipulations carried out on the Master system. If the Master console fails, the Slave will automatically calculate and transmit the DMX512 data across the Ethernet network. Work can be continued on the Slave console from the point of failure of the Master system failure, with no visible difference on stage;
Screen	The Screen systems track all manipulations carried out on the Master system, but the Screen will never transmit DMX512 data: it is purely used for information purposes

Note: the simple tracking backup setup only requires a Master and Slave system.

32.3.1 Desk subnets

The full Ethernet networking functions permit many *ISIS®* systems to be connected to the same Ethernet network. The Ethernet network can support several independent lighting networks, allowing a number of smaller communication groups to be implemented within that structure. These smaller networks are called “Subnets”, and the subnet that each *ISIS®* system belongs to is set in the software. *ISIS®* systems set to the same subnet will be able to communicate with each other, but will remain unaware of *ISIS®* systems set to a different subnet.

The advantage of this method is that each control system can be re-assigned to a different lighting network (subnet) as required, without having to physically connect the system to a different cable. Each desk subnet can comprise of a Master system, a single Slave system, and an infinite number of Screen systems; the subnet that these desks belong to is called the *Subnet Address*. *ISIS®* allows only one desk on each desk subnet to send out DMX512 information at any time.

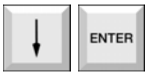
Note: advanced network functions are explained in a separate manual (ADB Ethernet Network Guide).

It is therefore important that the two desks connected in a synchro backup situation are assigned to the same subnet.

examples of keystrokes

<Menu> <F6 {network}> <F7 {Network Info}>

➔ Allows screen contents and settings to be configured.



<↓> <Enter>

➔ Use the arrow keys and <ENTER> to move to the ‘Network Subnet option and display the drop-down list.

OR


wheel **or** <↓>
or use the alphanumeric keyboard directly

➔ Use the wheel, the down arrow key or keyboard to select the required subnet.

<Enter> <F8 {ok}>
➔ Selects the highlighted subnet, and exits the Network Status dialogue box.

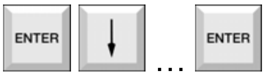
It is important that both the Master and Slave systems share the same subnet.

32.3.2 Setting Master & Slave modes

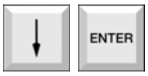
The mode of each system must be set in the *ISIS*® software in order for the backup network to be configured correctly. This is achieved in the Network options of the menu.

examples of keystrokes

<Menu> <F6 {network}> <F1 {Setup Synchro}>
➔ Displays the Synchro Configuration dialogue box*850*.

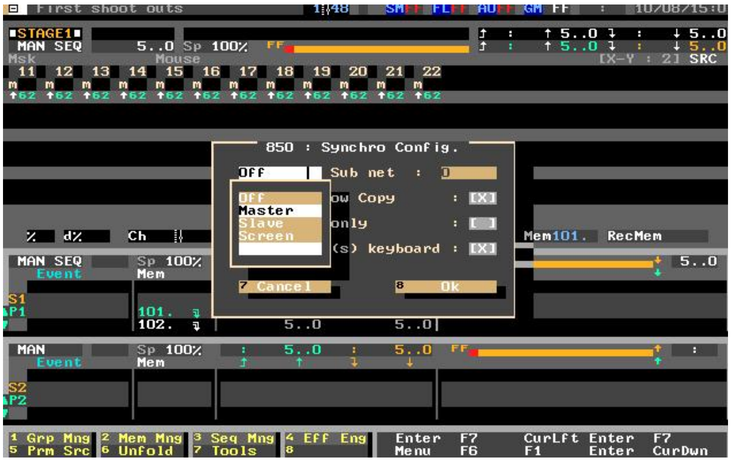


<Enter> <↓> … <Enter>
➔ Displays the drop-down list of system modes. Use the arrow key and <ENTER> to select Master or Slave as required.



<↓> <Enter>
➔ Selects the Synchro Show Copy option, if required.

<F8 {ok}>
➔ Applies the settings and exits the dialogue box.



