V3.0 Software

Quick Start Guide to the New Features

INTRODUCTION TO V3.0

The V3.0 software for the Vi4 and 6 consoles contains some major new functionality. This guide lists all the new functionality and then gives a fast track guide to using the more involved features such as the new snapshot automation features and snapshot filtering.

For full information there is a User Guide appendix available for download via the soundcraftdigital.com website.

Here is a summary of the new features:

- Mixing channel upgrade from 64 to 96 on Vi6 and 48 to 72 on the Vi4 (requires additional DSP card, part number RS2401SP)

- Vi4 now has 8 additional Aux busses – total 32 busses

- Major update to Snapshot automation and Cue list page, including cue list management, snapshot scope, MIDI and GPIO events, MIDI Timecode triggering of Cues and Apply Changes across Cues

- ISO buttons now allow selective isolation of individual parameters from snapshot automation

- ISO buttons can now be used to protect sections of the desk from changing when a Show is loaded

- Gain reduction metering is now shown on the output meters on the main screen, allowing this to be seen when the VCA masters are on the centre fader bay

- Delay controls on Input and Output channels now have fine adjust control, with steps of 0.02ms (= 20us or approx 1 sample at 48kHz)

- Graphic EQ now works with ganging on Output channels

- Channel labels can be imported and exported to .csv file (which can be opened/saved by MS excel)

- Short label displays on channels and outputs now auto-scrolls if more than 6 characters is used

- Matrix contributions have been preset in the default FOH show to have the bus 1-24 contributions already set up, for ease of use, as well as the LRC that were previously set

- Next/Last scene recall buttons at front of the desk can now be enabled if required

THE NEW FEATURES IN MORE DEPTH

Mixing channel upgrade from 64 to 96 on Vi6, or 48 to 72 on Vi4.

This will need both the free of charge V3.0 software update and a (chargeable) additional DSP card that goes into the local rack. The card can either be retrofitted or ordered on new desks. The desk software automatically reconfigures itself when it detects the card has been plugged in. *See the end of this guide for how to install the additional card.*

The C layer button in the Fader page control section of the surface now allows access to the extra channels and additional input meters will appear in the main screen.
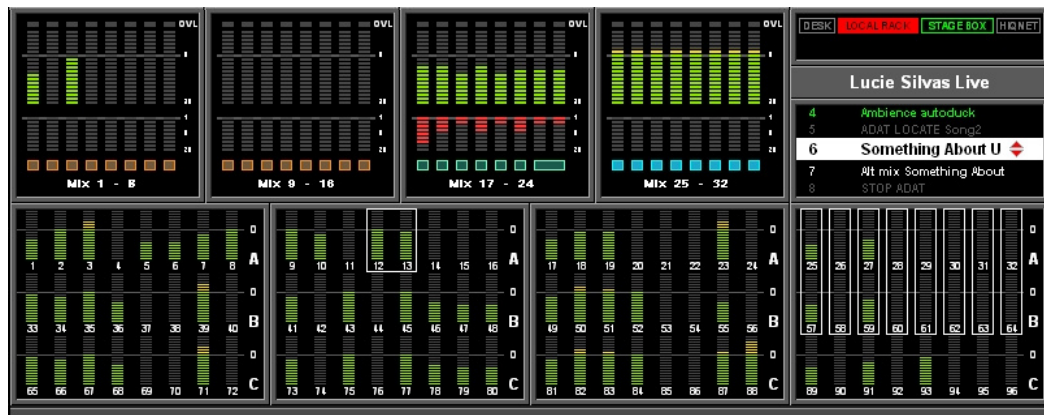
To make full use of the extra channels on the 96ch Vi6, you may wish to add an additional stagebox; this feature was already introduced in the last update (V2.1). A second stagebox can easily be connected to the spare MADI card in the Local Rack, the only thing to be aware of is that if your desk has a Cat5 Stagebox link, the second MADI card will be optical and therefore you may want to change this card to a Cat5 version, and also purchase an additional breakout panel. Note also that a DIP switch setting will need to be changed in order for the second card to detect a stagebox. Please contact your Soundcraft distributor to get advice on this.

A bonus feature on Vi4 is that the number of busses will increase from 24 to 32, just by doing the free software update. The additional 8 busses 25-32 will be fixed as mono Aux however, but that is the only compromise. Their EQ, patching etc can only be accessed by soloing the bus and using the channel strip on the control bay screen (ensure Lock Meters is not on).

Additionally, if a Vi6 show is loaded onto a Vi4 running V3.0 software, all 32 busses will be usable in the same mode as they were on the Vi6 (eg Matrix outs on 25-32).

The number of busses on the Vi6 remains at 32, with or without the DSP upgrade.

New Vi6 Control Bay meter screen, showing 96 input channels and Output Gain reduction. You can still touch the screen to grab blocks of 8 inputs and assign them onto the right hand fader bay in the desk.

Using the DSP Upgrade's additional 32 channels

When the Vi4 or 6 is upgraded with the DSP card addition, there are two ways to use the additional channels:

1. Making more use of the existing I/O

The Vi6 already has 64 mic ins from the stagebox, plus 16 line inputs, 3 mic inputs, 16 AES/EBU inputs and up to 64 MADI inputs in the Local Rack, plus the returns from the 8 built-in stereo Lexicon FX units. This is a total of 179 sources!
This means that there are already plenty of spare physical inputs that can be used to access the additional 32 mixing channels.
Just being able to connect the FX return channels without eating into the Stagebox inputs will be a major benefit.

