ARRI IMAGINE

OPERATORS MANUAL

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1. GETTING THE MOST FROM THIS TUTORIAL

PLEASE READ CAREFULLY ALL OF THE "GETTING STARTED" SECTION.

Even if you are an experienced Lighting Control user, we strongly recommend working through the whole tutorial section. If you don't, you risk getting into bad operational habits, and you won't get the maximum benefit from your Imagine.

Generally, we show you a valid keystroke sequence for each function demonstrated in the tutorial. Each function key is shown between square brackets:

[REC] [ENTER]

Sometimes a keystroke is not strictly necessary - for example, the [ENTER] at the end of a TIME instruction sequence only reorganises the operator prompt, it's not actually needed to input the times. In these cases, the function is shown in round brackets, eg:

[DELAY] [5] ([ENTER])

Numeric entries such as channel and cue numbers are shown in the same way, except that a sequence of keystrokes resulting in a number including more than one digit (and possibly including a decimal point) is shown in one set of square brackets, for the sake of clarity:

[CUE] [327.8] [A/B GO]

When working through the examples given, always watch the OPERATOR PROMPTS at the foot of the screen. With a little practise, this soon becomes all the help you need!

If you get stuck, don't panic. Check the Operator Prompt - it may have something useful to say to you to get you out of trouble.

Remember that IMAGINE is a very forgiving system! There is often more than one way to accomplish the same result, and we encourage you to use the system in the way with which you are most comfortable.

Finally, we at ARRI regard selling you an Imagine as the beginning of a relationship with you, the user, not an end in itself. (We want to sell you your NEXT control system in ten years time!) We are always pleased to hear from customers, and happy to help if you get stuck! Remember that we and your local ARRI dealer are only a phone call away for free advice on getting the best from your Imagine lighting control system.

ARRI (GB) Ltd
16 June 1988

2. MAINS POWER SUPPLY

WARNING:
READ THIS SECTION BEFORE ATTEMPTING TO OPERATE YOUR IMAGINE LIGHTING CONTROL SYSTEM. FAILURE TO ADHERE TO THE FOLLOWING INSTALLATION AND CARE PROCEDURES INVALIDATES THE WARRANTY.

VOLTAGE SELECTOR

IMPORTANT: before switching on, check that the voltage selector(s) on the rear panel are correctly set for the appropriate voltage. ARRI(GB) Ltd. accepts no responsibility whatsoever for damage resulting from the wrong voltage setting being used.

POWER SUPPLY

Always ensure that the mains supply is within its specified limits and is on a different phase or supply circuit from any equipment which may cause voltage disturbances, such as power amplifiers, pyrotechnic devices, HMI ballasts or heavy machinery.

If the supply voltage to the IMAGINE system does have occasional switching transients, brown-outs etc., external filtering will have to be provided. An uninterruptable Power Suppy is available for your Imagine, which will run the system successfully for up to two hours in the event of a power failure. Please contact your ARRI dealer for advice.

EARTHING

Ensure that the IMAGINE console is supplied with a good, low impedance earth.

VOLTAGE & FREQUENCY

220/240 Vac at 50/60Hz, 3 Amp max.
110/120 Vac at 50/60Hz, 5 Amp max.

FUSING

IMAGINE System
220/240 Vac: 3 Amp, Anti-Surge, 20mm
110/120 Vac: 5 Amp, Anti-Surge, 20mm

BACKUP System
220/240 Vac: 500mA, quick blow, 20mm
110/120 Vac: 1 Amp, quick blow, 20mm

The fuses are located in the IEC Mains Input Socket(s) on the rear panel. To change fuse, first disconnect the IEC mains lead from the socket, then carefully lever out the plastic fuseholder plate with a small screwdriver.

3. SYSTEMS INPUTS/OUTPUTS

DIMMER DATA

SIGNAL
USITT DMX 512 Digital Multiplex, RS485 Serial Data. Two Dimmer Data sockets are provided with Imagine 500, with 512 dimmer outputs per connector.

CONNECTOR
5-pin XLR Socket
Pin 1 Signal Common (Shield)
Pin 2 Dimmer Drive Complement (data minus)
Pin 3 Dimmer Drive True (data plus)
Pin 4 Spare
Pin 5 Spare

CABLE
Shielded twisted pair approved for RS422/485.
Examples for suitable cable are Belden 9841, Alpha 5271.
NOTE: A good quality microphone cable such as MUSIFLEX or ROCKFLEX may be used for shorter cable runs (up to 200 metres).

REMOTE CONTROL

SIGNAL
ARRI(GB) Digital Multiplex, RS422 Serial Data

CONNECTOR
6-Pin XLR Socket
Pin 1 0 volts, Common
Pin 2 +12 volts supply
Pin 3 +Data from Remote Control Unit
Pin 4 -Data from Remote Control Unit
Pin 5 -Data to Remote Control Unit
Pin 6 +Data to Remote Control Unit

FUSE
1 Ampere, Quick Blow, 20mm

CABLE
3 twisted pairs, overall screen, 24 AWG, eg: Belden 9503, STC D83P24

NOTE: For cable runs in excess of 100 meters, a local power supply unit should be provided. If in doubt, contact your ARRI dealer.

COLOUR MONITOR

SIGNAL
RGB, TTL Level: CGA/EGA Multisynch compatible at 18 kHz scan frequency.

CONNECTOR
9 Pin D Connector Socket
Pin 1 Common
Pin 2 Common
Pin 3 Red
Pin 4 Green
Pin 5 Blue
Pin 6 Intensity
Pin 7 N/A
Pin 8 Horizontal Synch
Pin 9 Vertical Synch

MONOCHROME MONITOR

SIGNAL
RS-170 Composite Video

CONNECTOR
BNC 75 Ohm

4. POSITIONING & ENVIRONMENTAL CONSIDERATIONS

ENVIRONMENTAL

Operating Temperature: 0-35 degrees Celcius
Humidity: 20-80% non-condensing

MAGNETIC INTERFERENCE

Do not operate IMAGINE console or monitor in close proximity to strong magnetic fields, eg: loudspeakers, DC monitors or large transformers.

VENTILATION

Do not obstruct airflow at any vent either under the IMAGINE console or on top panel.

NOTE: The console surface around the exhaust vent (top left side) will be warm to the touch in normal running. This is perfectly normal, and should not cause concern.

DIMENSIONS

Console:	w1095mm	d400mm	h90mm
Monitor:	w350mm	d350mm	h400mm

5. RESETTING THE SYSTEM

In exceptional circumstances, it is possible that IMAGINE could be adversely affected by outside events, particularly mains supply spikes and brown-outs.

If these are really bad, the system may behave unpredictably, or even crash. This need not be a disaster, if you know what to do!

1. Switch off the system.

2. Press SUBMASTER BUMP BUTTONS [7][8] and [9]

3. Keeping [SUB7, 8 and 9] depressed, switch the system ON.

This will reset the system completely, and will clear any corruption induced by external interference.

NOTE THAT THIS PROCEDURE WILL CLEAR THE SYSTEM MEMORY.

All cues, submaster assignments, softpatch and system configuration and default settings will be cleared. These can be easily reset by loading an existing show from disc.

MOMENTARY POWER-OUTS DURING A SHOW

If you lose power momentarily, Imagine will think that you have switched it off and on, and will accordingly start its normal initialisation procedure.

The lights won't go out - YET. When data goes away, the Output Modules will keep sending the last output levels to the dimmers, so the ligting state will "freeze" in output.

IMMEDIATELY DISCONNECT THE DIMMER DATA CABLE FROM IMAGINE!!!
The lighting on stage will stay the same.

Now, when Imagine has fully re-initialised, and you see the familiar OUTPUT display, call up the cue you were in when power failed, and send it to the system output, eg:

[CUE] [45] [A/B GO]

As soon as the Output display shows that the cue is established, reconnect the dimmer data cable. As the signal reaching the dimmers is now the same as before, no change will take place to the lighting state.

We recommend that you practice this emergency drill a few times - we sincerely hope you'll never need to use it!

6. ROUTINE CARE

KEEPING THE CONSOLE CLEAN

Wipe down the console from time to time, using a proprietary anti-static cleaning fluid.

Do not use any abrasive material on the front panel, as this will seriously damage paintwork and screened legends.

Keep the console covered, using an ARRI dust cover, when not in use.

KEEPING THE MONITOR CLEAN

VDU screens attract dust! Wipe down every day, to keep the picture clear and sharp.

The monitor screen is coated with an anti-glare surface, to be kind to your eyes. Use only a soft cloth, dampened with a suitable anti-static fluid, to preserve this valuable coating.

ELECTRONIC MAINTENANCE

Attempts by unauthorised personnel to perform electronic maintenance on the IMAGINE may result in invalidation of the warranty.

If in doubt, call your ARRI Dealer, who is authorised to carry out service work on your IMAGINE system.

There are no user-serviceable parts inside the IMAGINE console, and the console should not be opened, other than by an authorised ARRI Lighting Control service engineer.

7. CARE OF FLOPPY DISCS

DISC TYPE

Any 3.5 inch Double Sided Floppy Disc may be used, but it must first be formatted on an IMAGINE system (see Tutorial 5.2).

NOTE FOR USERS OF EARLY IMAGINE SYSTEMS

From Software version 1.3 onwards, it has been necessary to use DOUBLE SIDED 3 " discs.

However, shows written on single sided discs using pre - 1.30 software versions may be READ into later Imagines, and should then be recorded onto a formatted double sided disc.

DISC DOs AND DON'Ts

DO keep discs away from dust and dirt, to prevent data errors.
DO store discs away from magnetised objects.
DO store discs away from bright sunlight and high temperatures.

DON'T open the protective shutter and touch the disc surface.
DON'T deform the disc hub.
DON'T store discs in humid conditions.
DON'T insert foreign objects into the disc housing. This will cause irreparable damage to the disc.

ALWAYS KEEP A BACKUP COPY OF YOUR SHOW IN A SAFE PLACE.