*Synchro Config(Dialogue box*850*)*

The Synchro Show Copy function, when enabled, will automatically copy the working data and configuration of the Master system to the Slave each time the Master is started.

32.4 Synchronising Systems

In order to ensure that the Master and Slave systems contain the same working data and that all options are configured identically, it is necessary to synchronise the two systems. This function will copy the working data of the Master to the Slave system.

examples of keystrokes

<Menu> <F6 {network}> <F4 {Desk Synchro}>
➔ Selects the Desk Synchro function.

A WARNING IS ISSUED
➔ A warning is given: All working data will be sent to the Slave - Are you sure?

<F8 {ok}>
➔ Confirms the operation.

32.5 Switch Synchro Role

If it is required to switch the Master to Slave role, and vice versa, it is possible to achieve this from a simple menu function.

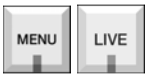
examples of keystrokes

<Menu> <F6 {Network}> <F2 {Switch Synchro Role}>
➔ Switches the role of each system in the backup network from Master to Slave.

32.6 Safely Lock the Front Panel of the Slave Desk

It will be always useful to take precautions to lock the front panel of the Slave Desk in case of any fault operations from it.

examples of keystrokes



<Menu> <Live> (= Copy Live on new boards)
➔ Press **Menu** key together with Live Key.

33 HELP

33.1 Introduction

ISIS® is equipped with extensive on-line help files. The Help function aims to give an overview of all possible functions on the desk, and can be used in two ways:

- ➔ Help can be found on a specific subject, either by jumping directly to its hypertext link on the first page, or by finding the required subject via the alphabetical links;
- ➔ The hypertext links make it possible to browse through the files, finding relevant or similar subjects.

The Help function is easily activated by pressing <HELP>, or from the Info options of the menu.

Note: for MENTOR series, HELP function can be accessed by pressing MENU, then F8 (Infor), then F1.

33.2 Help on a specific subject

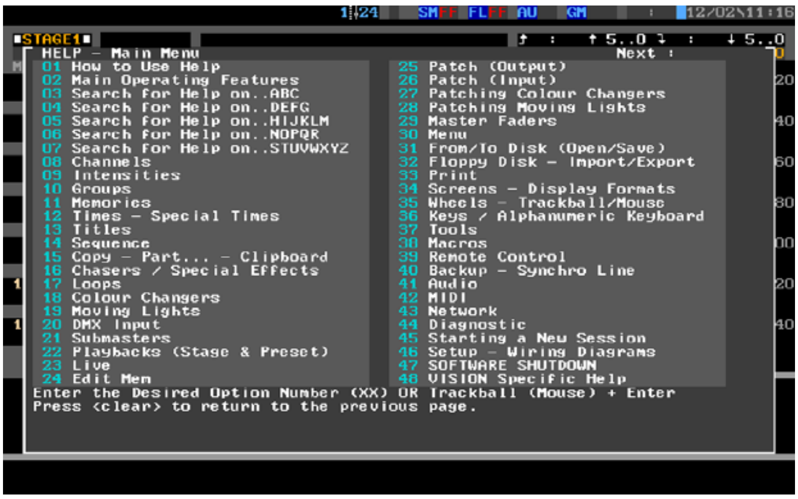
Many subjects have direct hypertext links on the first page of the Help file. Entering the number of the desired option displays the subject.

If the required subject is not in the main help menu, one of the alphabetical searches can be used to search sub-menus of subjects.

examples of keystrokes

Or


<HELP> or <Menu><F8><F1>
- ➔ Displays a list of available help subjects.
- ➔ Many of these will have sub-topics within them.

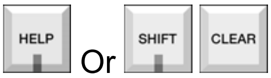


The Help function main index

<1><1> <ENTER>
➔ Makes a subject selection, this example is "memories".

The help file on memories is displayed. It can be scrolled through using the arrow keys or the mouse on the scroll bar. Whenever a word is preceded with a number in pale green, this is a hypertext link to a sub-topic.

