Theatre Stack Functions
Operators Manual
June 2001

Useful Avolites phone numbers:-

Avolites England

sales and service*	(+44) (0) 20 8965 8522
service out of hours*	(+44) (0) 7831 17 88 88
fax	(+44) (0) 20 8965 0290
Email	software (at) avolitesdownload.com
WWW	http://www.avolites.com

Distribution of Avolites products in USA:-
Avolites America

sales and service*	(+1) 423 938 2057
fax	(+1) 423 938 2059

For a full listing of distributors please see our World Wide Web page.

The Small Print:

*Before contacting Avolites for service enquiry please ensure that you have the product serial number and the Software version.

The latest version of this manual (in Microsoft Word 97 or PDF) can be downloaded from the Avolites web site detailed above.

No Liability for Consequential Damages

Contents

1. <u>INTRODUCTION</u>

This document describes in detail how to use the Theatre Stack System. It is not written for any particular Avolites console. Therefore, you may find minor functionality differences depending on which console you are using.

The Theatre Stack is a system that allows you to create a chase. This 'chase' is a series of lighting states, known as steps, put together in a sequence, known as a stack. It is then run, one step at a time, in order with the 'GO' button being the primary trigger for each step. The stack can also be triggered by manual cross faders.

It includes numerous additional features, not available in a normal chase, that allow you to achieve lighting changes and effects that are required in a theatre environment.

It is important that you are familiar with all basic features, (patching, Focuses, Memory's and Chases), of the console before you begin using the 'Theatre Stack' system.

Two systems are used with theatre stacks. One is the Theatre Stack 'Control' the other is the Theatre Stack 'Programming'.

The 'Control System' appears on the last four playback faders, and flash buttons, and on the chase or sequence controls.

The 'Programming System' appears on the main LCD screen as a menu system.

It is important the difference in these two systems is understood, as the control system can be enabled and left running, while the programming system can be entered and left at any time.

2. **To enable & disable the theatre stack controls.**

2.1 To enable Theatre Stack

You must be in Live Program mode.

Press softkey B, Theatre Stack Programming.

The text that appears on the screen lets you know what theatre stack programming is going to do.

When ready press the ENTER button.

This will now enable both Theatre Stack Programming and Controls.

The 'Control System' will take over the last four 'Playback faders' and their assigned flash buttons. Any memory's or chases previously stored on those faders have now been removed and stored elsewhere. They will not be accessible now, until you disable the Theatre Stack Controls.

You will notice that softkey G has the 'Quit' option. Pressing this will take you out of theatre stack 'Programming' and return the main menu to Live Program mode. It does not disable the 'Theatre Stack Controls' on the last four faders.

2.2 To disable the Theatre Stack 'controls'

You must be in Live Program mode, (quit theatre stack programming).

Press softkey B, Theatre Stack Programming.

Press softkey D, Quit Theatre Stack Programming.

This will disable the theatre stack controls and return the last four playback faders to their previous operation.

2.3 Problems and Frequently asked questions

Q. Theatre Stack Programming doesn't appear on softkey B?

A.   You are not in Live Program mode.

A. You are running an older version of software that does not have theatre stack programming. (All software dated 2000 onwards will have theatre stack programming).

Q. When disabling theatre stack controls, Quit Theatre Stack Programming does not appear on softkey D.

A. Theatre Stack controls are not enabled.

Q. The LED on playback 12 is constantly flashing? (Pearl only)

A. This serves as a warning that the Theatre Stack master fader is at zero.

3. How to Record a step.

3.1 Selecting a Step number

You must be in theatre stack 'Programming' to record a step.

Set up a scene using any of the normal programming methods for controlling fixtures.

- Type in the number of the step you wish to record.
- Press ENTER.
- Press softkey D, Record.

3.2 Record options

You now have a menu with four options:

A. Record mode, Fixture or Channel.
B. Record Stage
C. Set Times
D. Record Programmer

3.2.1 Record mode

This allows you to change the mode back to record by fixture. (record by channel is rarely used when creating steps in Theatre Stack Programming.)

3.2.2 Record stage.

This will create your new step and records the output of the console. That includes output from the playbacks.

3.2.3 Set Times

Allows you to set the times of the step, before creating it. For more detail see 'Editing Step Times' below.

3.2.4 Record Programmer

This will create your new step, but only the contents of the programmer will be used. (Any playbacks running will be ignored.)

Repeat this process to record further steps.

You can record up to step number 999.9

If you want to insert steps, just type in a number between the steps you want to insert, you can use numbers to one decimal place, e.g. 1.5

N.B. If you try recording over an existing step various other messages or menus will appear, see Editing a Step.