1. CHANNEL CONTROL

Check that the keypad is in CHANNEL mode. The led on the CHAN switch should be lit, and the prompt:

SELECT CHANNEL NUMBERS

should be displayed on the screen. If it isn't, press [CHAN].

1.1 SELECTING & MODIFYING CHANNELS & LEVELS

Use any combination of channel numbers and channel control functions to select groups of channels to control, eg:

[1] [THRU] [5] [AND] [10] etc

The selected channel(s) are displayed with their present intensities shown in yellow. This means that you have direct control of these channels.

To set a level, move the WHEEL up or down. All the selected channels increase or decrease in intensity by the same amount, in relation to their starting levels.

To force all selected channels to go to the same level, use any of the following:

[ON] - sets all selected channels to the preset ON level.

[AT] [75] - sets all selected channels to 75%.

[AT] [+] [+] [+] - increases channel levels in steps of 1%.

All of these functions operate, in OUTPUT or BLIND, any time that channels are selected (yellow intensities).

To select ALL active channels, press

[CHAN] [ENTER]

All channels with intensities above zero will be selected, and may be raised or lowered on the WHEEL. This is a good way to increase or decrease the overall level of a cue.

1.2 FLASH AND SOLO

Use FLASH to identify live channels in output:

[45] [AND] [54] [FLASH]

Flash is a momentary action key - it operates while you press it. If the level of a channel to be FLASHed is 50% or below, the channel will FLASH to 100%. If the channel is at 51% or above, it will FLASH to OFF. This is to help you to locate a light in the studio, or on the stage.

Use SOLO to isolate a channel or group in output - say if you want to refocus one lamp, without the other live circuits getting in the way:

[125] [SOLO]. . . . . [SOLO]

All the channels NOT selected are taken to 00%, as CAPTURED CHANNELS. It doesn't matter whether they are in playbacks, submasters or channel control - IMAGINE will remember! During a SOLO operation, you may vary the intensity of the selected channel(s), or select additional channels. To clear SOLO, press the [SOLO] key one more time. The output is restored, and the channels modified in SOLO are shown as CAPTURED CHANNELS.

1.3 GROUP

The GROUP function enables you to select all of the channels recorded as a CUE, or as a SUBMASTER, and adjust their levels, using the channel control functions described above.

[GROUP] [12.6] [WHEEL]

takes all channels recorded into cue 12.6 (at their present levels) and increments or decrements channel intensities by the same amount. Alternatively,

[GROUP] [12.6] [ON]

brings all channels recorded into cue 12.6 to the levels at which they were recorded.

[GROUP] [SUB] [12] [AT] [75]

takes all channels recorded into SUBMASTER 12 to 75% of their recorded levels in SUBMASTER 12.

This can be extremely useful, for example when adjusting colour groups which were previously recorded into a cue, using Sub-masters.

1.4 CAPTURED CHANNELS AND RELEASE

Notice that any channels which have been modified in output, using channel control functions, will display their modified intensity in RED, following the selection of the next channel or group. Notice also that the red CAPTURED CHANNELS flag is shown in the top left corner of the screen.

CAPTURED CHANNELS are channels which have been taken over (captured) by the channel controller, and modified in output. The CHANNEL CONTROL FUNCTIONS have priority over the playbacks and submasters, so CAPTURED CHANNELS will remain at their set levels, irrespective of changes in the playbacks, unless released. It is important to understand the working of CAPTURED CHANNELS and RELEASE, in order to get the most from your IMAGINE Lighting Control System.

A Clear down the system, select a channel and modify it. Now press [RELEASE]. The channel reverts to OFF, which was the level of the channel before it was captured.

B With a CUE in a Playback, select a channel and alter its level. Press [RELEASE]. The channel reverts to the level at which it was recorded in the cue in playback.

C With a cue in playback, make a series of modifications to different channels, eg:

[25] [WHEEL] [36] [ON] [74] [WHEEL] etc

With a channel (or channels) selected (yellow intensity), press [RELEASE]. Only the channels under direct control will be immediately released to their previous levels. To release the other captured channels (red intensities), press [RELEASE] a second time. This means that you can always release the channel you are working on, without losing the modifications to other channels, prior to rerecording a cue.

D With a cue in playback, modify a channel or channels, then record the change:

[CUE] [5] [GO] [CHAN] [15] [WHEEL] [REC] [ENTER]

Channel 15 is still captured. Now press [RELEASE].

Channel 15 is released AT THE NEWLY RECORDED LEVEL.

Remember:

RELEASE without RECORD = OLD LEVELS

RELEASE with RECORD = NEW LEVELS

WE suggest that you practise the use of CAPTURED CHANNELS and RELEASE until you are completely comfortable with this powerful function.

2. RECORDING CUES

Having set up a lighting state, using the channel control functions described in section one, you probably want to record it as a CUE. This may be done either in OUTPUT or in BLIND display modes.

2.1 RECORDING IN OUTPUT DISPLAY MODE

WHAT YOU SEE IS WHAT YOU GET! When you record in OUTPUT mode, the complete output state will be recorded, either as a CUE (number 0.1 to 999.9), or as a SUBMASTER (number 1 to 24).

The CUE or SUBMASTER which you will record is displayed on the CUE LINE, above the PLAYBACK DISPLAY on the monitor. It will look something like this:

CUE 25.7 3.5/00:5 WT 0.0 XFAD

The numbers separated by the slash are the recorded UP and DOWN fade times for the cue. WT is the wait between the start of the UPfade and the start of the DOWNfade, if desired. More of this in 2.3 below. XFAD means CROSSFADE, the normal TYPE of cue to be recorded (see section 11 - FADE TYPES below).

Recording itself is extremely simple. Having set up some channels, select the cue number you want (IMAGINE will offer you CUE 1 if no cues have previously been recorded), using the CUE function switch to the left of the numeric keypad:

[CUE] [26] [REC] [ENTER]

IMPORTANT - when you pressed [REC], IMAGINE prompted you to confirm the record operation with [ENTER], or to escape with [CLEAR]. Every time that you do something which will result in a change to the recorded state of your show, IMAGINE will ask you to confirm it, usually with [ENTER]. This means that, if you do make a mistake, no harm is done - just press [CLEAR], and the recording operation will be abandoned.

2.2 COPYING A CUE IN OUTPUT

You may want to copy an existing output state into a number of different cues in the show. This is very easy - simply insert the number of the cue you want to copy TO, between [REC] and [ENTER], for example:

[REC] [30] [ENTER] [REC] [32] [ENTER] [REC] [34] [ENTER]

copies the present output into cues 30, 32 and 34. If these cues already exist, their contents will be overwritten; if not, then new cues will be automatically created, copying the state in output and the fade time information from the cue shown on the CUE LINE.

2.3 RECORDING FADE TIMES

If you are starting from scratch, the FADE and WAIT times offered by IMAGINE will be those times set up as DEFAULT FADE TIMES in the SYSTEM SETTINGS page of the SETUP MENU (see below). If you want a different time for a particular cue, make sure that the cue is on the CUE LINE, and press [TIME]. You will be prompted for the new UPFADE TIME for the cue. Key in the time you want for the UPFADE, then press enter - the prompt will change:

[CUE] [30] [TIME] - prompt - ENTER UPFADE TIME

[2.5] [ENTER] - prompt - ENTER DOWNFADE TIME

[4] [ENTER] - prompt - ENTER WAIT TIME

[1.5] [ENTER]

It is not necessary to go right through this process. If you just want a 5 second crossfade, [TIME] [5] will do. If no time is given for the DOWNFADE, it will be the same as the UPFADE time. The WAIT time is a time to be inserted between the start of the UPFADE and the start of the DOWNFADE. It will be zero if no time is given.

IT IS NOT NECESSARY TO RECORD CHANGES IN FADE TIMES. This avoids a lot of potential errors, and means that you can change the fade times of any cue at any time, without danger of overwriting its contents with the present output state.

2.4 RECORDING A PILE-ON SUBMASTER IN OUTPUT

All 24 Submasters (subs) may be recorded as PILE-ON memories. This means that their contents will be added to the total output of the system, on a "highest takes precedence" basis, when their faders are raised above zero. Recording is the same as for cues, except that the [SUB] key must be used to tell IMAGINE that
you want a submaster, not a cue:

[SUB] [10] [REC] [ENTER]

records the present output into sub 10. Notice that the green led in the bump switch for sub 10 is now lit. If you clear the output (with playback [CLEAR] and/or [RELEASE]), the state may now be played back, using the sub 10 fader. Try also flashing the state up, with the bump switch; the unique speed of IMAGINE allows you to use submaster bumpswitches to flash along to music etc in real time!

2.5 SUBMASTER FADE TIMES

The fade times which may be recorded into a submaster are different from those for cues. They allow you to record an UPFADE, a WAIT and a DOWNFADE time, to work with the submaster bump switch. Normally the UP and DOWN fades are set to zero, which results in momentary-action flash function, when the the switch is pressed, but you can set different times, in three parts:

UPFADE = Fade to full
WAIT = Stay at full
DOWNFADE = Fade out

The procedure is the same as for cues - but remember that the submaster you want to change must be on the CUE LINE:

[SUB] [7] [TIME] - prompt - ENTER UPFADE TIME

[10] [ENTER] - prompt - ENTER WAIT TIME

[30] [ENTER] - prompt - ENTER DOWNFADE TIME

[5] [ENTER]

Note that, when a submaster is processing a fade, the green led in the bump switch will blink, indicating that something is happening. You can force the submaster to start its DOWNFADE any time that this led is blinking, simply by pressing the bump switch a second time.

