

SIGNAL FLOW

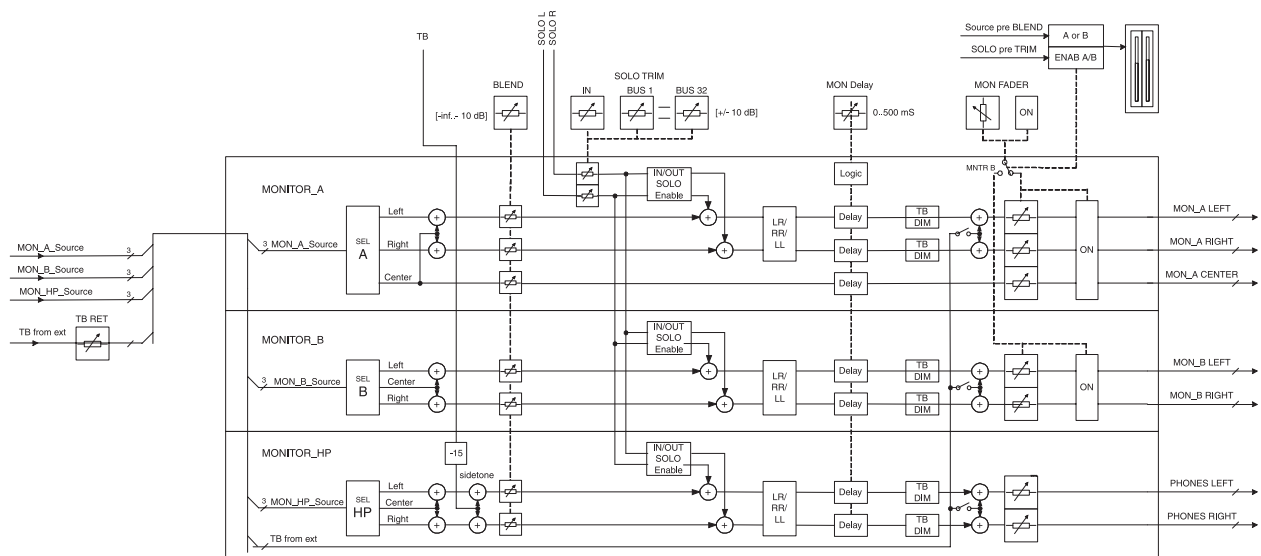


Figure 11-1: Monitor Block Diagram.

FUNCTION

The Monitoring section in the Soundcraft Vi Series™ has three individual monitoring outputs:

- Monitor A 3 channel (LCR) format (it can be used as stereo by ignoring C)
- Monitor B Stereo format
- Headphones Stereo format.

For each monitoring output, the following parameters can be set or configured:

- Source
- Input SOLO
- Output SOLO (with user configurable OUT SOLO Group)
- TB from external
- Audio Format (swapping or mono-ing Left or Right channels).

Two alternative monitoring sources, USER A and USER B, can be freely assigned and labelled. These can be used for a favourite monitor mix, or a 'shout' talkback feed.