With this in mind, the new Default Shows provided with the V3.0 upgrade have been programmed with the sources for channels 65-80 set to the Local Rack Line inputs. The last 16 channels 81-96 have been left free to use for FX returns since there are different preferences on the vertical or horizontal pairing of these.

2. Add another Stagebox

Alternatively if you require more than 64 inputs from the stage, a second Stagebox can added to the desk, either by connecting it to the existing second MADI card, or adding a third MADI card. (In this case you need to remove the AES/EBU card or 2 line in or line out cards to make room for the MADI card).
As mentioned previously, you may need to obtain additional breakout panels for use with a second Stagebox.

When adding additional MADI cards and Stageboxes, keep in mind that there is a limit to the maximum number of I/O channels that the DSP core can accept – this is **192 inputs** and **192 outputs**. The total of all the input cards fitted in the local rack must not exceed these numbers. It is possible to add a MADI card and restrict the number of channels it uses, from 64 down to say 32, using internal switches.

Refer to your Soundcraft distributor for further advice on special I/O configurations.

Input patching screen showing 2 stageboxes connected

Snapshot Automation upgrade

The snapshot automation system of the console has been completely reworked.
The main new things within this are:

- Snapshot Filtering (Global Filter, or ISO, and Snapshot Scope)

- Cue List Management (Creating, deleting, renaming, renumbering, moving, duplicating)

- Outputting events (MIDI, GPO, HiQnet) when Cues are recalled, with or without a desk snapshot also being recalled

- Triggering Cues from received events (MIDI, MIDI Timecode, GPI)

- Cue auto-sequencing (one Cue automatically recalls another after a preset time).

- Adding text notes to Cues that can be viewed whilst operating the desk

- Copying a change on one or more parameters to some or all of the other Cues in the list – called Apply Changes

Snapshot Filtering Introduction

Snapshot filtering is a way of preventing certain settings on the console from changing when a Cue is recalled. There are two different reasons why this is useful, and we therefore have two different types of snapshot filtering: *Global Filtering* (also called *Isolation*), and *Snapshot Scope*.

Global Filtering

In the unpredictable live environment, despite your careful programming, something has gone wrong, and the stored settings are no longer relevant. You suddenly need to get manual control back, either of a whole channel, or an element within a channel or across the desk. We call this *Global Filtering*, and provide the ISO buttons on the console in order to 'Isolate' a channel from Cue recall changes. Version 3.0 allows additional control of isolation down to individual parameter level as well as whole input or output channels.
Once a parameter is isolated, that parameter will remain under manual control regardless of which desk snapshot is recalled – hence the term *Global* filter.
Controls that are isolated can still be stored however, so you can update snapshots to add in the manually adjusted changes at any time, without switching off the isolate function.

Because Isolation only works on the *recall*, and does not stop that parameter being *stored* when a snapshot is updated, it also has another useful function, and that is when you want to copy a parameter's setting from one Cue to another.
Let's say you have an EQ that you like on the vocal channel and you want to copy that EQ into one or more other Cues: All you have to do is Isolate that EQ, scroll to the other Cue and recall it (your EQ will not change), and then update that Cue – the new EQ will then be stored into that snapshot.

Snapshot Scope

At the rehearsal stage when you are planning the show and storing Cues, it can be very useful to make a Cue which, when it is recalled, only affects a specific area of the console. You could think of this as a 'Partial' snapshot.
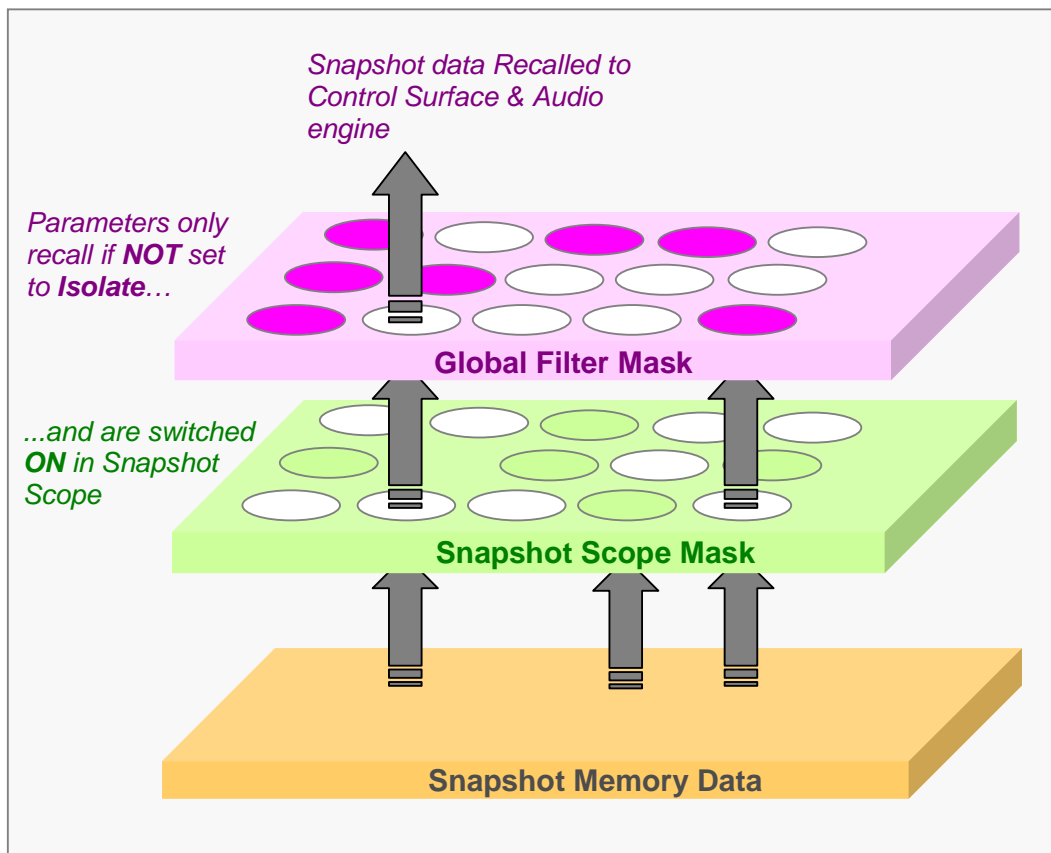
So you could make one more cues that will only set the Gains and EQ of all the channels, but leave the fader values unchanged (so under manual control), or you could make cues that only change the settings of 8 pre-recorded channels from a hard disk recorder, and all the rest of the channels are under manual control.