2.6 MINUTES, SECONDS AND TENTHS OF SECONDS

When entering fade and wait times, you can set any time from zero (CUT or SNAP) to 99 minutes and 59 seconds (there is a limit of two minutes for submaster fades). The method of entry is very simple, allowing either minutes and seconds to be recorded and displayed, or seconds and tenths of seconds. Keypad entry is just like a calculator:

[1]	=	00:01	=	0 minutes, 1 second
[10]	=	00:10	=	0 minutes, 10 seconds
[100]	=	01:00	=	1 minute, 0 seconds
[1000]	=	10:00	=	10 minutes, 0 seconds
[.1]	=	00.1	=	0 seconds, 1 tenth second
[1.1]	=	01.1	=	1 second, 1 tenth second
[10.1]	=	10.1	=	10 seconds, 1 tenth second

2.7 FADER DISPLAY MODE

IMAGINE has 24 Submasters and two playback pairs, and all may be in use at the same time! The FADER DISPLAY allows you to view and modify one or both playback contents, without interference from the other playback devices.

In Output display, bring up a number of active Submasters, then load a cue into each playback. The Output display shows the system's COMBINED output, on a highest takes precedence basis.

This is fine, until you need to modify ONLY the cue output from, say, the C/D playback faders. Obviously, rerecording now will copy the ENTIRE system output into the cue, which is not what you want.

Press [FADER], followed by a number (1-3) to view ONLY:

[FADER] [1]	A/B Playback
[FADER] [2]	C/D Playback
[FADER] [3]	A/B AND C/D Playbacks

Now modify and rerecord the cue, without the contents of the other playback devices getting in the way.

2.8 EXPAND DISPLAY MODE

IMAGINE normally displays a great deal of useful information on the monitor, but at the cost of channel display! During lighting sessions, it's usually more useful to see ALL of the channels without paging, and this is accomplished with EXPAND, which works in OUTPUT, FADER and BLIND display modes.

To enter EXPAND mode, just press [EXPAND].

In EXPAND mode, the CUELINE is displayed at the top of the screen, so you always know which cue or submaster you're working on.

To return to the standard display, press [EXPAND] a second time.

3. RECORDING & COPYING IN BLIND DISPLAY MODE

Use BLIND display mode to create, modify and copy cues and submasters, without affecting live output.

To enter Blind display mode, simply press the [BLIND] display key. The progress of fades in output will not be affected.

If you wish to view the maximum number of channels in one view, press [BLIND] [EXPAND] (see 2.8).

3.1 THE BLIND DISPLAY

When you press [BLIND], the state of the cue shown on the cueline is displayed, with the prompt: SELECT CUE NUMBER.

Either type in the desired cue number, or BROWSE through the show, using the [+] and [-] keys.

Channel levels are displayed in BLUE and GREEN.

BLUE indicates that the channel changes level in this cue.

GREEN indicates no change in level from the previous cue.

NOTE: This assumes that the recorded sequential order will be used. When cut, if cues are played back out of sequence, this information will be invalid.

To view a SUBMASTER in Blind mode, press [SUB] [number], eg:

[BLIND] [SUB] [10]

3.2 MODIFYING A CUE IN BLIND

With the desired cue on the screen, use the channel control functions to modify its contents.
GROUP may be used to add or modify cues or submasters within the cue. In this way, cues created using "building blocks" for such things as cyclorama washes etc may be easily manipulated in Blind, eg:

[BLIND] [25] [GROUP] [SUB] [10] [WHEEL] [REC] [ENTER]

3.3 COPYING A CUE IN BLIND

Copying a cue to another cue or submaster, or vice versa, is really easy! Let's copy the contents of cue 99 into submaster 15:

[BLIND] [99] [REC] [SUB] [15] [ENTER]

Or, to copy the contents of submaster 7 into cues 41, 43 and 45:

[BLIND] [SUB] [7] [REC] [CUE] [41] [ENTER]
[REC] [CUE] [43] [ENTER]
[REC] [CUE] [45] [ENTER]

3.4 COPYING WITH MODIFICATIONS

To create a new cue, eg: cue 23.3, which will be a modified version of an existing cue, 21, call up the existing cue in Blind, and make the necessary changes, eg

[BLIND] [21] [CHAN] [15] [ON] [GROUP] [10] [ON]

Now, record the result AS cue 23.3. This procedure WILL NOT AFFECT the original cue 21.

[CUE] [23.3] [REC] [ENTER]

Note that the fade times and type will be copied from the original cue.

4. USING THE SYSTEM PLAYBACKS

The two independent System Playback Fader pairs, A/B and C/D, are used to replay previously recorded cues and effects sequences, either manually or with prerecorded times.

4.1 TIMED PLAYBACK

Check that all Playback Faders are at 100% (top position).
Now check that the CUE you want, eg 10, is NEXT on the CUESHEET, shown in yellow. If it isn't, select it:

[CUE] [10]

If cue 10 exists, it will now show in the second line of the cuesheet, in yellow.
Press [GO] on either Playback. We recommend using the A/B for normal use, and the C/D when more than one cue sequence is required.

The cue plays back in the prerecorded time. Note that the UPFADE time is displayed in the left playback bargraph, and the DOWNFADE on the right, in real time. Check the yellow A/B FADER display on the monitor. It shows a countdown in seconds and a display of the elapsed percentage of the fade for each side of the crossfade, just above the number of the incoming cue.

4.2 STOPPING A TIMED FADE

A fade may be stopped at any time by pressing [HOLD]. Restart with [GO].
Pressing [HOLD] a second time completes the fade at the point at which you stopped it. The playback will now stand by for the next fade.

4.3 TAKING OVER A FADE MANUALLY

Any fade may be taken over by hand. Just pull the faders down to meet the position of the led bargraphs, and you have manual control of the completion of the fade, with independent mastering of the UP and DOWN fades.

4.4 PLAYING A FADE MANUALLY

Any fade may be played back manually. Just pull the two playback faders down to the 0% position before pressing [GO]. Now you have manual control of the fade. Run the faders together for a dipless crossfade, or control them independently if differing UP and DOWN fades are required.

4.5 GOING BACK

The [BACK] switch executes an ALLFADE in the A/B Playback to the previous cue in the cuesheet. (For a fuller discussion of Allfades, see the advanced section of this manual). This normally means that, if you have cue 10 in the A/B Playback, and you press [BACK], the result is a fade to the state of the previous cue, normally cue 9.

NOTE: Since the fade type will default to ALLFADE, the contents of the C/D playback will be cleared.
When using BOTH PLAYBACKS, it's better to go back by selecting the cue to fade to, and fading it into the desired playback in the normal way, eg:

[CUE] [9] [GO] or [CUE] [-] [-] [90]

4.6 PLAYING BACK EFFECTS, SUBROUTINES & LINK SEQUENCES

The playback faders operate differently when playing back automatic cue sequences. In these cases, the two playback faders are:

LEFT FADER = INTENSITY MASTER
RIGHT FADER = SPEED CONTROL

This means that you can always control the speed and proportional intensity of any automatic cue sequence, by using the faders.
If you start the sequence with the faders up, note that the right hand led bargraph is set halfway - the playback display reads RATE 5, the fade times recorded for the cue sequence. To increase or decrease rate, match the fader to the led level and move down or up, for rates 0 to 10.
You may prefer to start the sequence (by pressing [GO]) with the faders down. Preset the desired rate with the right fader, then fade in the sequence proportionally with the left, when you're ready. You can then fade out the sequence any time, in the same way.

5. USING THE DISC DRIVE

The Disc Drive is used to store all recorded information in your shows, including system parameters. Discs are cheap - ALWAYS take TWO copies of every show, and store the discs in different locations in case of accidents - we can ship you a new IMAGINE tomorrow, but we can't send you a copy of your own show!

Note that disc functions will stop all fades in progress, so be sure to record to disc and read from disc between, not during fades.

5.1 WHAT IS RECORDED AS A SHOW?

Each of the two shows on each 3 " Disc contains the following information:

- System Setups
- Patch Information
- Submaster assignments
- Macro Setups
- Designer Tablet Setups
- 400 Cues

Thus, you can set up a set of system settings for each show, or each operator, and keep them safely on disc. Any time you want to recall them, just load the disc and read the show into the system.

5.2 FORMATTING DISCS

One Formatted 3 " disc has been supplied with your IMAGINE, but you will certainly need more. Any good quality DOUBLE SIDED 3" Diskette may be used, but it must first be FORMATTED, to give the disc the framework within which the recorded information will be stored.

Insert the Disc into the drive
Press [SETUP], to enter the SETUP MENU
Select FORMAT DISC, then press [ENTER]
Formatting will take about one minute

Remember that formatting a disc which has previously been used wIll ERASE all the contents of the disc. BE CAREFUL!

5.3 RECORDING A SHOW ONTO DISC

To record the contents of the live memory onto disc, insert the disc to be used into the disc drive, and press [SETUP]. Select RECORD SHOW ON DISC, and press [ENTER]. The DISC MENU shows you the two shows, with show names (if used) and the flag RECORDED or NOT RECORDED. Recording over a show which has previously been recorded will replace all previously stored information with the present contents of the live system memory. Type in the show number to be recorded, followed by [ENTER], or [CLEAR] to abort the recording process. Recording a show to disc takes approximately 25 seconds. When recording is complete, you will be returned to the SETUP menu.

5.4 READING A SHOW FROM DISC

A new show may be loaded from disc at any time, without affecting the current output from the system playbacks. There is thus effectively no limit to the memory capacity of the IMAGINE system.
To read from Disc, press [SETUP], select READ SHOW FROM DISC, then select the desired show number from the disc menu, and press [ENTER].
It will take around 20 seconds to read a new show from disc.

5.5 PROTECTING THE CONTENTS OF A DISC

Slide the plastic "write protect" tab to the OPEN position. The tab is in the corner of the disc opposite the corner with the 45 C cutaway. Now the disc may be read, but not formatted or overwritten.

6. THE MANUAL EFFECTS SYSTEM

To accomplish simple effects lighting quickly, IMAGINE has two Manual Effects Modules, which may be used independently to control the contents of Submasters 1-6 and 13-18.
This is not only for concert or disco lighting - the manual effects are useful for simple fire flickers, candles, strobe effects and so on. Use the manual effects for one-offs, and where improvisation is required - for more sophisticated effects lighting, use the SUBROUTINE and EFFECTS programmes provided.