DESK VIEW

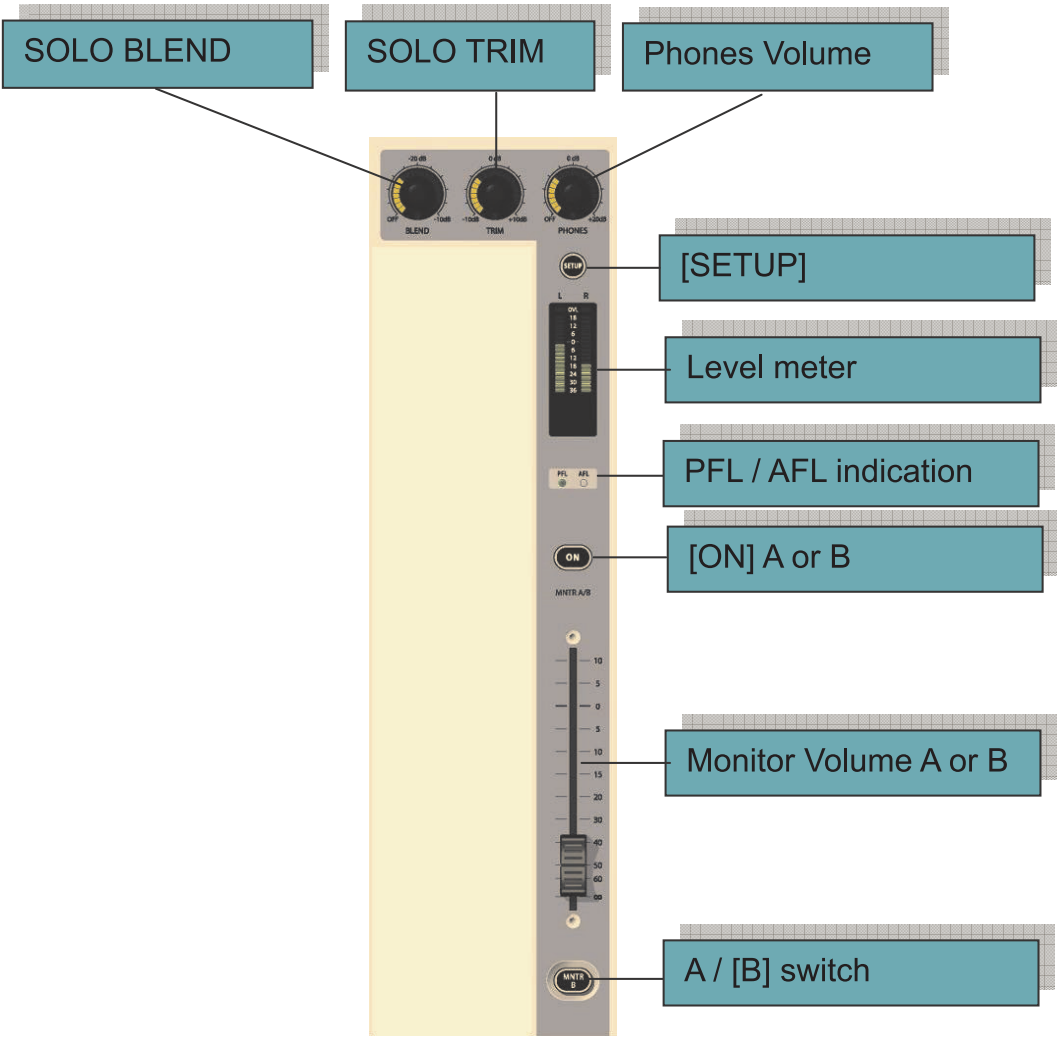


Figure 11-2: Monitor Controls.

SOLO TRIM

Trims the SOLO Level in the range +/- 10 dB. This control is SOLO context sensitive. It is possible to set a different trim for each of the 32 Outputs in addition to a global input solo trim level.

SOLO BLEND

Adjusts the background level of the monitoring source signal which is audible when a solo is in operation from OFF ($-\infty$) (as normal consoles) to a -10dB dim. This allows solos to be heard within a mix which has a reduced background level.

PHONES Volume

This encoder is permanently assigned to control the headphones volume level. The headphone output socket is located under the armrest at the front of the console, and is designed for headphones with impedances in the range 50-600 ohms.

SETUP

When this is pressed the Monitor Setup Page (see Figure 11-3) is displayed on the master screen. The setup key glows blue when it is active.

Level Meter

The stereo Level Meter shows the level of the A or B outputs, depending upon the selection made via the Monitor B switch. The meters follow the Monitor Volume Fader.

PFL/AFL Indication

These two LEDs show if an active solo is a PFL or an AFL.

ON

This switches the currently-selected monitor (MTR A or MTR B) on.

Monitor Volume

This controls the volume of the currently-selected monitor (MTR A or MTR B).

Monitor B

This selects either the A or the B monitor to be displayed on the meter, to be controlled by the fader, and to be switched on and off by the ON switch.



Hint: both monitor A and B continue to operate irrespective of the selection made by the Monitor B switch.