Understanding how Global Filter and Snapshot Scope work together

The Global Filter (or ISO) and the Snapshot Scope work together 'in series', so in order for a parameter to be recalled from the Snapshot memory, it must have its Scope setting set to ON, and must NOT be isolated. The diagram below illustrates this concept.

When you create each new Cue, the Snapshot Scope setting for ALL parameters on ALL channels are set to ON automatically in that Cue, so you can ignore the Scope functionality unless you specifically want to use it. For this reason, the Snapshot Scope control panel is also hidden when you go into the Cue List page of the desk. To see the Snapshot Scope control panel, press the SHOW button at the top left of the Cue List.

Remember: The **Global filter** stays on the desk when set and applies to ALL Cues that are recalled. **Snapshot Scope** is a specific filter that is stored with each Cue, and controls what data that Cue's desk snapshot will recall.

Snapshot data Recalled to Control Surface & Audio engine

Parameters only recall if NOT set to Isolate…

Global Filter Mask

...and are switched ON in Snapshot Scope

Snapshot Scope Mask

Snapshot Memory Data

Controlling the Global Filter

To Isolate a whole channel or bus from the snapshot recall, press the ISO button. This works in the same way as the previous software versions, but the channel strip border on the Vistonics screen now changes to purple to indicate the All Isolated state.
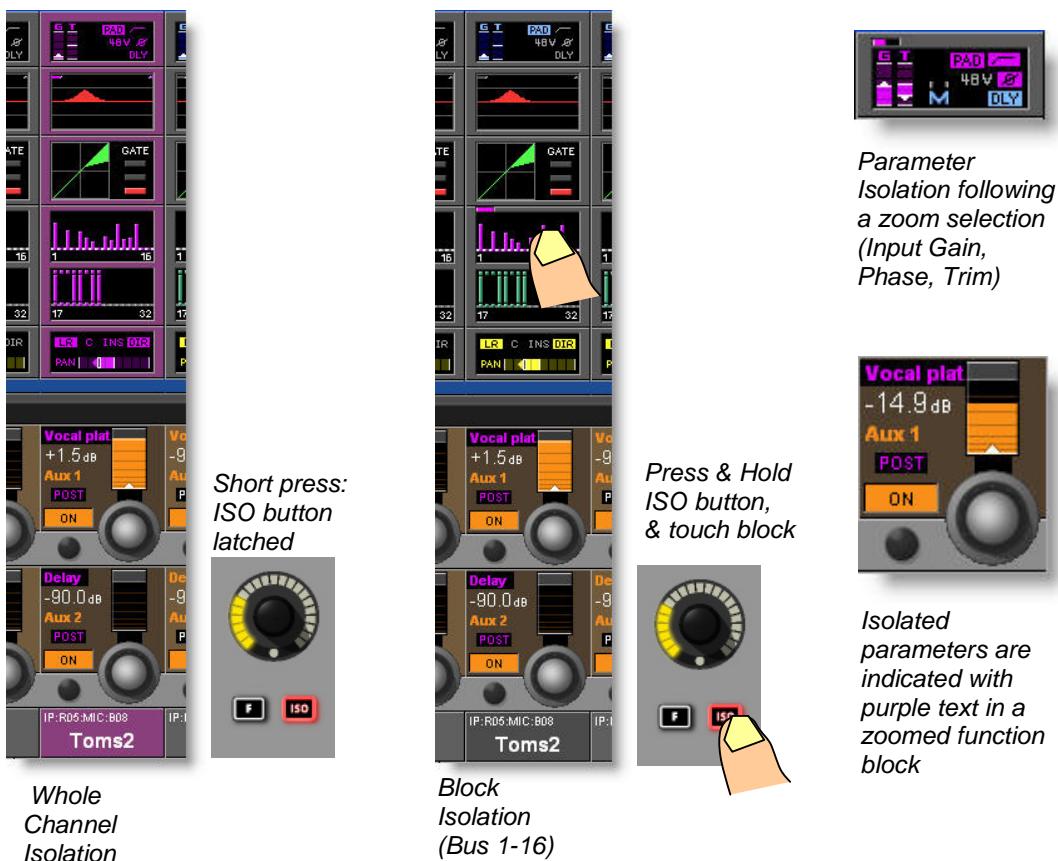To quickly isolate groups of channels or busses, the Gang function can be used.