6.1 SETTING UP A CHASE

First, set up the lighting state required for each step of the chase in the submasters to be used (see 2.4). Chases may be up to six steps long, and must start with either submaster 1 OR submaster 13.
Now, Switch the LIGHT/DARK/OFF switch to either LIGHT or DARK, depending on which mode you want to use. The preview window now shows the progress of the chase.
Set the STEP rotary switch to the number of steps you want in the chase - the same as the number of submasters you have set up. Set the RATE/AUDIO/BOTH switch to RATE, and adjust the speed of the chase with the rotary RATE potentiometer.
The chase is now ready to run. Simply fade up the chase master fader to raise the chase proportionally in output, or press the BUMP switch to flash the chase full on.

6.2 CHASE MODES

LIGHT: Each step is switched ON in turn.
DARK: All steps are normally ON. Each step is switched OFF
FORWARD: Steps run in sequence 1,2,3,4,1,2,3,4
REVERSE: Steps run in reverse 4,3,2,1,4,3,2,1
BOUNCE: Alternating sequence 1,2,3,4,3,2,1,2,3,4
RATE: Rate set from Rate potentiometer
AUDIO: Rate set from audio signal
BOTH: Rate combined from potentiometer and audio signal

6.3 AUDIO STEP

When an appropriate audio signal is connected to IMAGINE's audio input, it may be used to step a manual chase. The bass frequency (around 200Hz) is used to advance the chase one step for each bass beat. Choice of appropriate music (or sound effects) is important, as is the gain setting, which should be experimented with at the audio source (usually an auxiliary output of a sound mixer).

6.4 OTHER USES FOR THE MANUAL EFFECTS SYSTEM

Use the manual effects for quick flame, strobe or ripple effects - here's an example - fire:

Set four spotlights, with flame gobos and appropriate colours, and assign them to submasters 1-4. Set a "base level" for the four lights by raising the four submasters to 30-40%.
Set up a four step, light, chase, and add a random element with an audio feed (don't send the audio signal to the speakers!), setting the audio switch to "both".
Raise the chase master to a level 10-20% above that of the submasters - the chase now operates between the levels of the subs and the chase master.

7. OTHER BASIC OPERATIONS

The following functions are necessary to complete a basic grounding in the operation of your IMAGINE lighting control system.

7.1 GRAND MASTER FADER

The GRAND MASTER proportionally masters all system outputs. It should normally be set to the top of its travel, in which case the display on the monitor reads:

GRAND MASTER 100%

Note that, when the Grand Master is pulled down, the percentage intensity is shown on the screen in red, and all OUTPUT channel levels are displayed at their reduced intensities.

7.2 BLACKOUT SWITCH

The Blackout switch blacks out the entire system output. A second pressure restores output.
Note that, in Blackout mode, a red BLACKOUT flag flashes in the top left corner of the monitor display. However, channel outputs are still displayed. This is to show you what you will get by pressing Blackout again.

7.3 THE CUESHEET

The Cuesheet shows the LAST cue played in a playback, the NEXT cue to be played back (in yellow), and the six subsequent cues to be played back, assuming ascending numeric sequence.
The CUE NUMBER is followed by the UP/DOWN FADE TIMES. Where these times are equal, only one time is shown. The WAIT time is not displayed in the cuesheet.
If a LINK has been recorded with a cue, the cue to be linked to and the DELAY time are displayed.
The cuesheet is easy to use, with the [+] and [-] keys. To find a cue, browse through the cue sheet by pressing [CUE] [+] or [CUE] [-]. Holding down the [+] or [-] keys causes the cuesheet to scroll up or down. The yellow NEXT cue will also be set onto the CUELINE, for time or fadetype editing.

7.4 HELP!

If all else fails, press [HELP], followed by the key you're not sure about. IMAGINE will then display a short description of the function, including a valid example of the keystroke sequence required to use it.
Don't forget - if you get into difficulties, the chances are that the OPERATOR PROMPT at the foot of the screen will be offering you some helpful advice - check it out!

8. THE SETUP MENU

The Setup Menu is used to set all system parameters, to access Print and Disc Functions (see Section 5), and to clear the system's battery-supported memory.

8.1 CLEAR SYSTEM

To start a new show, you probably want to clear the cues from the last show from the system, and start afresh. Press:

[SETUP] [1]

for the first menu item "CLEAR CUES FROM MEMORY". You will then see a "safety screen", inviting you to press [ENTER] to confirm the action, or [CLEAR] to escape. Nothing is erased until you press [ENTER], so accidentally selecting "CLEAR CUES FROM MEMORY" is not in itself a disaster!

To clear the previous SOFTPATCH information, select "DEFAULT SOFTPATCH", and confirm by pressing [RECORD]. This will return the patch to the standard 1 to 1 assignment (see Section 9).

8.2 SYSTEM SETTINGS - CHANNELS & DIMMERS

To avoid displaying Channel and Dimmer numbers not actually in use, go into "SYSTEM SETTINGS", and select "CUSTOMISE CHANNELS" and "CUSTOMISE DIMMERS".
You will be prompted for the number of channels and dimmers needed. This will normally be the same as the actual number of dimmers you have, and this procedure will only be required when the system is installed, or if additional dimmers are required for a particular show. It is wise to run a "DEFAULT SOFTPATCH" after customising channel and dimmer numbers.

8.3 SYSTEM SETTINGS - DEFAULT VALUES

Certain default values may be set up by the user, using the SYSTEM SETTINGS submenu.

UP/DOWN FADE TIMES - Set these up before you start the lighting rehearsal to what you think the usual fadetimes for this show will be. All new cues created will pick up these fadetimes, unless given a different time. Many Television operators like to set ZERO TIME default fades, resulting in a CUT or SNAP when the cue is played back, using the GO button, but still allowing manual playback, using the playback faders if required.

Setting the defaults is easy - just select the SYSTEM SETTINGS submenu from the main SETUP menu by pressing:

[SETUP] [2] [ENTER]

Now select the default setting you want to change from the list displayed.

Note that the previously set default values are displayed in the keyboard window in the top right corner of the display as you go through each function.

8.4 PRINTING REPORTS

A large number of reports may be printed onto a suitable line printer (see GETTING STARTED). Before printing, check that the printer is correctly set up, on line, and with paper aligned. On IMAGINES with Integral Backup Systems, check that the printer changeover switch is set to SYSTEM.

The following reports may now be printed:

OUTPUT DISPLAY
A snapshot of the present output state.

CUES
A Cue Synopsis, plus the levels of all channels, for the cues selected.

SUBMASTERS
Levels for all channels plus UP, WAIT and DOWN fade times for all submasters selected.

TRACKSHEET
A copy of the Tracksheet for all selected channels.

SOFTPATCH
A copy of the live Softpatch, showing all dimmer assignments with levels.

CUE SHEET
A listing of all selected cues, with UP/DOWN fadetimes, LINK and DELAY information.

MACROS
A listing of all selected Macro contents.

DESIGNER TABLET
A listing of all selected Region contents.

9. SOFTPATCHING

The softpatch is the relationship between the system's dimmer outputs and the control channels. Normally, each dimmer is assigned to its own control channel, so that the softpatch is transparent to the user: channel 1 controls dimmer 1, channel 2 controls dimmer 2 and so on.
It may be useful in certain conditions to change these relationships, and this is done with the SOFTPATCH Display. The display shows channels in a column on the left of the screen, and dimmers and their patched intensities to the right. The channel containing the dimmer selected will appear at the top of the display.

SOFTPATCH

CHN	DIMMER LEVEL%					
61	61 FF	63 85	65 88	66 96	67 FF	68 80
62	62 FF					
63						

9.1 ASSIGNING A GROUP OF DIMMERS TO A CHANNEL

You may want to control more than one dimmer with a single control channel, eg. for a cyclorama wash. Each dimmer may be assigned to the same channel with a different proportional intensity, so that the internal balance of the group of dimmers is always maintained.

Press [PATCH] to enter Softpatch Display. You are prompted to enter the dimmers to be assigned, followed by [ENTER].

[61][AND][63][AND][65][THRU][68][ENTER]

You are now prompted for the channel to which the selected dimmers will be patched.

[61][ENTER]

The system now prompts you for a level for the dimmers. The default setting is FF (100%). This means that each dimmer will MULTIPLY the level of its assigned channel BY 100% - in other words, it will be at the same level. But any other percentage level may be chosen. If you enter

[85][ENTER]

All the assigned dimmers will be set to 85%. They will always be at 85% of the level of their control channel. This is not a bad starting point for a group, since you can now adjust individual dimmers up and down, to obtain a balanced "look".

9.2 BALANCING DIMMERS ASSIGNED TO A CHANNEL

If the channel is already on in output, its level will be displayed below the channel number on the display. If not, select the channel number, and set it to a level

[CHAN] [61] [ON]

The channel is now on, and all dimmers assigned to it will appear at their relative levels in output. Now, using the [DIM], [AT] and [+] and [-] keys, adjust the dimmer levels until the group is balanced.

[DIM] [63] [AT] [+ + + + - -]
[DIM] [65] [AT] [- - -] etc.

When the group is balanced, record the change with

[REC][ENTER].

9.3 BLOCKING A DIMMER

To prevent a lamp which has been knocked from shining where it is not wanted, block it out, using the Softpatch to set a patch level for the dimmer of 00%.

[PATCH] [61] [AT] [00] [REC] [ENTER]

The dimmer is now multiplying all control channel levels by 00%, and therefore never comes on. Other dimmers assigned to the same channel are unaffected, as of course are the levels recorded in cues for the channel to which it is assigned. When the offending lamp has been reset, reverse the process with:

[PATCH] [61] [ON] [+] [REC] [ENTER]

9.4 SUBSTITUTING A DIMMER

If a dimmer has failed, but the luminaire may easily be replugged into another dimmer circuit, you can avoid replotting the whole show by simply patching the new dimmer to be controlled by the old channel. Let's say that lamp 75 is plugged into dimmer 75, controlled by channel 75. 200 Cues have already been recorded, and dimmer 75 fails. Lamp 75 is now plugged into dimmer 80. Patch dimmer 80 onto channel 75:

[PATCH][80][ENTER][75][REC][ENTER]

Now Lamp 75, plugged into dimmer 80, is still controlled by channel 75 - no need to replot!