MONITOR SETUP PAGE

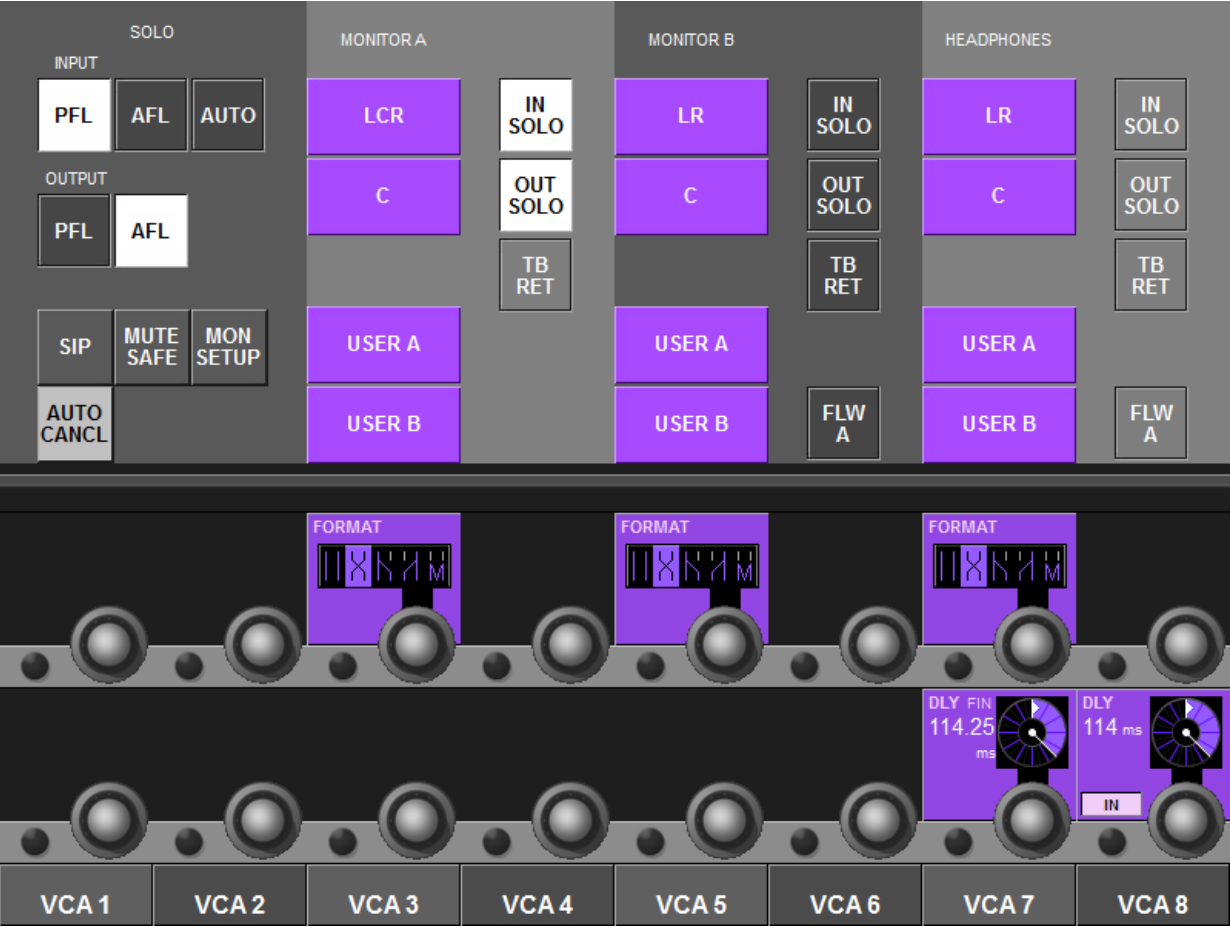


Figure 11-3: Monitor Setup Page.

SOLO Section

Input

<PFL>

Sets the input channel solo mode to PFL.

<AFL>

Sets the input channel solo mode to AFL.

<AUTO> (default)

Sets the input channel solo mode automatically, as follows. If 1 Input SOLO is active the mode is PFL, if more then 1 Input SOLO is active at the same time the mode is AFL. (Press and hold the first input solo key to then select additional solos.)

Output

<PFL>

Sets the Output SOLO mode to PFL.

<AFL> (default)

Sets the Output SOLO mode to AFL.

Miscellaneous

<SIP>

Activates the SOLO-IN-PLACE mode. This is a destructive mode for use only during soundchecks or rehearsals. When a channel is soloed in SIP mode, all other channels are muted, so that only the soloed channel is heard, in its stereo position, at the console's mix outputs.

<MUTE SAFE>

Enables the Mute Safe (SIP isolation) configuration mode. If <Mute safe> is active the Mute safe state from the Input channels can be toggled with the Channel's SEL Key. The state for a given channel is indicated by that channel's Mute Safe LED. This configuration mode is disabled when the setup page is exited.

<MON SETUP>

Enters the monitor setup sub-page (see Figure 11-6).

MNTR A Section

	Mon A Source Options							Mon A Audio Out		
	LCR	C	USER A	USER B	IN SOLO	OUT SOLO	TB RET	L	C	R
Normal Monitoring (No SOLO active)	✓							L	C	R
	✓	✓						L+ (C-3dB)	C	R+ (C-3dB)
		✓				don't care		C		C
			✓					USR A L		USR A R
				✓				USR B L		USR B R
Input SOLO is active					✓	don't care	don't care	The Input channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.		
	don't care					don't care	don't care	as selected by LCR/C/USR A/USR B		
Output SOLO is active	Note that if the SOLO BLEND control is not at $-\infty$ a proportion of the normally-monitored signal will be heard during a Solo activation.				don't care	✓	don't care	The Output channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.		
					don't care		don't care	as selected by LCR/C/USR A/USR B		
TB Return is active					don't care	don't care	✓	The TB Return channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.		
					don't care	don't care		as selected by LCR/C/USR A/USR B		

Figure 11-4: Summary Of Monitor A Option Functionality.

Source

USER A, USER B and (LCR,C) are mutually exclusive, but LCR and C can be mixed. Also none can be selected.

<LCR>

Sets the monitor A Source to LCR.

<C>

Sets the Monitor A Source to C.

<USER A>

Sets the Monitor A Source to USER A. This could, for example, be used for a 2-track return.

<USER B>

Sets the monitor A Source to USER B. This could, for example, be used for a 2-track return.

Solo Switching

<IN SOLO>

Routes the Input SOLO Signals to the Monitor A Output.

<OUT SOLO>

Routes the Output SOLO from the Busses that are included in the OUT SOLO selection (see Figure 11-6) to the Monitor A Output.

<TB RET>

Routes the Talkback Return Signal to the Monitor A output.

Format field

The encoder selects one of the following options to be the listening format (the icons are shown to the left of the list):



- LR left source to left monitor, right source to right monitor
- RL left source to right monitor, right source to left monitor
- LL left source to left and right monitor
- RR right source to left and right monitor
- Mono left and right source is summed and fed to left and right monitor. The Centre signal is not affected.