The new functionality with V3.0 allows **parts** of a channel or bus to be isolated. This is done by pressing and holding the ISO button, and simultaneously dabbing the part of the channel strip that you want to isolate. A purple LED appears in the top corner of the block to indicate that the block is isolated.

To isolate an individual parameter, you first zoom into the function block so you can see the parameters within, and then press & hold ISO and touch the Vistonics knobs of the parameters you want to isolate. If the sub-page isn't already open, you can press and hold on the screen block as well as the ISO button will zoom in if a screen isn't already open and allow parameters within the block to be accessed.
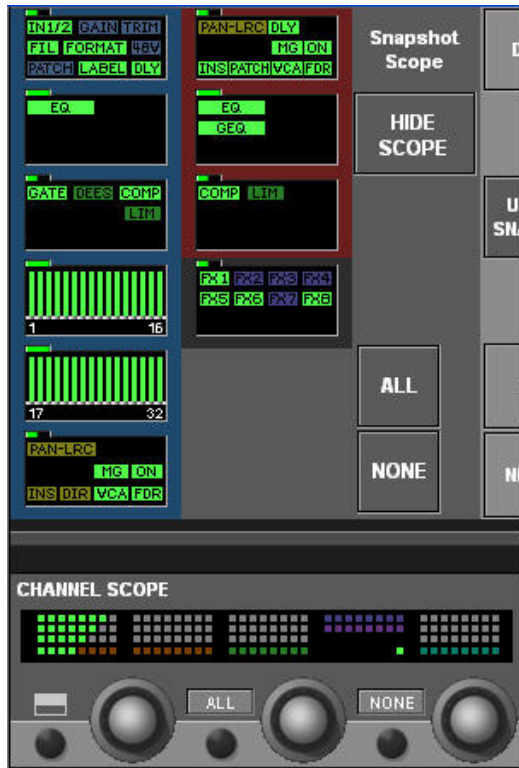This feature is designed to be used in conjunction with Gang mode to set ISO's across the desk quickly and easily.
An alternative method is to go into the Cue List page and switch on the purple **Edit Global Filter** button, which puts the whole desk into edit mode, so holding the ISO button is not necessary.
Note that this isolation is for ALL snapshots, and the settings you make concerning isolation are saved and loaded with the Show (but there is an option to turn this off - see later).

Parameter Isolation following a zoom selection (Input Gain, Phase, Trim)

Short press: ISO button latched

Whole Channel Isolation

Press & Hold ISO button, & touch block

Block Isolation (Bus 1-16)

Isolated parameters are indicated with purple text in a zoomed function block

Controlling Snapshot Scope

To access the Snapshot Scope, open the Cue List page by pressing the Setup button in the Snapshot Control section of the desk.

By default, the Scope panel is hidden, so press the SHOW SCOPE button at top left of the Cue List to actually display the Scope control panel.

This left side of the panel represents an input channel, the right side an output or master channel plus the 8 FX units, and at the bottom there is a section where a range of channels or output busses can be defined. Touching the screen toggles the various blocks in and out of the Scope, and pressing the bottom-left Vistonics button opens a page that allows the channel range to be selected.
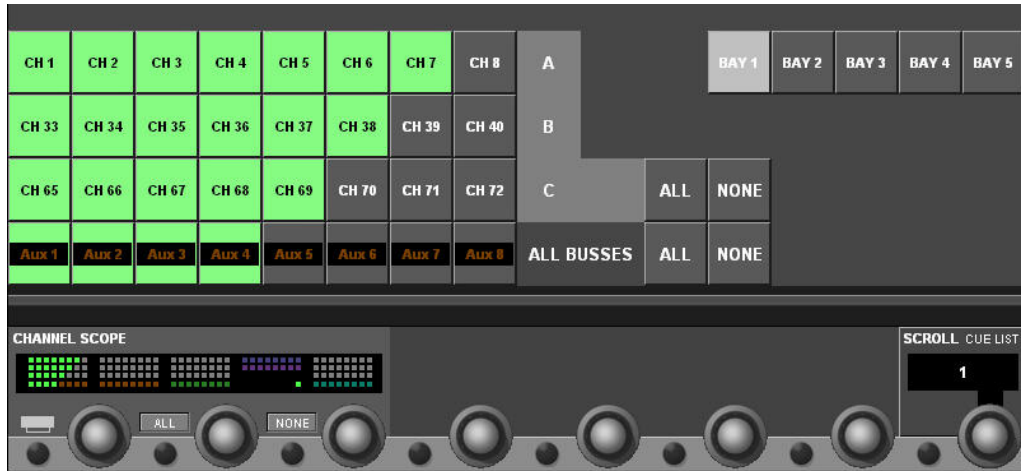
By default, all the function blocks and all the channels are switched ON in the Scope, hence the green indications.