10. THE TRACK SHEET & TRACKING CHANGES

Normally, in OUTPUT, FADER or BLIND mode, you are able to modify all of the channels in any given CUE. The Track Sheet Display Mode allows you to modify the levels in ALL cues, for any given CHANNEL. This can be a great time saver, as well as helping to prevent errors, such as a channel being missed out of a newly added cue in a cue sequence.

So the Tracksheet can make a change to a single channel in a number of cues, in one operation. To make a change to a number of channels in a number of cues, in one operation, use TRACK.

10.1 ADDING A CHANNEL TO A CUE SEQUENCE

To add a channel to a sequence of cues, go into the TRACKSHEET, and select the channel number:

[TRACKSHEET][132]

The list of existing cues is displayed on the screen, with the recorded level for the selected channel displayed below each cue number. Intensities are shown in blue when a change is found from the level in the previous cue, and in green, when no change is detected. Cues recorded as SUBROUTINES are displayed with the message SUBR, as no level information is relevant. If more than 125 cues exist, press [TRACKSHEET] to page through the show.

To add the channel into cues 31 through 40, at 50%:

[CUE] [31] [THRU] [40] [AT] [50] [REC] [ENTER]

10.2 MODIFYING A CHANNEL THROUGHOUT THE SHOW

To modify a channel in all cues - eg. the new bulb is 20% brighter than the old one - use [CUE] [ENTER] to take control of the channel's level in all the cues in which it is already used. Then modify the levels with the wheel, and rerecord:

[TRACKSHEET] [132] [CUE] [ENTER] [WHEEL] [REC] [ENTER]

Using the wheel in Tracksheet results in all existing levels being increased or decreased by the same amount. It is not strictly proportional. For an overall proportional change, it may be better to use Softpatch.

10.3 RECORDING TRACKING CHANGES

Say you want to add channels 65 thru 70 to cues 21 onwards. Call up cue 21 (Output, Fader or Blind display mode), and set the channel levels, in the usual way.

Now, instead of pressing [REC], press [TRACK], followed by [ENTER].

The channels have been recorded into cue 21, and into the subsequent cues as well, at the levels set.

The tracking change will continue through the cue sequence, until a cue is encountered in which the channel tracked has already been recorded at a level. Since in an ALLFADE (see 11.2) all channels are recorded with levels, even if they are at 00%, an Allfade will act as a stop to a tracking change. If you find Tracking changes useful, we suggest that you form the habit of recording the last cue in each scene as an Allfade. Thus any tracking changes made will always stop at the end of the scene.

10.4 STOPPING TRACKING CHANGES

If you decide that the tracking change should stop after a few cues, just call up the cue where you want the channels to go out, set them to 00%, and record again, using [TRACK] [ENTER]. The previously recorded changes tracked into the following cues will be cancelled.

11. FADETYPES

11.1 THE DEFAULT CROSSFADE TYPE

All cues recorded on IMAGINE are normally recorded as CROSSFADES, and the fadetype XFAD indicates this in the cue description. The precise meaning of is that, when played in a playback pair, the contents of the cue will replace the previous contents of the playback, over the time recorded (or a manual time). The cue sequence does not matter; the crossfade works correctly no matter in what order the cues are played back.
However, two other fadetypes are available, being ALLFADE and SUBROUTINE.

11.2 ALLFADE

The ALLFADE has two functions. It acts as a stop to TRACKING changes (see 10.3), and it causes the contents of BOTH playback pairs to be replaced by the incoming cue, which will only appear in the playback selected.

This is an elegant way of ending a complex cue sequence, in which both playbacks are used. You finish with two cues, one in the A/B, and one in the C/D playback. You need to crossfade to the next cue in one playback only, with the previous contents of BOTH playbacks being faded out. Easy - just record the cue as an ALLFADE.

[CUE] [52] [TYPE] [2] [REC] [ENTER]

If you do this in Output or Fader mode, be sure that the state of the cue is the same as that being output when you record the fadetype. If you look at the cue in Blind Mode, you will see that all channels (including channels at 00) are recorded as MOVING to their levels, since the intensities are shown in blue. It is this which acts as the stop to tracking changes.

11.3 SUBROUTINE

The Subroutine is a programmed sequence of cues (programmable in BLIND mode only), recorded as a single cue in the cuesheet. See section 13.

11.4 EFFECTS

The Effects is a programmed sequence of channels (programmable in BLIND mode only), recorded as a single cue in the cuesheet. See section 18.

12. LINK & DELAY CUE SEQUENCES

IMAGINE's LINK function allows you to combine cues into sequences or loops up to 400 steps long. The sequence may be open ended (a multi-part cue) or closed (a loop). Each cue in the sequence may have its own TYPE, as well as UP, DOWN and WAIT times. Cues may be LINKed together with DELAY times, which cause the next cue in the sequence to start before, at or after the end of the previous cue.

This powerful function may be used for fast chases, precise multi-part cues, gentle "rolling cue" changes, or day-long display lighting sequences.

12.1 LINKING A THREE PART FADE

First, set up the lighting state for the first step of the cue, in Output, Fader or Blind mode. Record it as the first step of the sequence, say cue 31.

Repeat the operation to create the following parts of the cue sequence. The cue numbers you use don't matter, but we'll call them 31.1 and 31.2 for this example.

Now, call cue 31 onto the cueline:

[CUE] [31]

The cueline will look like this:

CUE 31 00:03/05.5 WT 00:01 XFAD

Now, tell IMAGINE you want to link 31, and respond to the prompt with the cue number to link to:

[LINK] [31.1] ([ENTER])

The cueline will look like this:

CUE 31 00:03/05.5 WT 00:01 LK 31.1 DELAY 06.5 XFAD

The system looked at the combined WAIT and DOWNfade times for cue 31, compared them with the UPfade time, and entered them as the DELAY time.

The DELAY time is the time between the START of the cue, and the START of the cue being linked TO. IMAGINE calculates the DELAY automatically, so that the linked TO cue will start as soon as the linked FROM cue is complete.

If you want a different DELAY time, just enter it:

[DELAY] [10] ([ENTER])

The effect of this will be that cue 31 will complete, wait 3.5 seconds, then cue 31.1 will start. If the DELAY time is shorter than the total fadetime of cue 31, then 31.1 will start before 31 is able to complete.

Now set the link between 31.1 and 31.2:

[CUE] [31.1] [LINK] [31.2] [DELAY] [5] ([ENTER])

IT IS NOT NECESSARY TO RECORD CHANGES TO LINK OR DELAY INFORMATION.

Now select cue 31 and check the cuesheet.

CUE	UP/DOWN	LINK	DELAY	TYPE
31	00:03/05.5	31.1	00:10	XFAD
31.1	00:02/00:03	31.2	00:03	XFAD
31.2	00:03/00:03			XFAD
32	00:07/00:09			XFAD

Note that no link exists for 31.2, as this is the last cue in the LINK sequence.

When you play back cue 31 in either playback pair, 31.1 and 31.2 will follow automatically. 32 will become the NEXT cue on the cuesheet.

For more information on playing back LINK sequences, see 4.6.

12.2 MAKING A LOOP

The only difference between a LINK sequence and a LINK loop, is that the last cue in the sequence is linked back to the first (or another cue earlier in the sequence). Using the previous example, it would look like this on the cuesheet:

CUE	UP/DOWN	LINK	DELAY	TYPE
31	00:03/05.5	31.1	00:10	XFAD
31.1	00:02/00:03	31.2	00:03	XFAD
31.2	00:03	31	00:03	XFAD
32	00:07/00:09			XFAD

Now, when you play back cue 31, it will link endlessly in the playback. You can fade it out with the left playback fader, or you can stop the loop by starting the NEXT cue in the same playback.

12.3 LINKING TO A STOCK SEQUENCE

If you have a cue sequence which you use several times during the show, you can access it using LINK, without putting the cuesheet out of sequence, thus saving in some cases quite a lot of memory space.
Record the sequence as, say, cues 501 thru 520 (assuming that 520 is linked back to 501).
Now, at any point in the show at which you need the sequence, just record a cue to LINK to it.

CUE	UP/DOWN	LINK	DELAY	TYPE
11	00:05/05.5			XFAD
12	00:02/00:03			XFAD
13	00:03/00:04			XFAD
14	00:07/00:09			XFAD

Let's say you want to go into the 501 loop after cue 12. First, go into Blind, and copy cue 12 into cue 12.5, with a 00 fadetime. Then record a link from 12.5 to 501.

[BLIND] [CUE] [12] [REC] [12.5] [ENTER]

[TIME] [0] [ENTER] [0] [LINK] [501] [ENTER] [OUTPUT]

The cuesheet now looks like this:

CUE	UP/DOWN	LINK	DELAY	TYPE
11	00:05/05.5			XFAD
12	00:02/00:03			XFAD
12.5	00:00	501	00:00	XFAD
13	00:03/00:04			XFAD
14	00:07/00:09			XFAD

Now, when you want to run the 501 sequence, after cue 12, just start cue 12.5, and the system will link immediately to 501, which will run in the selected playback. The NEXT cue will be 13, so the cuesheet stays in sequence. The same sequence may be accessed any number of times during the show in this way.

Note that it is recommended to use the A/B playback for your basic cues, keeping the C/D free for sequences and effects.

13. SUBROUTINES

SUBROUTINES are cues which control the playback of a sequence of lighting states, according to various rules which you set up in each Subroutine. As a Subroutine only takes the space of one cue, it is both economical and easy to edit.

Subroutines may be chases, multi-part cues or cue loops.

A Subroutine consists of up to 24 command lines, which are created and edited using the eight EFFECTS keys above the keypad.