MNTR B and HP Sections

Mon B/H'phones Source Options								Mon B/HP Audio Out	
	LR	C	USER A	USER B	IN SOLO	OUT SOLO	TB RET	L	R
Normal Monitoring (No SOLO active)	✓							L	R
	✓	✓						L+ (C-3dB)	R+ (C-3dB)
		✓				don't care		C	C
			✓					USR A L	USR A R
				✓				USR B L	USR B R
Input SOLO is active					✓	don't care	don't care	The Input channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.	
Output SOLO is active	don't care					don't care	don't care	as selected by LR/C/USR A/USR B	
	Note that if the SOLO BLEND control is not at -∞ a proportion of the normally-monitored signal will be heard during a Solo activation.				don't care	✓	don't care	The Output channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.	
TB Return is active					don't care		don't care	as selected by LR/C/USR A/USR B	
					don't care	don't care	✓	The TB Return channel's signal is routed to the monitor, the LCR busses are configured by its status as a mono or stereo-paired channel.	
					don't care	don't care		as selected by LR/C/USR A/USR B	

Figure 11-5: Summary Of Monitor B and Headphones Option Functionality.

Source

USER A, USER B and (LR,C) are mutually exclusive, but LR and C can be mixed. Also 'NONE' can be selected.

<LCR>

Sets the monitor A Source to LR.

<C>

Sets the Monitor A Source to C.

<USER A>

Sets the Monitor A Source to USER A.

<USER B>

Sets the monitor A Source to USER B.

Solo Switching

The following four fields apply to the MTR B and Headphones sections of the screen page

<IN SOLO>

Routes the Input SOLO Signals to the Monitor B/Headphones Output, according to which of the two possible fields are selected.

<OUT SOLO>

Routes the Output SOLO from the Busses that are included in the OUT SOLO selection (see Figure 11-6) to the Monitor B/Headphones Output, according to which of the two possible fields are selected.

<TB RET>

Routes the Talk Back Return Signal to the Monitor B/Headphones Output, according to which of the two possible fields are selected.

<FLW A>

Selecting this option forces the source selection for Monitor B and/or Headphones to follow the selection made for Monitor A. All the other options for Monitor B and/or Headphones are disabled when FLW A is enabled.

Format Field

Selects the listening format.

The encoder selects one of the following options to be the listening format:

- LR left source to left monitor, right source to right monitor
- RL left source to right monitor, right source to left monitor
- LL left source to left and right monitor
- RR right source to left and right monitor
- Mono left and right source is summed and fed to left and right monitor.

DLY Field



The encoder changes the monitoring delay in the range 0 - 2000 mS. in several ms steps. A second control allows fine adjustment in 0.02ms steps.

{IN} enables the delay function.

This parameter applies to all three monitor circuits. The monitor delay allows the headphones and/or monitor speakers to be time-aligned to the output from the main PA system, when working at a distance from the PA speakers.