If you want to access a parameter within one of the function blocks, press & hold on the screen and the block will open a page in the rotary section below, where you can switch the Scope On or Off for each parameter by either touching the Vistonics knobs or pressing their buttons. To close the selection page, press & hold again on the function block (there is no 'exit' button). *Be careful not to 'dab' the screen as you are exiting with the press & hold, otherwise you will turn the whole block's scope to 'off' and will have to start again.*

The Channel Scope section includes a dot matrix-type display that shows the On/Off status of all 96 inptuts, 32 outputs, the 16 VCAs and the LRC master bus. These dots are arranged in 8ch bays matching the actual console layout. If you press the NONE button to switch the channel scope for all channels to Off, you will also see colour coding of the dots that helps visualize their mapping to the console.

To edit the settings of the Channel Scope, press the button on the Vistonics screen in the bottom left corner of the Channel Scope area – this opens an editing page where each bay can be selected on the touchscreen, and the required channels toggled On or Off. To make it faster to select or deselect channels, you can also use the Solo/Sel buttons on the bottom of the actual channel strips to control the On/Off status.

The ALL and NONE buttons in both the upper and lower sections of the Scope Control are useful for speeding up the selection, or getting back to the default 'All On' state quickly.
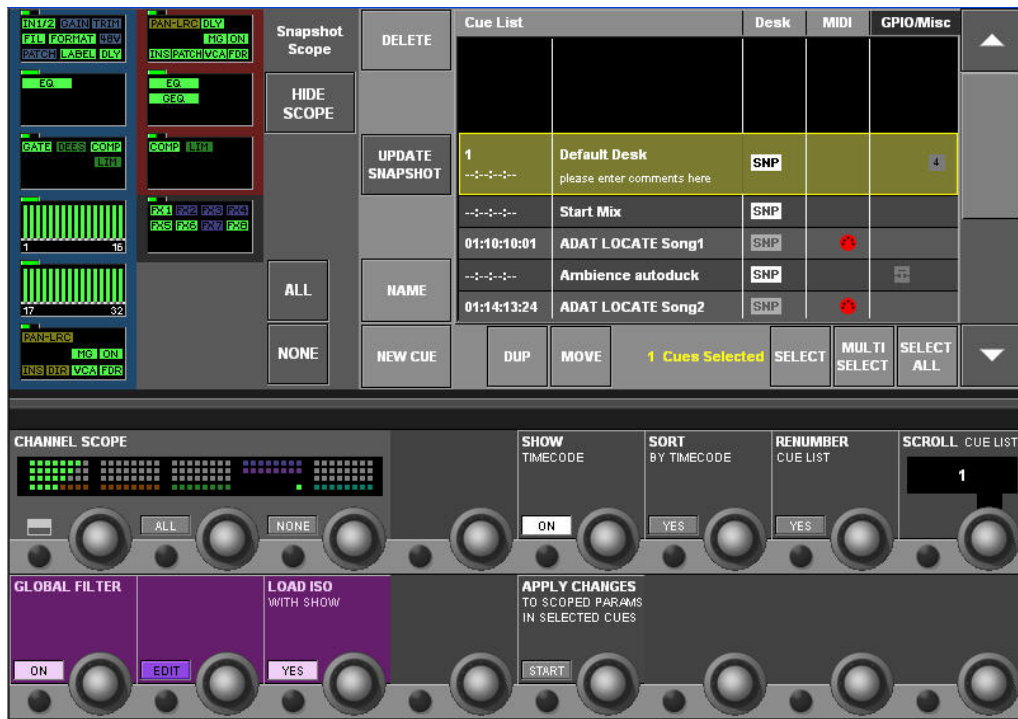
When this page is open (press the button in bottom left corner) the channel Solo/Sel buttons as well as the on-screen buttons can be used to switch the Channel Scope On or Off.

It's important to note that the purpose of the Channel Scope selection is to apply the settings you have made on the channel section above, to **one**, **several** or **all** of the channels or busses. This also means that all the channels you select will have the same Scope settings – it is not possible to have an EQ selected on some channels but the Auxes selected on other channels. The Scope therefore has some limitations when compared with the Global Filter, but in practice this shouldn't be a problem.

Important facts about Scope

- When you are editing the Scope settings, note that these settings apply ONLY to the currently selected Cue in your Cue list. (You can use Select and Multiselect though to select several Cues and then edit the Scope on all of them at the same time).

- The settings you make or change are immediately stored into the Cue as you make them, so if you select a different Cue you will be able to set different Scope settings.

- If you open the Scope panel when there are no cues stored yet, you can still edit the Scope setting and this will then be applied when you create the first Cue.

- Whatever Scope settings are currently showing on the panel (eg: the ones from the last selected Cue) will be used when you create the next Cue. This means you don't have to worry about setting up the Scope every time you create a Cue.

- Scope only affects *recall* of the desk parameters. All parameters are always stored.

- Changes to Scope are non-destructive in that you can always go back and change the scope later at any time.

- If you don't need to use Scope, it defaults to all ON and hidden, so can be ignored.