13.1 BUILDING A SIMPLE SUBROUTINE

To create a Subroutine, go into Blind mode, and select a new cue number to use as a Subroutine, then select the Subroutine fadetype:

[BLIND] [CUE] [100] [TYPE] [3] ([ENTER])

Now you are ready to start programming the Subroutine. We're going to start with a simple three part cue, which will have the same effect as the LINK sequence described in 12.1. The Prompt now reads SELECT STEP NUMBERS, however the first thing you need to do is SELECT a CUE to be the first step of the Subroutine. Watch the operator prompts carefully:

KEY:	[CUE SELECT]
PROMPT:	SELECT CUE TO FADE
KEY:	[31]
PROMPT:	ENTER UPFADE TIME
KEY:	[3] [ENTER]
PROMPT:	ENTER DOWNFADE TIME
KEY:	[5.5] [ENTER]
PROMPT:	ENTER DELAY TIME
KEY:	[10] [ENTER]

The first line of the Subroutine now looks like this:

01. CROSSFADE CUE 31 TO 100% UP 00:03 DOWN 05.5 DELAY 00:10

Remember the DELAY time in the LINK sequence? Unless you want the Subroutine to run at 20 steps per second, you will need to put a delay in the Subroutine, to allow the first step to complete.

The [ENTER] takes the cursor to the next line of the Subroutine, ready for you to enter the next two cues and delay times:

[CUE SELECT] [ENTER] [31.1] [ENTER] [2] [ENTER] [3] [ENTER] [3] [ENTER]

[CUE SELECT] [ENTER] [31.2] [ENTER] [3] [ENTER] [3] [ENTER] [3] [ENTER]

Now the Subroutine looks like this:

CROSSFADE CUE 31 TO 100% UP 00:03 DOWN 05.5 DELAY 00:10
CROSSFADE CUE 31.1 TO 100% UP 00:02 DOWN 00:03 DELAY 00:03
CROSSFADE CUE 31.2 TO 100% UP 00:03 DOWN 00:03 DELAY 00:03

Remember that you have to record your work before exiting out of BLIND mode or selecting another cue number. Failure to do this will result in losing all your work! It is good practice to record your subroutine as soon as you have the general outline right, and then edit and "fine tune" the subroutine, recording frequently during your work. If you have made a mistake, and want to return to your last recorded state, just press [CUE].

The effect of playing back Subroutine 100 is exactly the same as that of the LINK sequence in 12.1.

13.2 EDITING THE SUBROUTINE

To edit the Subroutine, go into Blind mode and call up the cue number. The operator prompt reads SELECT STEP NUMBERS. You can now select one or more step numbers to edit using the [AND], [THRU], [UP ARROW] and [DOWN ARROW] keys, eg. [1] [AND] [DOWN] [DOWN] [ENTER]. This will select steps 1 and 3 for editing.

Observe that the "active" steps are now highlighted in yellow. The items that may be edited are:

Cue number
Fade type
Intensity
Up/Down and Delay times

Each item may be reached by the left and right arrows, or by pressing the corresponding function key:- [CUE], [TYPE], [AT] and [TIME]. Any changes will now affect all the steps which are "active" (ie. highlighted in yellow).

Using the example above, if you want to change the downfade time in steps one and three to 4.5 seconds:-

[STEP] [1] [AND] [3] [ENTER] [TIME] [TIME] [4.5] [REC] [ENTER]

There are many ways of writing and block editing subroutines, an example of a quick way to write a simple subroutine is:

[CUE SELECT] [1] [DOWN]
[CUE SELECT] [2] [DOWN]
[CUE SELECT] [3] [DOWN]
[CUE SELECT] [4] [DOWN] - sets up the "outline"
[STEP] [1] [THRU] [-] [ENTER] - selects all steps
[TIME] [TIME] [TIME] [0.5] - sets delay to .5 sec
[REC] [ENTER] - records the subroutine

13.3 MORE COMPLEX SUBROUTINES

The subroutines above are straight "follow-on" cue sequences. However, the greatest use of the subroutine is perhaps to generate complex effects, using complete cues, with balanced lighting levels, as effects steps.

The Subroutine [STYLE] key allows you to introduce a number of effects options:

- LOOP to beginning 1 - 99 times or infinite loops
- BOUNCE to beginning 1 - 99 times or infinite bounces
- HOLD FOR GO stops the execution of the subroutine in the playback until the playback [GO] key is pressed, after which the next step(s) will be executed.
- JUMP TO CUE will terminate the execution of this subroutine and start the cue specified (which may be an ordinary cue or an effect or another subroutine.)

chase. Note that no delay times have been entered - the chase will run at full speed - 20 steps per second.

01. CROSSFADE CUE 401 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
02. CROSSFADE CUE 402 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
03. CROSSFADE CUE 403 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
04. CROSSFADE CUE 404 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
05. CROSSFADE CUE 405 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
06. BOUNCE 25 TIMES
07. CROSSFADE CUE 402 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
08. CROSSFADE CUE 404 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
09. CROSSFADE CUE 401 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
10. CROSSFADE CUE 403 TO 100% UP 00:00 DOWN 00.00 DELAY 00.5
11. LOOP TO START 50 TIMES
12. HOLD FOR GO
13. JUMP TO CUE 32

This Subroutine runs through lines 1 - 5, then meets the BOUNCE line, and runs back through lines 5 - 1, followed by 1 - 5 and so on, 25 times.

It then goes through steps 7-10, when it finds the command LOOP TO START. It goes back to line 1, and repeats everything up to line 10, including the 25 reverses, 50 times.

After this, the subroutine will stop, and the LED indicators on the playback [GO] and [HOLD] keys will start flashing alternately, until [GO] is pressed and the next step will be executed. Here, it finds the JUMP TO CUE command, which functions like a LINK to the cue given. This cue may be another Subroutine, so there is virtually no end to the complexity of the sequences you are able to create with this feature, embedding Subroutine within Subroutine!

14. AUTOLOAD

IMAGINE's Autoload feature allows you to adjust Subroutines or LINK sequences in one or both system playback pairs, then record them as an Autoload, which may be recalled any time.

14.1 SETTING UP AN AUTOLOAD

First, set a Subroutine running in a playback, and adjust the speed and intensity (see 4.6).

If required, do the same in the other playback with another cue, LINK sequence or Subroutine.

Now record this condition as AUTOLOAD 1

[AUTOLOAD] [1] [RECORD] [ENTER]

Clear both playbacks and restore the exact combined state with:

[AUTOLOAD] [1] [GO]

Note that the Autoload does not appear as a cue in the playback. When you want to run an Autoload, you must press [AUTOLOAD] and its number, followed by [GO]. It doesn't matter whether you use the A/B or C/D [GO]; the playbacks will be restored exactly as they were when the Autoload was recorded.

Up to 25 Autoloads may be recorded in each show. Autoloads do not affect the number of cues which may be recorded in a show.

14.2 EDITING AN AUTOLOAD IN BLIND

Go into Blind mode and select an Autoload number. The contents and recorded values are displayed on the screen. Following the operator prompts on the screen, all Autoload values may be edited in this way.

[BLIND] [AUTOLOAD] [20]

Note that only Autoload information may be edited in the Autoload Blind Display. To modify cues within the Autoload, go back to Blind, Output or Fader Display.

15. USING INHIBITIVE SUBMASTERS

All 24 Submasters may be used as PILE-ON subs in the normal way (see 2.4, 2.5), but the bottom row, subs 13 - 24, may also be used inhibitively.
When a channel is assigned to an inhibitive sub, the sub fader acts as a proportional master on the output of that channel. It doesn't matter how many output devices contain the channel (it could be present in ten submasters and both playbacks), the inhibitive submaster takes the channel's highest output level, and multiplies it by the percentage level of the submaster fader.
Note that the inhibitive submasters do NOT override the channel controller.

The main purpose for these inhibitive subs is to give the TV Lighting Operator a quick and easy way of "grabbing" channels or groups, to "ride", say as the singer moves towards the camera.

Other uses could include theatre curtain calls, where the Front of House lights could be assigned to an iunhibitive sub, which can be manually controlled as the tabs go up and down.

15.1 ASSIGNING A CHANNEL TO AN INHIBITIVE SUB

Easy! First select the channel, then press [MINUS SUB], then the submaster flashkey (or bumpswitch) of the sub you want to use:

[121] [MINUS SUB] [BUMP 24]

The red led in the bumpswitch will now light, telling you that the sub has been set up as an inhibitive submaster.

IMPORTANT: The effect of an inhibitive sub is immediate. Make sure that the sub fader is UP before assigning the sub to live channels, or they will immediately be reduced to the proportional level of the sub fader!

If you use this feature regularly, we recommend forming the habit of keeping subs 19-24 UP, ready to be used as inhibitive subs at a moment's notice, without embarrassing blackouts!

15.2 ASSIGNING A GROUP TO AN INHIBITIVE SUB

This is virtually the same procedure as for single channels. Either select the channels as a group:

[13] [THRU] [18] [MINUS SUB] [BUMP 19]

or use the GROUP function:

[GROUP] [10] [MINUS SUB] [20]

Note that the channels within the group will be assigned inhibitively to the selected sub. As a channel may only be assigned to one inhibitive sub, this operates on a "last action" basis.

15.3 VIEWING THE CONTENTS OF AN INHIBITIVE SUB IN BLIND

You can check on the contents of the inhibitive subs in blind mode.

[BLIND] [SUB] [20]

Note that those channels assigned inhibitively to the sub have an "intensity" of IN - short for inhibitive.

15.4 CLEARING AN INHIBITIVE SUBMASTER

To clear the contents of an inhibitive sub, go into blind mode, and press [CLEAR], followed by [RECORD].

[BLIND] [SUB] [20] [CLEAR] [RECORD]

Note that an inhibitive sub may be reassigned to be an inhibitive sub controlling other channels without first clearing its contents. However, if the sub is to be used as a pile-on group, it must first be cleared.

16. MACROS

IMAGINE's MACRO functions make it by far the most powerful system in its class. Macros come in two forms:

MACRO 1 - 5

The five Macro keys M1 - M5 may be programmed by the user to have virtually any function required, with a single keystroke.