MONITOR SETUP SUB-PAGE

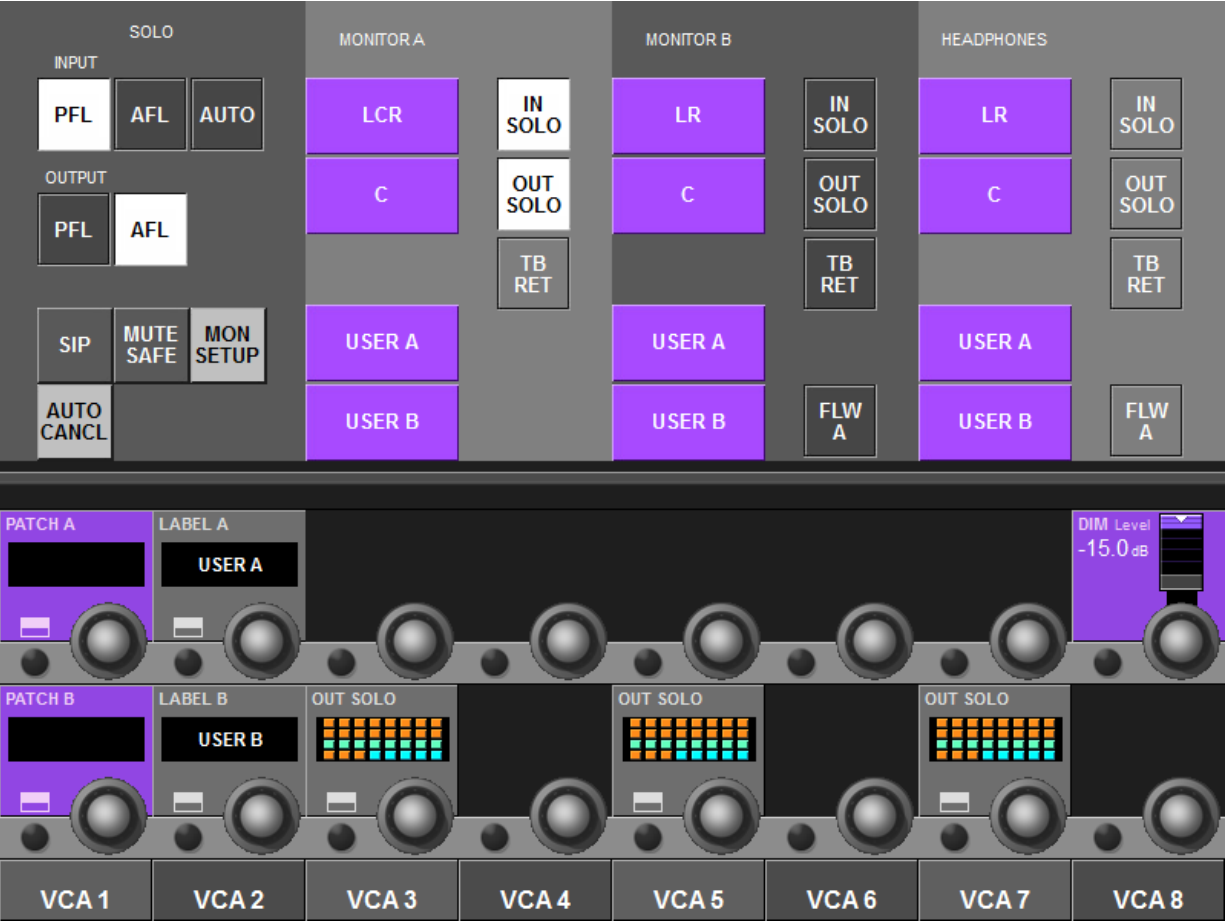


Figure 11-6: Monitor Setup Sub-page.

PATCH A field

Displays the source name that is patched to USER A. Its {VST config button} opens the USER A patch page (see Figure 11-7).

LABEL A field

Displays the USER A label. Its {VST config button} opens the USER A label configuration page, which displays the internal keyboard, and allows the USER A label to be edited.

DIM LEVEL field

The encoder adjusts the DIM Level between 0 and – infinity. The DIM function is only activated if the Return Talkback function is activated via the GPIO facility (see Chapter 16).

PATCH B field

Displays the source name that is patched to USER B. Its {VST config button} opens the USER B patch page, which is similar to Figure 11-7.

LABEL B field

Displays the USER B label. Its {VST config button} opens the USER B label configuration page, which displays the internal keyboard, and allows the USER B label to be edited.

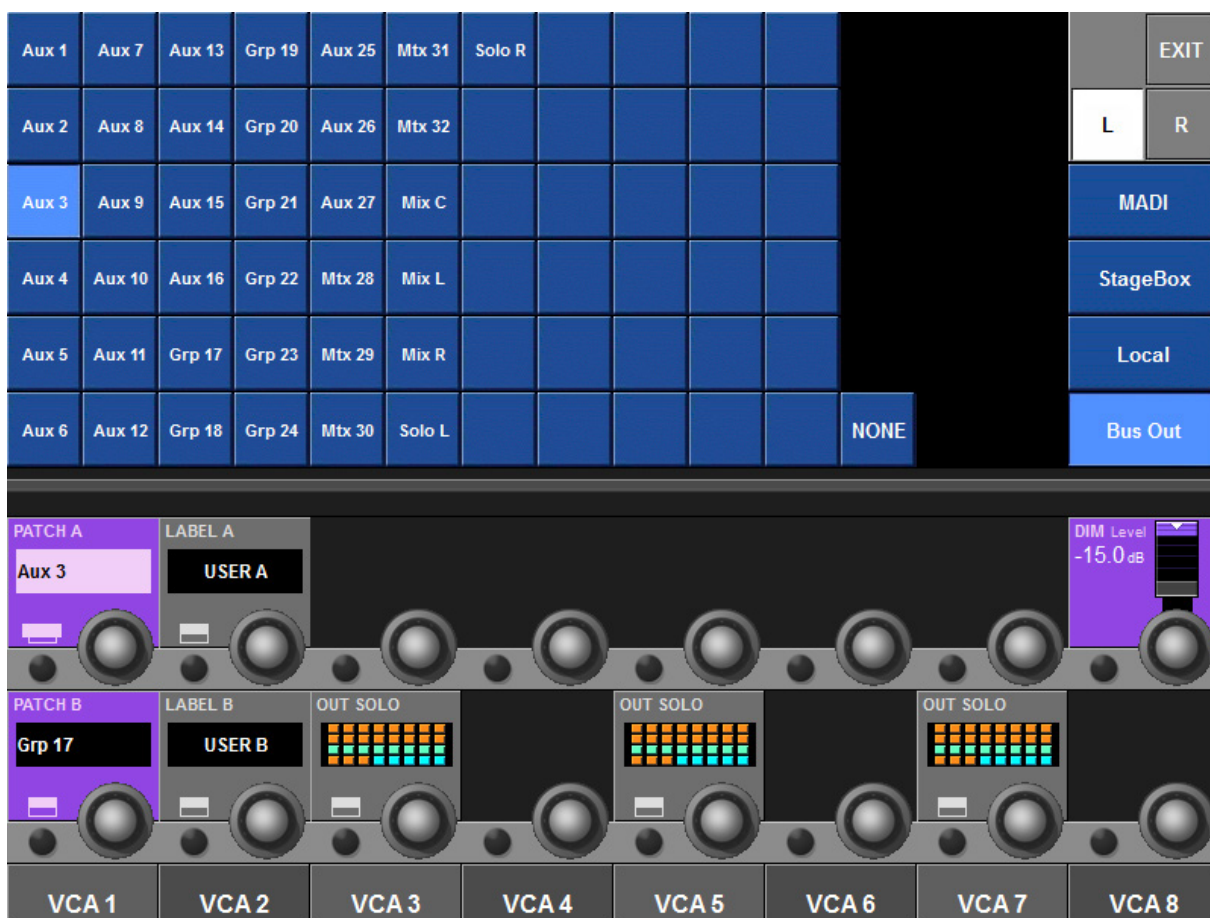


Figure 11-7: User A Patch Page

The USER A and USER B patch pages allow an alternative monitor source to the normal LR or LCR mix, to be set up.