Introduction to the new Cue List functionality

The Cue List page has been completely reworked for Version 3.0. The main difference to the old (V2.1 software or earlier) is that there is now only one list, which combines the desk snapshots as elements within the Cue list.
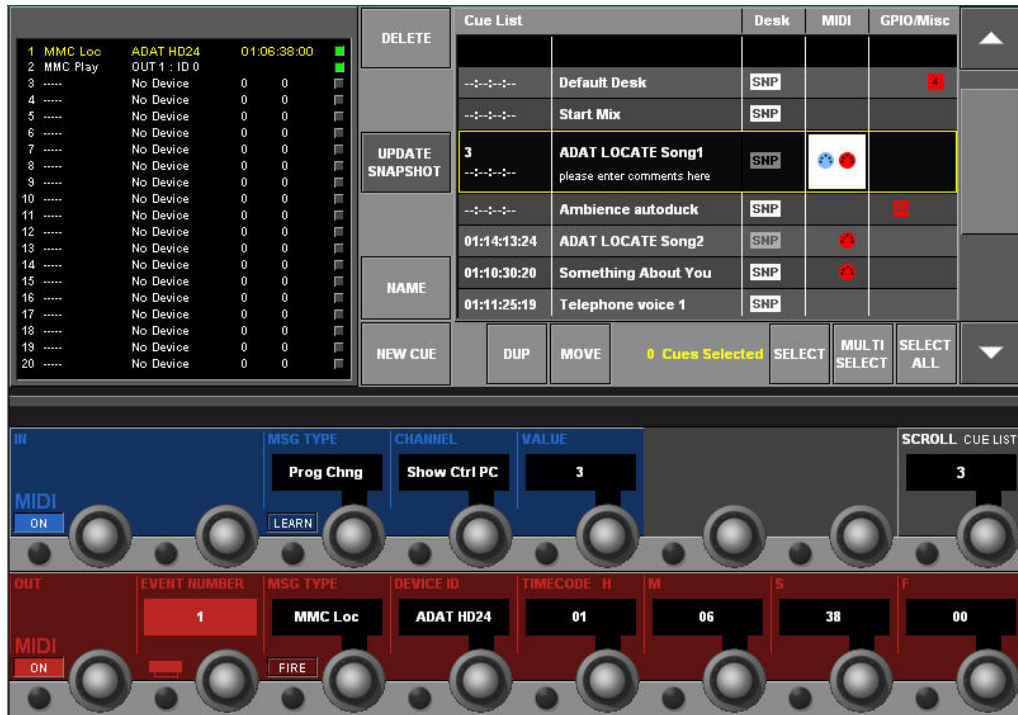
The *Snapshot Pool* of the previous software versions has been removed. This means there is only one list to think about and it is impossible to update the wrong snapshot. It is still possible to create Cues without desk snapshots attached (eg for events generation only) by *disabling* the Desk Snapshot element in the Cue.

It is also possible to create several Cues that use the *same* desk snapshot, because it is now possible to *Duplicate* a Cue, complete with its Desk Snapshot and Events. It is not possible however to *move* a Desk Snapshot from one Cue to another – the Duplicate function must be used to achieve this.

The Cue List contains 5 columns: Cue number or Timecode value; the Cue name; the status of the Desk Snapshot (SNP) for the Cue; and two columns for MIDI events and GPIO and other events.

The operation of the Cue List is fairly intuitive and many of the functions are self-explanatory. The various functions are distributed between touch buttons around the Cue List, and encoders and buttons in the Vistonics section below the screen.

In addition to the buttons on the left side of the list for *Naming*, *Deleting*, and *Creating* new Cues, and *Updating* the desk snapshot of existing Cues, there are also a set of buttons below the list that allow single or multiple Cues to be selected for editing operations such as *Delete*, *Move* and *Duplicate*. Using the *Select* and *Multiselect* buttons in combination, it is possible to select individual Cues, or continuous and/or non-adjacent ranges of Cues. The *Select All/Select None* button allows fast clearing of the current selection.

To access the more advanced functions of the Cue List, such as MIDI events, you simply select the required Cue by scrolling it into the central black cursor bar and touch the screen in the relevant column to open up the Setup controls on the Vistonics encoder section below the touchscreen.

It is possible to set the list up so that incoming MIDI IN or GPI events can automatically trigger the recall of Cues, including by MIDI Timecode, and it is possible to set up to 20 MIDI OUT events per Cue which will be transmitted when the Cue is recalled.

In the above example, two MIDI events have been set up to control an HD24 multitrack machine by locating it to a song position Timecode value (event 1), and then to start the playback (event 2), when this Cue is recalled. In this example, the Desk Snapshot element of the Cue has been disabled so that this Cue can be recalled at any time without disturbing settings on the console, in order to provide Machine Control during a 'virtual soundcheck' scenario. Using Snapshot Scope, it would also be possible to make another Cue that did have its snapshot enabled, and could be used solely to switch over the Input selector of all console inputs from the Stagebox microphone sources, to the Playback via MADI or ADAT cards (if fitted).

By changing a setting in the MIDI tab of the main Menu, it is also possible to monitor incoming MIDI Timecode and display its value in place of the Show name on the Main Control Bay Screen.