MACRO 6 - 125

A further 120 Macros may be set up, accessible via the [MACRO *] key.

A macro may consist of up to 32 keystrokes. Any of Imagine's switches may be used (except the manual effects bumps), and MACRO WAIT times may be inserted into a macro. When macros of more than 32 keystrokes are required, the last keystroke(s) of a macro may be used to call up another macro, and so on.

16.1 SETTING UP A SIMPLE SINGLE-KEY MACRO

Let's suppose that we would like Imagine to have a CHANNEL OFF function, so, rather than using the wheel or keying [AT] [00], you just hit one switch to turn a selected channel off. Go into SETUP, and choose function 13 - EDIT MACRO BUTTONS then select the macro to use - macro one.

[SETUP] [13] [ENTER] [1] [ENTER]

You are now prompted for the functions for macro 1. As you type them in, you will see the macro take shape on the screen.

[AT] [0] [0] [ENTER MACRO]

The macro is terminated with the [ENTER MACRO] switch. That's all there is to it! Now go back to Output display and check that it works:

[OUTPUT] [1] [ON] [MACRO 1]

Pressing [MACRO 1] should have switched off channel 1. If you're happy with that, carefully prise off the clear lens on the M1 switchcap, and write OFF on the white plastic inlay, with a fine marker pen, then replace the lens. It looks neater to type the function name on white paper, trim to size with scissors, and use the result as your switch legend.

Note: If you want the function name to be permanent, tell your ARRI dealer, who will arrange for a plastic switch cap to be engraved for you - it's all part of the service!

16.2 SETTING UP A MORE COMPLEX MACRO

A typical use of the macro function might be to load a batch of memories into submasters, ready for a manual chase sequence.

What we're actually going to do is to go into Blind mode, call up a cue, then record it into a submaster. The operation will be repeated four times, for the four subs we want to use in the new chase.

This could be any macro number, but we'll make it macro 99, which will have to be accessed with the [MACRO *] key, when we want to run it.

To get into edit macro mode and select macro 99:

[SETUP] [10] [ENTER] [99] [ENTER]

To set up the macro itself:

[BLIND] [CUE] [901] [REC] [SUB] [1] [ENTER] [CUE] [902] [REC] [SUB] [2] [ENTER] [CUE] [903] [REC] [SUB] [3] [ENTER] [CUE] [904] [REC] [SUB] [4] [ENTER] [OUTPUT] [ENTER MACRO]

Remember that the macro entry must be terminated with [ENTER MACRO].

When you get to the point in the show where you need to run the macro, just key:

[MACRO *] [99] [ENTER]

And the macro will run. Remember - anything which can be keyed into the Imagine console may be recorded as a macro, making child's play of repetitive functions and complex key sequences!

16.3 USING MACROS TO BUILD OVERLAPPING FADES

Since Imagine's submasters allow you to run 24 simultaneous timed fades, using them with macros becomes extremely powerful.

Set up four subs (1-4) with overlapping states, with UP fade times of 2 seconds, 1 minute WAITS, and 2 second DOWN fades. (These times can be whatever you like of course, but remember the 2-minute UP and DOWN time limit for submaster fades.) Now record a cue (999) to be the sum of all four subs.

The macro (2) will start the four parts of the cue by "hitting" the submaster bumpswitches, at suitable time intervals. Then, when they are established, it fades the finished state into the A/B playback, before clearing the four subs.

Having selected macro 2 in the SETUP menu, programme it as follows:

[SUB 1] [MACRO WAIT] [1.5] [SUB 2] [MACRO WAIT] [2] [SUB 3] [MACRO WAIT] [.8] [SUB 4] [MACRO WAIT] [3] [CUE] [999] [A/B GO] [SUB 1] [SUB 2] [SUB 3] [SUB 4] [MACRO ENTER]

Pressing [MACRO 2] now results in a complex multi-part fade, with overlapping fade times.

16.4 EXTENDING MACROS

If you run out of space in a macro, use more than one! After entering the first twenty or so functions in the first portion of the macro, have it call up another macro, say macro 100, by terminating like this:

.....[MACRO *] [100] [ENTER] [ENTER MACRO]

You can concatenate as many macros as you need, so there is no practical limit to the power behind a single keystroke!

16.5 EDITING MACROS

To edit a MACRO while in the process of programming, you may use the UP, DOWN, LEFT and RIGHT arrows to locate the editing cursor, overwrite, delete or insert commands.

LEFT & RIGHT:
Position editing cursor (highlighted in red)

DOWN:
Delete the character at the cursor

UP:
Insert a character before the cursor. The cursor character will turn yellow, and another character may now be positioned before the yellow character

To edit a previously programmed MACRO, select the MACRO number and use the arrow keys as described above. On completion of the editing, press ENTER MACRO.

16.6 CLEARING MACROS

Enter the SETUP screen and select CLEAR MACRO BUTTONS. If you want to clear a selected range of MACROS, first enter the first MACRO number you want to clear, press ENTER, and then press the last MACRO number in the range and press ENTER. A warning screen appears, asking you to confirm the deletion by pressing ENTER or to back out by pressing CLEAR. To clear all MACROS, press 0 at the prompt for the first MACRO number to clear.

17. THE DESIGNER'S GRAPHIC TABLET

The ARRI Designer's Graphic Tablet allows you to point at lights, groups or pictures on a drawing, and have them come up on stage!

The Designer's Graphic Tablet lets the designer block in the approximate lighting for the new show, in the design office, then save time in lighting rehearsals by plugging in the tablet in the stalls or on the studio floor to polish the result.

Even if a couple of hours' preparation by the designer only results in a time saving of half an hour in the lighting rehearsal, that's 30 minutes multiplied by the number of people involved, often at antisocial (and expensive) times of the day or night.

The tablet consists of a 300mm square DIGITISER, on which is prepared an overlay, showing all Imagine face panel functions (except the manual effects module), and a drawing area, on which you can draw a lighting plan, or a set layout, or a list of cues and effects. It will probably be a combination of all three, but it can be whatever works for you.

Having laid out the drawing on the tablet, under a clear plastic overlay, you tell Imagine what the various REGIONS of the drawing are to be. These regions are actually macros, which are assigned to specific parts of the drawing. Read the previous section on macros before going any further!

The Designer's Graphic Tablet comes with a short cable, terminating in a 6 pin XLR plug, which may be plugged into the System Remote socket on the Imagine rear panel, or, via an extension lead, into any remote socket in your building. If using the Designer's Graphic Tablet in a remote location, you will also need to run out a remote monitor, to see what's going on.

17.1 PROGRAMMING REGIONS

A REGION is an area of your drawing, which will result in a sequence of operations from Imagine, when touched with the Stylus.

The Region may be a single channel, a group, or any sequence of keystrokes you care to set up.

Don't forget - all the "keypresses" below are actually carried out using the Stylus to press lightly on the function "keys" laid out on the digitiser overlay.

Let's set up a region to select a single channel to the channel controller:

Go into SETUP and select EDIT DESIGNER'S WORKSPACE.

[SETUP] [8] [ENTER]

At the prompt SELECT REGION NUMBER, select the next number which is free. Don't use the first five

numbers, you may want to use them to program the macro keys later. If you're not sure which is the next free region, select a number, then press [+] or [-] until a free region shows up on the screen.

[11] [ENTER]

Now Imagine asks you to outline the region. Take the stylus and "draw" the outline of the region on the drawing area. It doesn't have to be perfect; if the ends don't meet, Imagine will join them for you.

Now Imagine prompts you to enter the functions for this region. In this case, we just want to use it to call up channel 138. It is very handy to program this as:

[138] [AND] [ENTER MACRO]

The reason is that you can then point to a bunch of lights, or just skate over them with the stylus, and they will all be selected, because of the [AND] function.

There is no limit to what you can assign to a region. For example, you can draw four boxes for your cyclorama colours, using GROUP in the region macro to call up previously recorded cues containing the balanced cyclorama washes, eg:

[GROUP] [901] [AT] [ENTER MACRO]

17.2 USING THE DESIGNER TABLET

Once the regions have all been defined, you can start using the Designer's Graphic Tablet in earnest.

Simply point with the stylus at the regions you want, pressing lightly on the tablet. Your defined regions may then be used in conjunction with the full range of Imagine functions available on the tablet, to record, modify and play back lighting cues, submasters and effects.

17.3 THE "WHEEL"

Either side of the drawing area is a representation of the channel control wheel. Use the stylus to run up or down on the "wheel" area, to represent use of the wheel.

17.4 THE PLAYBACKS

The playback "faders" have three fader strips. Use the centre strip to override the UP and DOWN fades together, or either side strip to override the UP or DOWN fade only.

NOTE: The first time you use a playback in a working session, you will need to run the stylus up the centre fader strip from 0 to 100%. Subsequent use will be as for normal operation.

17.5 EDITING REGIONS

To edit a REGION while in the process of programming, you may use the UP, DOWN, LEFT and RIGHT arrows to locate the editing cursor, overwrite, delete or insert commands.

LEFT & RIGHT:
Position editing cursor (highlighted in red)

DOWN:
Delete the character at the cursor

UP:
Insert a character before the cursor. The cursor character will turn yellow, and another character may now be positioned before the yellow character

To edit a previously programmed REGION, select the REGION number or point to the REGION on the pad, and press ENTER, and use the arrow keys as described above. On completion of the editing, press ENTER MACRO.

17.7 CLEARING REGIONS

Enter the SETUP screen and select CLEAR DESIGNERS WORKSPACE. If you want to clear a selected range of REGIONS, enter the first REGION number you want to clear, press ENTER, and then press the last REGION number in the range and press ENTER. A warning screen appears, asking you to confirm the deletion by pressing ENTER or to back out by pressing CLEAR. To clear all REGIONS, press 0 at the prompt for the first REGION number to clear.