This can be used, for example, to allow the user to listen to a favourite monitor mix, whenever a solo is not pressed (select an Aux bus from the Bus Out page, as shown above).

Another application is to allow an input from the Stagebox to be used as a 'shout' talkback line: if the relevant Stagebox input is selected as the User A or B source, this can be monitored whenever no desk solos are being monitored.

The User A and User B sources are normally stereo, but a mono source can be used by patching the same source to L and R channels in the patch page shown above.

Output Solo Selection

Output Solo Selection allows an individual output solo to be sent only to a specific monitor output (Mon A, B or Phones). This is useful for stage monitoring applications where the solos of in-ear monitor mixes could be programmed to appear only on Monitor B for example, which could have an in-ear headphone system connected to it. In this example, conventional wedge monitor mixes could be programmed to appear only on Monitor A when soloed, where Monitor A could be connected to a wedge speaker system.

OUT SOLO A field

Displays the Busses which are included in the OUT SOLO selection (default ALL) for Monitor A. Its VST {config button} opens the OUT SOLO Group configuration page (Figure 11-8).

OUT SOLO B field

Displays the Busses which are included in the OUT SOLO selection (default ALL) for Monitor B. Its {VST config button} opens the OUT SOLO Group configuration page (Figure 11-8).

OUT SOLO HP field

Displays the Busses which are included in the OUT SOLO selection (default ALL) for the headphones. Its {VST config button} opens the OUT SOLO selection configuration page (Figure 11-8).