Also in the new MIDI Menu it is possible to globally disable the entire MIDI In and Out on the console, and to set up meaningful device names for each MIDI channel which will then be seen in the Cue List when setting up events.
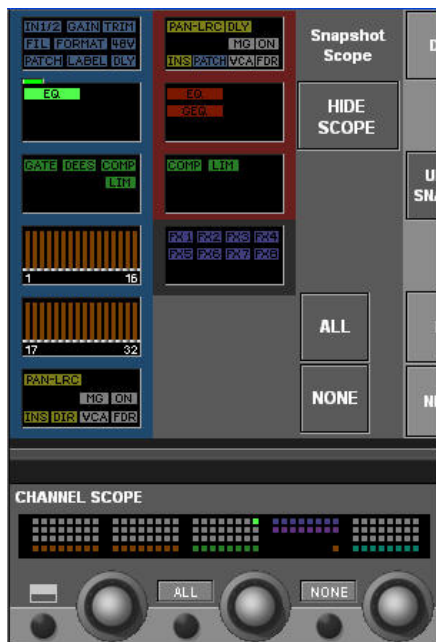
Applying Changes on the Desk to Multiple Cues

The V3.0 software includes the capability to copy control settings that exist on the surface, into one or any number of other Cues in the Cue list. It is possible to define which controls from the current surface state will be stored, and which Cues you want to update with these control settings.

The changes made to the Cues will be 'absolute', ie the original setting of that parameter will be *replaced* by the new setting.

Start the process by ensuring the parameters you want to Apply are active on the surface. They do not have to be stored already in an existing Cue.

Press the START button in the Appy Changes field that is located on the bottom row of Vistonics controls below the Cue List.

This brings up the Scope selection panel on the left of the Cue list - this is now used to choose which parameters on the surface you want to copy to other Cues. You will notice the Scope panel appears with all parameters deselected, but all channels selected, this should speed up the selection process.

In the example on the left, the EQ on channel 24 only has been selected.

After the Start button has been pressed you will also see an additional field appear to the right of the Start button, giving the basic instructions for Apply Changes, and showing an APPLY button.

Once you have selected the parameters in the Scope selection panel, select which Cues you want to update by using the Select, Multiselect or Select All buttons below the Cue List.

Then when you are satisfied with your selection, press the APPLY button. You still have another chance to make changes or cancel the process at this point, because a dialogue box appears asking you to confirm that you want to update the snapshots in the selected Cues.

Touch YES to finish the operation or NO to go back to the selection stage. When you press YES, the desk goes through an automated process where the Cues are recalled and automatically updated. You will see a progress dialogue as this is happening.

Note *that you will see controls moving on the surface as this is happening, but **no audio will be changed** during the process.*

Show file compatibility
A lot of attention has been paid to ensuring not only that old Shows can be loaded onto V3.0 desks, but that also that a Show saved on a V3.0 desk can still be loaded on a desk that is still running the older software versions.
In the latter case, any partial Isolation, Snapshot Scope and Cue Events settings made in the new software will be lost, which is to be expected since the old software does not include these features, but the essential snapshot data will be retained.

In order to carry the data for the cue list events, snapshot filtering and up to 96ch of channel parameter settings, the V3.0 Show files use a new format and are significantly larger than the V2.x files. The actual size will depend on the number of desk snapshots you have stored in the Cue List.

A basic Show is approximately 3MB in size with no snapshots stored, and each snapshot will add approx 1.2MB to the size.

When emailing Shows, always use a zip program to compress the Show folder, which not only reduces its size but also retains the internal folder structure and allows just one file to be emailed.

Using ISO to protect areas of the console when loading a new Show

A common problem when running a digital console at a festival or a venue is that it is not feasible to just load in a Show file from a visiting engineer containing the next band's settings, because this will destroy the output section setup of the console, which is fine tuned for the current venue and matches the physical patching into the PA system.

With V3.0 this changes – you can now use the Global Filter on the console to protect sections of the desk from changing when you load a new Show. This means you can set the whole output and master section to ISO mode, including for example the walk-in music CD player channels, and these will remain unchanged when you load in any other Show files.
The key to this new functionality is the LOAD ISO with Show button, which is located in the new Cue List page.

Normally this parameter is set to YES, which means that when you load a Show, the ISO settings on the desk will be cleared and overwritten with whatever ISO settings were stored in the new Show. *If you do want to bring back the ISOs that were stored in a Show, and lose your current ISO settings, leave the switch set to YES.*

If you want to set certain inputs and outputs to ISO *before* loading a new Show, and have them stay as you set them, (ie: you protect those parts of the desk from changing), then you need to set this switch to NO.

Installing a Third DSP card for 72/96ch operation

In order to take advantage of the mixing channel upgrade of the V3.0 software, an third DSP card needs to be installed in the Local Rack. The part number to use when ordering this card as a retrofit is **RS2401SP**.
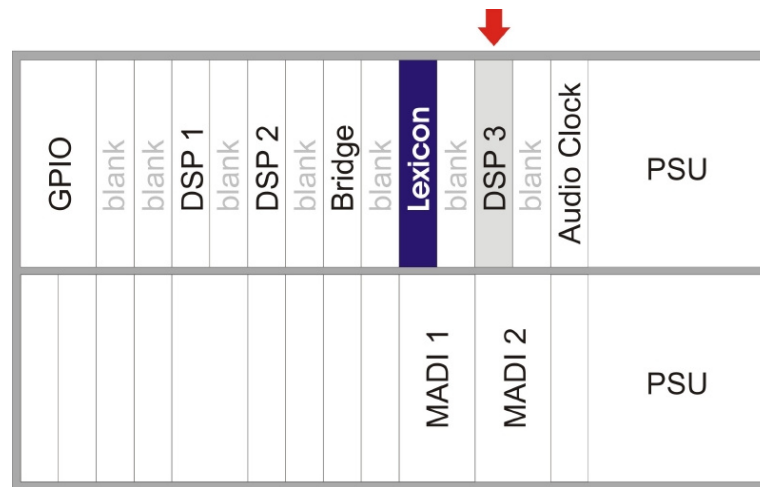
Although DSP cards will work in any of the free slots in the upper section of the Local Rack, it is recommended to fit the additional card in such a way that there is one free slot in between all of the cards, in order to maximize efficient airflow in the rack.