4. Editing Step times

4.1 Select a step, entering edit times menu

You can edit times on a step before you record it from the Record menu. Or you can press softkey C, Set Times, to edit the times on the current step.

The current step number is shown at the top of the LCD screen or across the bottom of the VGA monitor.

To change the current step, type in a number on the numeric keyboard and press ENTER.

Once you have selected the step number you want to Set Times on simply press the softkey C, Set Times.

4.2 Step time terminology

All the times in the Set Times menu apply to the step 'point'.

This means the 'IN' times apply to everything fading to a higher level on the new step and the 'OUT' times apply to everything fading to a lower level in the new step, from the previous step.

For example, if you were going from step 1 into step 2. The 'IN' times would apply to everything fading in to a higher level in step 2. The 'OUT' times would apply to everything fading out to a lower level from step 1.

(For those of you who are familiar with other theatre consoles, this is the system that 'Strand' typically use and not the system 'Zero 88' typically use.)

4.3 Inserting a time

To insert a time simply type in the time in seconds and press the softkey A to F to insert it in the slot you want.

4.3.1 To insert a time in minutes or hours.

You can insert a colon in your times to divide hours, minute and seconds just by pressing the point button twice.

Example:

To insert the time 2:45:10.00

Press the following buttons:

2 . . 4 5 . . 1 0 ENTER

4.4 HTP Wait times

These times allow you to delay dimmers channels from fading in or out after you press the 'GO' button.

4.4.1 Wait In

Will hold any dimmer channels, that are fading **IN**, at their last level, until the time is complete. When it is complete they will fade in using the 'Fade in' time.

4.4.2 Wait out

Will hold any dimmer channels, that are fading **OUT**, at their last level, until the time is complete. When it is complete they will fade out using the 'Fade out' time.

N.B. For definitions on HTP and LTP see 'frequently asked questions'.

4.5 HTP Fade times

The times that control how quickly dimmers channels fade in and out.

4.5.1 Fade in

Will control the amount of time any dimmer channel that is fading **IN** will take to complete that fade. The fade in will not start until the 'Wait in' time is complete.

4.5.2 Fade out

Will control the amount of time any dimmer channel that is fading **OUT** will take to complete that fade. The fade out will not start until the 'Wait out' time is complete.

4.6 LTP Times

Controls the wait and fade times of any moving light changes.

4.6.1 LTP Fade

Will control the amount of time any LTP channels will take to change from their previous position, to their new position. The LTP fade will not start until the 'LTP Wait' is complete. (N.B. not all channels will fade with times, see Instant mode, under patching in the main manual.)

4.6.2 LTP Wait

Will hold all LTP channels in position until the time set is complete.

4.7 Link control

Determines whether the step runs with the 'GO' button or when the previous step is complete.

Link Off, (default), means the step will not run automatically and will wait for the 'GO' button.

Link On, means the step will run itself automatically when the previous step is complete.

4.8 Save or abandon times

When you have finished editing times on a step, press the ENTER button to save your changes and exit back to the main menu.

If you want to abandon your changes, press EXIT, all changes will be lost and you will return to the main menu.

5. <u>Viewing Steps</u>

5.1 Preview a step

You can preview a step without seeing it live on stage.

To do this:

Press the view button, or the Sys On Screen button (Azure only).

Press the SWOP, (GRAB on Diamond), button above the master level* fader.

The Master Level fader is the first of the four theatre control faders.

(No. 7 on Azure, No. 12 on Pearl, No. 17 on Sapphire & Diamond).

This will bring up a preview on the monitor of the 'Theatre Stack', starting at step 1. To scroll through the steps either use the options on the softkeys or press the left & right arrow buttons.

5.2 Playback

A straight forward way of viewing a step is simply play it back live.

Make sure the Master Level* fader is at full.

This will bring the live step on stage straight away.

You can use the 'GO' button to fade through the steps.

5.3 Cut to Live.

Allows you to jump to any step instantly.

Type in a step number on the numeric keyboard, then press softkey F, cut to live. This will bring the step on stage.

This only works if the Master Level* fader is at full

5.4 Snapping through steps

You can use the two direction buttons, usually used to control forwards and backward on a chase, to snap quickly through the steps in the theatre stack.

5.5 Load next step

You can fade into any step in the stack using the times as well by using this function.

- Type in the number of the step you wish to load, on the numeric keyboard.
- Press the 'Connect' button.
- Press the 'GO' button to fade that step in.

*See Frequently asked questions.

6. <u>Editing Steps</u>

To edit an existing step, you simply record over it.

You need to be careful about your choice of record programmer or record stage as you may end up recording more information than you want into a step. There are additional features for editing steps on the Diamond, see section 6.2

6.1 *On 2000 series consoles only*

Playback the step you wish to edit live on stage.