<0> <5> <ENTER>
➔ Selects the sub-topic, this example is "fade times".



<HELP> Or <ESC>
➔ Pressing Help a second time exits the Help files.
➔ Or Pressing Shift + Clear to exit the Help files
➔ Or Escape on the alphanumeric keyboard also exits the Help file.

33.3 Browsing the help files

The very nature of the hypertext links makes the help files easy to browse: every time there is a link or subject heading of interest, enter its number on the keypad. Follow the on-screen instructions for help on navigating through the help files.

examples of keystrokes

<HELP> Or <Menu><F8><F1>

➔ Displays a list of available help subjects, many of these will have sub-topics within them.

<4><0> <ENTER>
➔ Makes a subject selection, this example is "back up".
➔ Continue to use the hypertext links to browse the files at leisure.

<CLEAR>
➔ Returns to the previous page.

Or


<HELP> Or <ESC>

➔ Press Help a second time to exit the Help files.
➔ Or Press Shift + Clear to exit the Help file.
➔ Or Escape on the alphanumeric keyboard also exits the Help file.

34 TROUBLESHOOTING

34.1 Introduction

ISIS® is a comprehensive lighting software, providing advanced control of a DMX lighting system. It is important that the operator takes the time to learn the features and functions of *ISIS*®, in order to fully realise the potential of the software and to recognise common mistakes.

The sections below include some frequently asked questions regarding the *ISIS*® software.

34.2 Channel Control

34.2.1 No channel numbers are displayed on the monitors

explanation	The monitor display configuration is in a mode that only displays channels that have an intensity, such as Non-Zero or Compressed.
solution	Change the display mode to show All or All Patched channels.

34.2.2 Some channels appear to be captured and cannot be changed

explanation	The channels are either in a submaster in Bypass mode, or have been captured in the Live working field. If the channels are displayed in purple, they are in a submaster; if they are displayed in red, they are in Live.
solution	To control the channels either remove them from the Bypassed submaster, remove the Bypass mode, or free them from the Live field.

34.2.3 Some channel intensities do not appear at the Output

explanation	Channels that are included in the Auditorium group will not appear at the Output if the Auditorium level is zero.
solution	Remove the channels from the Auditorium group, or increase the Auditorium level.

34.2.4 Yellow dots appear at the Output instead of channel intensities

explanation	The selected channels are in an Inhibited submaster, which is preventing them from being sent to the Output.
solution	To control the channels either remove them from the Inhibited submaster, remove the Inhibit mode, or raise the Inhibited submaster fader to 50%.

34.2.5 Changing channels defined as moving lights “m” or colour changers “c”

explanation	Deleting or resetting the patch will not change the channel definition information.
solution	Moving light and colour changer assignments must be removed from the Channel Allocations dialogue from the channel options of the menu.

34.3 Submasters

34.3.1 The submasters do not seem to be working correctly

explanation	There are a number of reasons why operation of the submaster faders may not produce the expected result.
solution	1) Check that the required submaster page is selected. 2) The submaster fader may need to be moved to "collect" the virtual fader level if there is a difference. 3) Submaster faders can also be used to control parameters and channels directly in *ISIS®*; check that the Unfold and Manual Table functions are not active. 4) Ensure the Submaster General fader level is not at zero.

34.3.2 Erasing a submaster sets a strange configuration

explanation	The Default Submaster Configuration values are applied each time a submaster is erased.
solution	These values can be changed in the setup options of the menu.

34.3.3 Flashkey does not work

explanation	The submaster flashkeys can be independently configured, which may result in unexpected behaviour.
solution	1) Check the Flash Master level is not at zero. 2) Check that the Flash mode is not set to Off.

34.3.4 A running chaser or effect is not seen at the Output

explanation	The fader level of the submaster containing a chaser or effect must be raised in order for the contents to be seen at the Output.

34.4 Functions & Menus

34.4.1 Not all functions are available in the Menu or dialogue boxes

explanation	The *ISIS®* profile being used has limited the available functions and/or disabled some options from being changed.
solution	Either edit the profile to provide the necessary functions, or apply another profile.