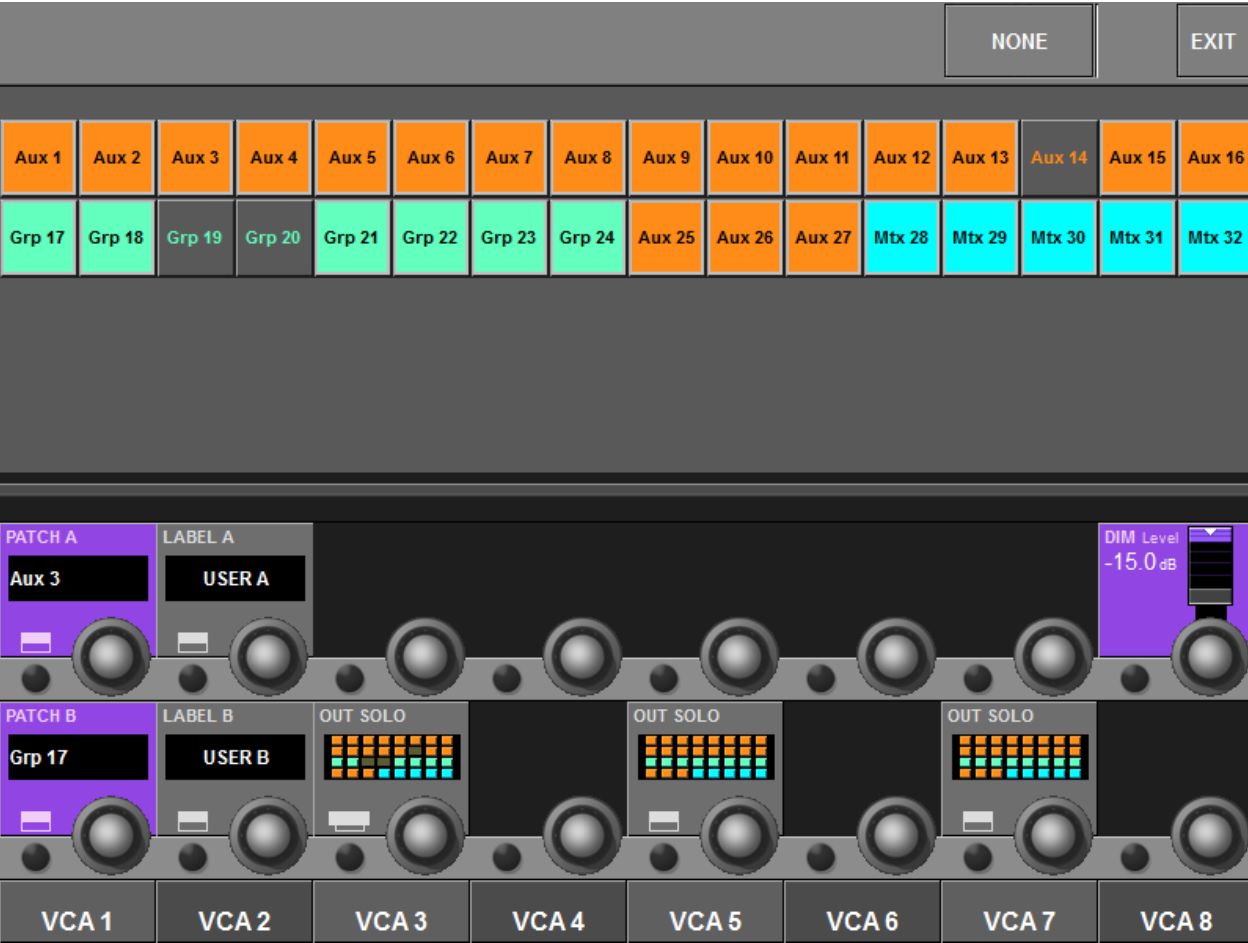


Figure 11-8: Output Solo Selection Page

Each of the 32 outputs can be switched in or out of the output monitoring group, for each of the 3 monitoring circuits. The <NONE> key deselects all of them. <EXIT> makes the display go back to the previous page. The selections made are mirrored in the small OUT SOLO areas of the VST area. The colours indicate the type of each output: Aux Group or Matrix.

SOLO SYSTEM

AFL ,PFL and SIP

The solo system on Soundcraft Vi Series™ comprises a non-destructive PFL and AFL Solo capability from Inputs and Outputs, and also the option of a destructive Solo-In-Place mode, for use only during soundchecks or rehearsals.

Solo-In-Place mode has to be enabled from within the Monitor Setup and changes the mode of operation of the Solo System.

If Solo-In-Place (SIP) Mode is OFF

- * Soloing a single Input locally generates a PFL Solo onto the Solo Bus
- * Soloing an Input (or group of Inputs) by soloing a VCA Master that the input is assigned to, generates an AFL Solo onto the Solo Bus (even if the Input Solo Mode is set to PFL in the Monitor Setup page).
- * If the Input Solo Mode is set to Auto, in the Monitor Setup page, soloing more than one Input locally (by pressing and holding the first Solo/Sel switch then pressing others) will generate an AFL Solo onto the Solo Bus from all soloed Inputs.
- * The PFL feed from Mono Inputs is independent of channel Pan, and is fed to the stereo Solo Bus as centre-panned image. If the Input is a Stereo Input, the PFL feed is left channel to left Solo Bus, right to right.
- * The AFL feed from Mono Inputs is stereo and follows the channel Pan. If the Input is a Stereo Input the AFL feed is stereo and follows the channel Balance control.
- * Soloing an Output (either locally or via a VCA Master Solo) generates an AFL Solo. The post-fade Output signal is switched onto the Solo Bus.
If the Output is a Mono Aux, Group or Matrix, the signal is fed to both left and right Solo Bus equally (ie centre-panned image). If the Output is linked as a stereo pair, the signal from left and right Outputs are fed to left and right Solo bus respectively. There is no manually controlled Pan on Output Solos.
- * In all cases when SIP Mode is OFF, operation of any Solo will switch the audio onto the Solo Bus and the Monitor section will be automatically switched so that the Solo audio replaces the previous monitor source selection (if any) assuming that IN Solo and/or OUT Solo have been selected as a Monitor Source in the Monitor Setup Page.

If Solo-In-Place (SIP) mode is ON

- * Soloing an Input generates a 'destructive' SIP Solo, muting all other Inputs which are not Soloed or set to Mute Safe. Other channels which are subsequently soloed will be unmuted.
- * Soloing an Input (or group of Inputs) by soloing a VCA Master that the input is assigned to, generates a SIP Solo on all Inputs in the VCA Group.
- * The Input signal is not switched onto the Solo Bus, and the Monitor section does not switch the Solo Bus audio to override the monitor source selection.

* Soloing an Output generates a normal Output AFL Solo, the same as if SIP Mode was OFF. The Output signal is switched onto the Solo Bus and the Monitor section switches so that the Output Solo audio is heard on the Monitors, replacing the previous monitor source, if any.

Solo Operation Logic

Activating Solos

A Solo is activated when any Solo/Sel switch on the console is pressed, as long as the following is true:

- * Gang Mode is not active
- * VCA or Mute Group Setup Config page is not open

Clearing Solos

* All active Solos can be cleared by pressing the momentary Solo Clear switch in the Master Section of the console (see Figure 11-9). This switch illuminates when any Solos are active.

* Solos can be switched off manually.

* Solos can be cleared by pressing other Solos, under the rules of the Autocancel system (see later in this chapter).



Solo Clear Key

Figure 11-9: SOLO CLEAR Key

Input Priority Mode

When I/P Priority is enabled, via the Input Priority key (see Figure 11-10), it allows an Output Solo to remain active, whilst an Input Solo is temporarily activated 'over the top' of it. When the Input Solo is activated, its audio replaces the Output Solo audio on the Solo Bus, although the Output's Solo/Sel switch remains illuminated. When the Input Solo is deactivated, the Output Solo's audio will return to the Solo Bus.