17.6 DESIGNER TABLET - DIPSWITCH SETUP

IMPORTANT NOTE:

There are three dipswitches on the rear of the Designer's Graphic Tablet, and it is imperative that they are correctly set up to enable the Tablet to function correctly. If in any doubt, check two functions, not one long one. Thus, for cue 111, you need to press:

[CUE] [1] [BLANK] [1] [BLANK] [1]

18. EFFECTS

EFFECTS are cues that control the playback of a sequence of STEPS, containing one or more channels.

A maximum number of ten steps may be created with a maximum number of ten channels in each step. Each step may be created individually or in whole blocks, described below. Each effects cue may have different STYLES, and each style different MODIFIERS.

18.1 CREATING A SIMPLE LOOP CHASE

Go into BLIND mode, select the cue number that you want the effect to have, and press the TYPE key. Now select option four, EFFECT, and you will see the default effect screen.

On a row at the top of the screen you will see:

CUE 200 EFFECT
STYLE LOOP NEGATIVE ALTERNATE BUILD

These lines tell you the cue number that you are working with, the type of cue (effect), the style of cue (loop) and the style modifiers (neither negative, alternate or build since all are in green, more of later).

The operators prompt now asks you to select step numbers, so to illustrate a simple six step chase, enter;

[1] [THRU] [6] [ENTER]

Now follow the prompt and enter the channel numbers. Note that all six steps are "active" (in yellow), so that if you enter a range of channels, they will automatically distibute themselves onto the six steps, eg:

[1] [THRU] [3] [AND] [11] [THRU] [13] [ENTER]

The channel numbers will appear next to the step numbers only when ENTER is pressed, so that channels may be entered in any order.

Now the system prompts for a high level (default FF = 100%), which determines the maximum channel level(s) in each of the active steps. To bypass, just press ENTER, and another ENTER to bypass the selection of a low level (default 00%).

To select the active TIME, ie. the time that the step is "on", enter the number of seconds and tenths of seconds, ie:

SELECT HIGH LEVEL [ENTER]
SELECT LOW LEVEL [ENTER]
SELECT TIME [0.5] [ENTER]
SELECT STEP NUMBERS [REC] [ENTER]

You have now recorded a simple loop chase effect. To play this back, go into OUTPUT mode, select the cue number and press GO.

18.2 COPY AND EDIT EFFECTS

Now, let us do another variation of effect based on the same chase as above.

First copy the original chase to a new cue number:

[BLIND] [CUE] [200] [REC] [201] [ENTER]

You can now edit this effect without risking the original.

18.2.1 EDITING STEPS

By selecting the step or steps that you need to change you can:

- Insert or delete steps
- Insert or delete channels
- Change high and low levels
- Change step time

You may for instance want to delete steps three and six, delete channel 1 from step 1 and add channel 21 to step 1 and channel 23 to step 3. Finally you want to change the time of step 4 to 1 second!

[STEP] [3] [AND] [6] [CLEAR] [ENTER]

[STEP] [1] [AND] [3] [CHAN] [1] [CLEAR] [21] [AND] [23] [ENTER]

[STEP] [4] [TIME] [1] [ENTER]

[REC] [ENTER]

To insert a step between existing steps, select the new step number and press:

[STEP] [3] [STEP]

18.2.2 EDITING STYLE

Each effects cue may have one of four different STYLES, and each style may have one or more MODIFIERS.

To select a style type, press the STYLE key and select a style from the prompt message. Once the style is selected, you can use the MODIFYERS, displayed on a top line next to the style type.

To select a modifier, use the RIGHT ARROW and LEFT ARROW to move the cursor to the modifier desired, and then press ENTER. Each modifier is a toggled function and is made valid/not valid by repeatingly pressing ENTER. When the modifier is valid (ON, below) its colour is yellow, and when not valid (OFF, below) its colour is green.

LOOP:-

NEGATIVE -OFF: Active step is high, others low.
NEGATIVE -ON: Active step is low, others high.

ALTERNATE-OFF: Loops are always either positive or negative.
ALTERNATE-ON: Loops are alternativly positive and negative.

BUILD-OFF: Preceeding step inside one loop is made inactive (goes off, if a positive loop).
BUILD-ON: Preceeding step inside one loop remains active (stays on, if positive loop)

BOUNCE

NEGATIVE -OFF: Active step is high, others low.
NEGATIVE -ON: Active step is low, others high.

ALTERNATE-OFF: Bounces are always either positive or negative.
ALTERNATE-ON: Bounces are alternativly positive and negative.

BUILD-OFF: Preceeding step inside one bounce is made inactive (goes off, if a positive loop).
BUILD-ON: Preceeding step inside one bounce remains active (stays on, if positive loop)

RANDOM

This effects style activates steps in a random order with an "active" time ("on" time, if a positive random effect) equal to the time specified in each step.

NEGATIVE -OFF: Active step is high, others low.
NEGATIVE -ON: Active step is low, others high.

RIPPLE

A RIPPLE pattern is akin to that of RANDOM, in that it activates steps in random order. The RIPPLE pattern, however, provides the ability to crossfade between random steps in programmed TIME.

Each step may have a different TIME assigned. A programmed TIME of 02.0 for step 1 will cause the channels assigned in step one to fade up in 2 seconds. When the HIGH level is reached, it will begin a 2 second downfade to the LOW level. As the downfade starts, the upade of the next random step will also start.

NEGATIVE -OFF: Active step is high, others low.
NEGATIVE -ON: Active step is low, others high.

RATE: The default rate of incidence is 00.00 - 00.00 seconds, ie. the "next" step will start instantly that the active step has finished its upfade.

A different rate of incidence may be selected by using the LEFT and RIGHT arrows to move to the RATE field on the STYLE line. This means that the "next" random step will be executed randomly after the start of the "present" step, in the time frame specified by RATE.

If, for instance, we have a RATE of 01.5 - 02.5, the "next" step will start at any time point between 1.5 and 2.5 seconds after the "present" step started its upfade.

BACKUP OPTIONS

Four different backup options are available with Imagine. They are:

1. INTEGRAL BACKUP

An ARRI CONNEXION Input PCB is fitted inside the standard Imagine Operator Console. It is connected to the Submaster Faders and the Manual Effects Module, and has an independent power supply, fed from the BACKUP IEC socket on the rear panel. It is strongly recommended that backup power should be taken from a separate supply to that used for the main system.

1.1 OUTPUT AND PRINTER CHANGEOVER SWITCHES

Two changeover switches are provided. One, on the top surface of the rear panel, switches the SYSTEM OUTPUT (DMX512) between Imagine and the Connexion processor. The red leds indicate from which part of the system the output is being derived, and the green led shows that the backup system is up and running.

The second switch is located to the right of the console rear panel, and switches the PRINTER OUTPUT between the Imagine and Connexion processors.

1.2 SETTING UP THE BACKUP GROUPS

When you switch over to the integral backup, you effectively have a CONNEXION PLUS system as backup, connected to the dimmers.

You have control via the 24 faders and flashkeys, to each of which may be assigned any number of dimmers, at any intensity. Dimmers assigned to the same fader may be at different intensities.

It is important to understand that Connexion Plus is a patching system, so dimmers may only be present in one channel at a time.

The patch groups are set up by connecting the Remote Control Unit into the socket marked BACKUP REMOTE. Now use the procedure detailed in the CONNEXION PLUS manual to set up and store patch groups.

The Integral Backup may be set up at any time, even while the Imagine is in operation, providing the green "backup ready" led is lit. This will not affect the operation of the Imagine system.

Five "pages" of 24 groups may be saved and instantly recalled, using the Remote Control Unit, givig a total of 120 groups which may therefore be used to back up a number of shows at one time.

Please study the CONNEXION PLUS manual to become familiar with the detailed operation of the Integral Backup Option.

2 CONNEXION PLUS

Using the ARRI Connexion Plus console as a backup for Imagine has several advantages over the integral backup option.

I. Connexion Plus may be used in parallel with Imagine, providing 24 more group masters and flashkeys, as well as two manual effects modules, greatly expanding Imagine's already powerful effects systems.

II. A separate Remote Control Unit may be connected to Connexion Plus and used independently on the studio floor (or on stage), so that riggers may flash and focus lights without calling on the system operator or causing channels temporarily raised to be accidentally recorded into lighting cues.

III. Connexion Plus may be used in a remote location as a simple control system for one-off shows and concerts, discos in the foyer, exhibitions, etc. It may also be taken off site and used for simple shows when the backup system is not required.

Since Connexion Plus does not cost much more than the Integral Backup, it has proved a popular "second level" backup choice.

3. REDUNDANT TRACKING BACKUP - TWO SYSTEMS

Two Imagine systems running software version 1.44 or later may be linked together via a simple RS232 cable.

One of the systems may then be used as normal, and the other will automatically "copy" all functions, therefore being ALWAYS in EXACTLY the same state as the "main system".

A dimmer data changeover switch is supplied, so that the output to the dimmers may be derived from either system.

In the unlikely event of a failure, simply switch the DMX output to the backup console, and continue as normal.

Since the Connexion Output Modules, which receive the DMX data and drive the dimmers themselves with analogue signals, will ignore any bad data or data dropouts, the chances are that such a failure will not result in ANY change of light levels in output.

A Supplement to this manual will be supplied to users of RTB systems, with full instructions for installation and use.

4 REDUNDANT TRACKING BACKUP - MODULAR SYSTEM

Using Imagine in a modular format with Redundant Tracking Backup, the following modules are required:

I. Operator Panel (module) with all face panel controls, but excluding disc drive.

II. 2 x Processor module - 19" 2U high, with Processor board(s), power supply and disc drive. The two processor modules are linked together in exactly the way described in the previous section.

III. Redundant Tracking Backup (RTB) Module. This module is inserted between the two processor modues, providing a comprehensive set of indicators describing the status of both processor modules, including power supply and data output indicators. If the module detects a failure in one of the processors, it automatically ensures that the healthy processor is the one connected to the system peripherals. A buzzer sounds to alert the operator that a changeover has taken place. In addition, the operator may at any time select which of the two processor modules is to be the "main" system, and which the backup.

A Supplement to this manual will be supplied to users of RTB systems, with full instructions for installation and use.