Make the changes to the scene.

Record over the step, using record programmer.

You will be asked to confirm recording over the step, press ENTER to confirm. Make sure you have the correct step number before you press ENTER!

6.2 *On Diamond consoles only*

When you attempt to record over a step you will be given two further options after pressing Record Programmer / Stage. These options are Merge and Replace. This gives you four ways of recording over a step.

The simple way to edit a step is to playback the step you wish to edit live on stage, edit it, the record over it using, Record Stage, Merge.

6.2.1 *Merge (Diamond only)*

Allows you to combine your changes with what is already recorded in the step

6.2.2 *Replace (Diamond only)*

Allows you to totally delete what was in the step and record only your edits.

<u>Record mode</u>		Description
Record Stage	Merge	Takes the contents of the programmer and any paybacks that are running and records them into the step leaving any un-altered lights at the level they were originally recorded at.
	Replace	Takes the contents of the programmer and any paybacks that are running and records them into the step and deletes any information that was previously in the step.
Record Programmer	Merge	Takes the contents the programmer and adds it into what was previously in the step. (will ignore any playbacks)
	Replace	Takes the contents the programmer and records it into the step, whilst deleting any previous information. (will ignore any playbacks)

Example: (diamond only)

You have three lights, A, B and C.

Light A is already recorded into step 1.
Light B is recorded into a memory on playback fader 5, which is at full.
Light C is at full in the programmer.

The Master Level* fader is at 0, so only B and C are visible on stage.

Here is what will happen by using the four different recording methods if you record over step 1:

Record mode		End Result
Record Stage	Merge	A, B & C
	Replace	B & C
Record Programmer	Merge	A & C
	Replace	C

*see frequently asked questions.

7. <u>Organising your Stack</u>

When you start building larger stacks with more and more steps going in, inserts, changes and deletions going on all the time, things can start to get very confusing. There are a few features built-in to make you life little easier, allowing you to label, renumber and copy steps quickly and easily.

7.1 *Set Legends*

On the VGA monitor you have a space, to the right of the step number, for a 15 character legend on your step.

To insert a legend:

- Type in the step number you wish to change
- Press softkey E, Set Legend
- Type in your text using the qwerty keyboard, (or preset buttons on the Pearl)
- Press ENTER.

7.2 *Renumbering steps*

Allows you to renumber the entire stack to whole numbers again.

To Renumber:

- Press A, Advanced
- Press A, Renumber
- Press F, Yes, to confirm.

7.3 *Copying Steps*

N.B. This function is not yet available on the Sapphire, it will be in the next version of software.

- Make the step you wish to copy the current step. (Type in the step number and press ENTER).
- Press A, Advanced
- Press F, copy current step to…
- Type in the number of your new step.
- Press ENTER.

Notes:

- You cannot copy over an existing step.
- All copies are Photocopies, linked copy is not possible.

8. Playing back your Theatre Stack

8.1 Normal Playback

The Master Level* Fader is your main output control for the Theatre Stack.

With this fader up, provided the programmer is clear and the Grand Master is up, the Theatre Stack will output a step.

The primary way of running through the Stack is using the 'GO' button.

N.B. If you press the go button before the previous step is complete, it will stop that step and start the new one.

8.2 Stop, go back and go to…

The Stop or pause button can be used to stop any step mid way.

The 'GO' button can then be used to resume the step.

To 'go' into any other step, including going back a step, type in the number of the step you want to go to. Then press 'Connect'. This will change the number of the next step.

After this the stack will carry on running in order

There is no 'go-back' button. The way to achieve a go-back is the same method used to go into another step.

You can also change the direction the stack runs in just by changing the chase direction buttons. This will not allow you to fade back an incomplete step.

*see frequently asked questions.

8.3 Manual Playback

You can use the last three payback faders to manually cross fade through the steps. You have to move **ALL 3** faders to the top before it will load the next step is loaded. Each fader has a different use:

HTP In	HTP Out	LTP
Fades in all dimmer channels from the new step.	Fades out all dimmers channels from the previous step.	Moves all LTP moving light channels from their last position to the next.

Notes:

- This uses 'dip-less' cross fade. This means any channels that are on in both steps will remain on throughout the cross fade.
- LTP controls behave like mode 2 memory's.
- Fades only happen when faders are pushed 'up'.

You can also run the separate controls with times using the flash buttons above the three faders.

The button above each fader is a 'GO' button, (normally the ADD button).

The button above the 'GO' button is the 'STOP' button, (normally the SWOP button).

These stop and go buttons can be used to trigger and pause the HTP and LTP elements of a step separately.

9. Advanced Features

This section tells you how to use autoloads. Autoloads have many purposes and allow a great deal of flexibility in controlling multiple lights and states.