34.4.2 The system time needs changing

solution	The time used by *ISIS®* is adjusted in the Setup utility.

34.5 Memories and Playbacks

34.5.1 Certain memories cannot be loaded in the playbacks

explanation	Allowed memories of each playback can be set within a defined range.
solution	Check that there is no limit on the required playback.

34.5.2 Memories are only loaded to the Preset field of a playback

explanation	*ISIS®* provides this function as a selectable option.
solution	Check the Load to Preset function is disabled in the playback configuration menu.

34.5.3 A memory does not appear the same as it was when it was recorded

explanation	There are two different methods for recording memories, depending on what is to be recorded.
solution	1) To record the working field contents only, use the Rec function. 2) To record the entire desk Output, use the Sum function.

34.5.4 Memories, groups and other entities cannot be recorded or deleted

explanation	Memory protection is on, preventing items from being recorded, deleted or modified.
solution	Disable memory protection from the setup options of the menu.

34.6 Inputs

34.6.1 The DMX input is not working

explanation	The DMX input must be enabled before the input signal is seen.
solution	Enable the DMX input in the General Configuration dialogue box

34.6.2 The Audio input is not working

explanation	The Audio input must be enabled before the input signal is seen.
solution	Enable the Audio input in the General Configuration dialogue box

34.7 File Management

34.7.1 A show saved on floppy disk has not been re-loaded into ISIS®

explanation	Importing a show from an *ISIS®* floppy disk only takes the show into the File Manager; it must be made the current show by loading the file as usual.
solution	Load the imported show.

34.8 Miscellaneous

34.8.1 The touchscreen is not working.

explanation	A number of reasons can affect the touchscreen operation.
solution	1) Check that the contrast setting is suitable. 2) Check that the backlight mode is not set to Off. 3) Certain functions will only be available if the selected channel is a moving light or colour changer.

34.8.2 No DMX output

explanation	There could be a number of reasons for no apparent DMX output. The most common reasons are given below.
solution	1) Check that the DMX cable is physically connected to the correct desk output. 2) Check that the output patch is correct.

34.8.3 The message "Desk offline!" is displayed

explanation	Certain hardware platforms utilise an external processing unit (EPU) that is connected to the front panel via a high-speed multicore cable. The message "Desk offline" is displayed by *ISIS®* when the front panel is not detected.
solution	Turn on the desk front panel.

34.8.4 Infra-red remote control is not working

explanation	There could be a number of reasons for loss of infra-red remote control operation. The most common causes are given below.
solution	1) Ensure that the remote control options are enabled in the General Configuration dialogue box. 2) Ensure that the batteries in the remote unit functioning. 3) Check that the receivers are connected to the infra-red port of the desk.

34.8.5 Synchronised tracking backup is not working

explanation	There are a number of reasons for loss of communication between a desk and its backup unit. The most common causes are given below.
solution	1) Ensure one system is Master, the other Slave. 2) Both systems must be on the same sub-net.

35 ADDITIONAL SOURCES OF INFORMATION

The User Manual for ISIS 2.45.
The comprehensive User Manual for ISIS® 2.45 can be downloaded from the ADB website. http://www.adblighting.com > ADB Products > Control Desks > ISIS® Software > ISIS® 2.10 / 2.45 User Manual.

The ADB Ethernet Network Guide
The "ADB Ethernet Network Guide" can be downloaded from the ADB website. http://www.adblighting.com > ADB Products > Interfaces > Ethernet > select the User Manual.

ESTA and its Technical Standards Programme
Learn more about - or participate in - the ongoing standards development efforts: http://www.esta.org/tsp/
Example: the ESTA Control Protocols Working Group covers subjects such as

- DMX512-A the future successor to DMX512/1990
- RDM Remote Device Management (EIA-485 serial transmission)
- ACN Advanced Control Network (over Ethernet).

The process of creating a new standard includes one or several Public Reviews. Participate!

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