The new DSP card should therefore be fitted to the right of the Lexicon/BSS FX card, as shown in the diagram below (**DSP 3** card, indicated with arrow).
Note that the FX card may have to be moved one slot to the left, depending on how it was installed from the factory. *If the FX card is already in the position shown below, go straight to step 5.*

Instructions for moving FX card and fitting DSP card
Remove any breakout panels to allow access to the top section of the Local Rack.

Note: when removing, refitting and handling DSP and FX cards in the Vi6 rack, observe anti-static precautions: Either wear a grounded wristband or regularly touch the metal chassis of the rack to discharge any static build-up. Keep the new card in its antistatic bag until the last moment.

Local Rack – Rear View

1. Firstly, remove one blanking panel on each side of the FX card.

2. To remove the FX card, unscrew the two small fixing screws at the extreme top and bottom ends of the card (Do not unscrew the two larger extended screws).

3. Release the FX card from the backplane connector by pulling on the two large extended screws. Carefully slide the card from the rack on its mounting rails.

4. Refit the FX card one slot to the **left** of its previous position. It should then be in the position shown in the diagram above.

5. Fit the new DSP card (DSP 3 in above diagram) to the right of the FX card with one empty space in between.

6. When refitting the FX and DSP cards, engage the pcb carefully with the mounting rails and slide the card into the rack. There should be very little friction if the card is correctly running on the mounting rails.
When resistance is felt, press on the two large extended screws to engage the card the last 5mm into the backplane connector. When fully seated, press the floating fascia panel into the rack and tighten the two small fixing screws at top and bottom.

7. The blanking plates should not be refitted until after the FX and DSP cards are fitted, to avoid catching components on the cards on the metalwork as they are slid in and out.
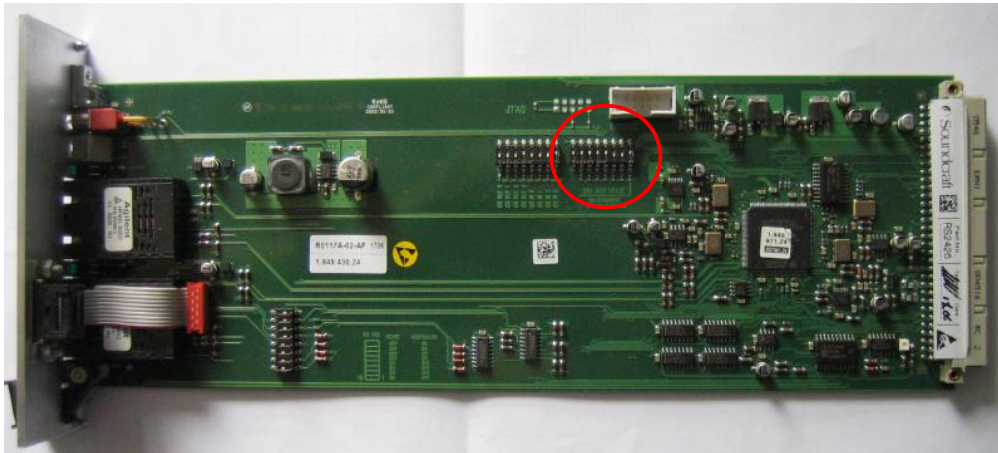
MADI Card Settings for additional Stageboxes

The MADI cards on the Vi4 and 6 contain a DIP switch setting which has to be set differently depending on whether the card is to be used for a Stagebox, or as a simple MADI connection for recording. This setting is necessary because the messages that the card sends out in order to communicate with a stagebox need to be disabled if the card is used to feed a device such as a hard disk recorder, otherwise this can cause problems.

When the consoles are shipped, the first MADI card (left-hand position) is set for Stagebox detection, and the second MADI card (right hand position) is set for Hard Disk recording.
If you want to add another Stagebox and connect this to the second MADI card, the DIP switches on the second card will have to be changed to enable Stagebox detection, as described below. Conversely you may need to check the switches if you decide to connect a hard disk recorder to a MADI card that previously had a Stagebox connected.

Checking and Resetting the DIP switches
Remove the optical MADI card from the console, observing anti-static handling procedures. Locate the required DIP switch using the picture below. The switch has text adjacent to it saying '96k AUX USAGE'.

Use a small implement to change the settings of S2 and S3 on this DIP switch as follows:

	Stagebox Detection enabled	Recording Mode (S/Box detection disabled)
S2	OFF	ON
S3	OFF	ON

All other switches should be left in the OFF position.

NOTE: the DIP switch is fitted upside down in relation to the text on the pcb – ensure the correct switch numbers are changed (the numbers and 'ON' position are marked on the switch body, but are very small).

See picture on the right:
(this shows Recording mode)

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