9.1 Trigger a chase with a Step

You can create a chase on any of the remaining playbacks not used by theatre stack. This can be triggered to run along side your theatre stack.

This uses a system called Autoload, which connects the chase to the step.

To create an autoload you need to be in the Advanced menu, softkey A.

9.1.1 Autoload fade in

- Type in the step number you want to use and press ENTER.
- Press softkey B, Assign a fade up autoload.
- Press the SWOP button for chase you want to load.

9.1.2 Autoload fade out

- Type in the step number you want to use and press ENTER.
- Press softkey C, Assign a fade down autoload.
- Press the SWOP button for chase you want to get rid of.

You can load any chase, from any page. However remember the rules of the console, you can not playback more than one memory or chase per playback fader.

9.2 Fade in a chase with times

You can assign a time to any autoload.
- Make sure you are in the Advanced menu, (softkey A).
- Type in the number of the step with the autoload you want to time.
- Press softkey D, Set Autoload fade time.
- Type in a time in seconds.
- Press ENTER.

9.3 Autoload a memory

You can autoload a simple Memory from any of the playbacks in the same that you autoload a chase, see above.

9.4 Set up a 'split time fade' or 'multiple time fade' on a step

A split time fade is when two lighting states fade in or out with separate times, but from the same 'go' trigger.

You have to build one of the two states on a playback fader as a normal memory. Then autoload the memory with the step. This is the same process as attaching a chase to a step, see section 9.1.

With this done you can program the memory with it's own wait and fade times. These times will start from the point you press the go button and they will be independent of the steps times.

When the Memory has loaded it will remain in until you create an autoload fade down to get rid of it, see 9.1.2.

9.5 Set up a 'move fade'

A move fade is when you trigger one fade to start, then trigger a second fade to start without affecting the first fade, which is allowed to continue.

Much like creating a 'split time fade', a move fade is created by autoloading a memory.

The state that you want running continuously, while other changes occur, needs to be the autoloaded memory. Creating this autoload is the same as creating an autoload for a chase or a split time, see above.

9.6 Set up multiple split time fades

A multiple split time fade is when you have a number of states fading in or out all with their own times, but they are all triggered from the same 'GO'.

Again autoload's are the way to achieve this. However you are limited to one autoload per step.

To get multiple autoloads running at the same time you need to create 'dummy' steps.

Each 'dummy' step should be a copy of the previous step. It should have all times set to zero. All dummy steps, **except the first one**, should have the link turned **on**. You can then create autoloads on all these steps.

When you press the 'GO' button the stack will go through all the steps instantly with out changing anything on stage from the theatre stack. However all the autoloads will have been triggered and will run with their own wait and fade times.

9.7 Delete an autoload

- ▪ Make sure you are in Advanced, (softkey A.)
- ▪ Type in the number of the step with autoload you want to delete.
- ▪ Press softkey E, Delete Autoload.

10. Frequently asked questions

10.1 Theatre Stack Programming doesn't appear on softkey B?

- You are not in Live Program mode.
- You are running an older version of software that does not have theatre stack programming. (all software dated 2000 onwards will have theatre stack programming).

10.2 When disabling theatre stack controls, Quit Theatre Stack Programming does not appear on softkey D?

Theatre Stack controls are not enabled.

10.3 The LED on playback 12 is constantly flashing? (pearl only)

This indicates theatre stack is enabled, this is normal.

This serves as a warning that the Theatre Stack master fader is at zero.

10.4 What is HTP?

Highest Takes Precedence.

Applies to dimmers channels on fixtures.

A mechanism for determining the output level of a Channel held in more than one Playback Channel. The Playback Channel outputting the Highest value at any given time will always determine the level of the Channel

10.5 What is LTP?

Latest Take Precedence.

Applies to all moving lights channels, other than dimmer.

Latest Takes Precedence, a mechanism for passing control of a channel from one Playback Fader to another on the basis that the last moved Playback Fader has control, providing that Playback Fader has moved passed the Trigger point. It follows that LTP Channels always fade in a dipless way from one state to another.

10.6 What is the Master Level fader?

The Master Level fader is the first of the four theatre control faders.

(No. 7 on Azure, No. 12 on Pearl, No. 17 on Sapphire & Diamond).

10.7 How do I get rid of autoloads that have been left running?

Bring the fader that controls that autoload up and down again, in some cases pressing clear will work.

10.8 My Autoload didn't work first time?

If you create an auto load on a step you have to reload the step sometimes.

- Using cut to live, jump back to a step at least 3 before the current step.
- Using 'GO', go through to the step you need.

10.9 How many theatre stacks can I create?

One

10.10 Why can't I create a memory or chase on the other playback faders?

You need to be in Live Program mode.