HINT: Input Priority mode is normally used by Monitor engineers, who tend to work with an Output Solo always active, but occasionally need to solo an input to troubleshoot a problem. The Input Priority mode ensures that they automatically return to the Output Solo they were listening to, after the Input Solo is deactivated.



Figure 11-10: INPUT PRIORITY Key

Autocancel Behaviour

In the majority of cases in live sound mixing, only one channel is soloed at any time, so it has become common practice for solos to ‘autocancel’ so that pressing any solo cancels the previous one, and only one solo can be ON at any time. This speeds up operation by eliminating the need to switch solos off before soloing the next channel. The Soundcraft Vi Series™ includes an optimised version of this system, allowing solos to autocancel in normal operation, but also allowing the operator to select multiple solos at once if required.

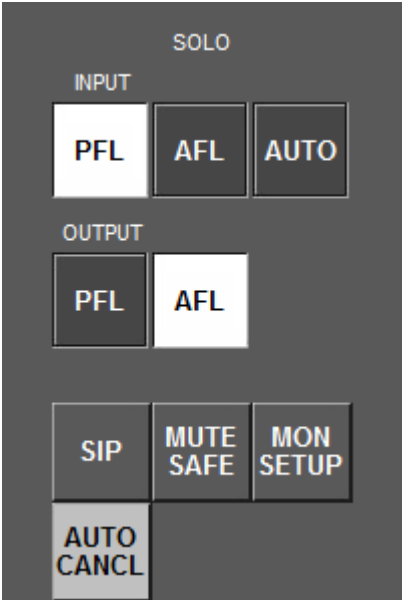
Input Priority OFF

- * Pressing any single Input or Output Solo will cancel any other active Solo of either type.
- * If an Input or Output Solo is pressed and held (whether already active or not), then one or more other Solos are also pressed, the autocancel behaviour is bypassed, and multiple Solos can be selected. Input Solos can change from PFL to AFL in this case if the AUTO mode is selected for input solos, in the Monitor Setup page. Pressing any Solo after the first Solo is released will cancel all the active Solos.

Input Priority ON

- * Pressing any single Input Solo will cancel any other active Input or VCA Solo(s), and will temporarily override (but not cancel) any active Output Solo(s), as described above.
- * Pressing any single Output Solo will cancel any other active Output Solo(s).
- * The autocancelling can be defeated by holding down an Input or Output Solo and then pressing other solos of the same type. (Pressing the ‘other’ type of solo in this condition is ignored).

Switchable AutoCancel Mode



The AUTO CANCL button allows an operator to choose whether to work with additive or auto-cancelling Solo switches.

When AutoCancel is switched off, a specific channel can be left in Solo mode to act as a return talkback feed, whilst other channels are also soloed one by one during a line check.

Follow Output Solo Mode

Purpose Of The Follow Output Solo Mode

The Follow Output Solo [FLW] keys allow the user to quickly identify and adjust those input channels which are making contributions to each of the 32 outputs.

There are three [FLW] keys: there is one fader key and two Vistonics™ area keys. Only one key can be active at any one time (none can be selected also). Their location is shown in Figure 11-11.

* If Follow Solo is **NOT active** for faders or Vistonics™ encoders, pressing a Group or Aux Output Solo will activate an Output Solo, and it will also display the EQ/Dyn/Misc touch screen area for the Soloed Output, on the Vistonics Output screen (in the space normally occupied by the Input Meter display) unless the 'Lock Meters' switch adjacent to the Vistonics display has been pressed.

* If Follow Solo **IS active** for either faders or Vistonics encoders, pressing a Group or Aux Output Solo/Sel will work as described above, and will also switch the input channel faders or encoders to be assigned to the Soloed bus's contributing sends.

* If a Matrix Output Solo/Sel is pressed, regardless of the setting of Follow Solo modes, the Output Solo will be activated, the EQ/Dyn/Misc touch screen for the Matrix Output displayed, and the channel faders will be assigned to the contribution levels from the Outputs to the Soloed Matrix Output.

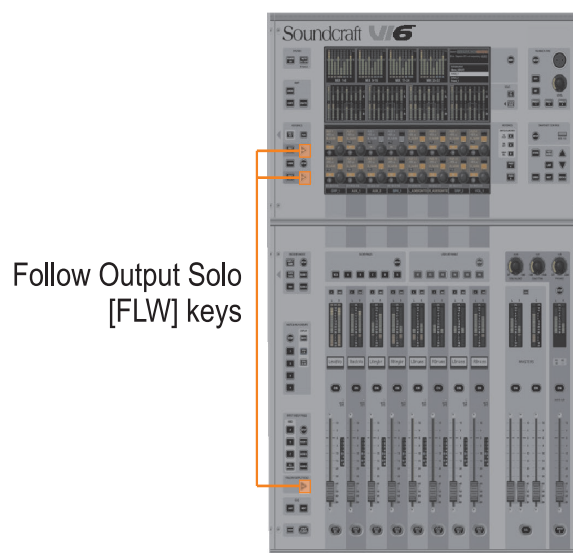


Figure 11-11: Location Of FOLLOW SOLO keys.



Note: the lower [FLW] key has an additional function in allowing VCAs to control the Aux sends of input channels. See chapter 9 for details.

