General

The Vi Processor™ Card fitted to the Soundcraft Vi Series™ contains 8 powerful LEXICON® Effects Processing Units and 35 high-quality BSS® 30-band Graphic Equalisers.

LEXICON® Effects

Each Effects Unit can be inserted into any Output/Main Master bus or into any Input Channel, or it can be patched as an FX Return to an Input Channel, fed from an Aux send.
Each FX Unit supports up to 30 different professional LEXICON® Effects.

Effect Parameters can be easily changed via the VST Screens at a location on the Surface corresponding to where the FX is inserted or patched. Additionally, the Parameters can be viewed and changed in the FX Overview Page in the main menu.

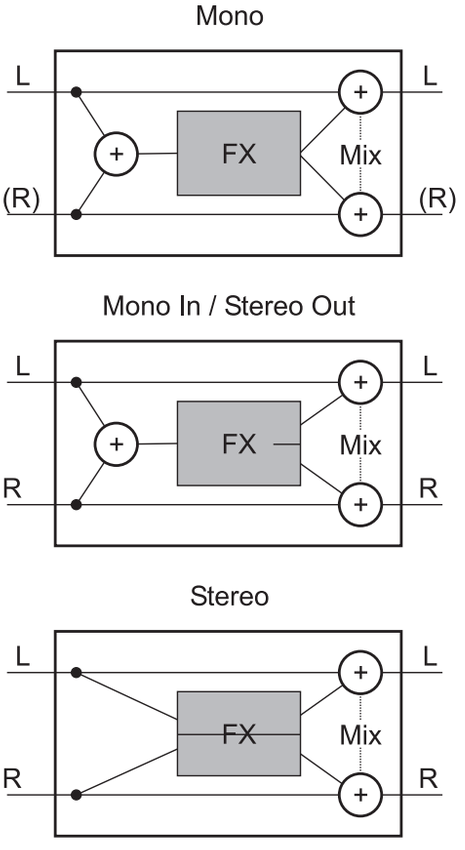
All Parameters from the 8 Effects Units and for all Effects Type are stored in the desk Snapshots.

BSS® Graphic Equalisers

The 35 BSS® 30-band Graphic Equalizers are permanently assigned to the 32 Output Busses and the three Main Masters. All Parameters from the GEQs are stored in the desk Snapshots.

LEXICON® Effects Format

Depending on the selected Effect Type, the FX processor works internally in one of three formats:



The FX processor always has Stereo Inputs and Outputs. If the FX Type needs only a Mono Input, the Left and Right Input Signal are summed together. If the FX Type outputs only a Mono Signal then the Output Signal is distributed to both the Left and Right Outputs.

The MIX Parameter adjusts the ratio between the original (dry) signal and the effects (wet) signal.

Figure 21-1: FX Processor Configurations.

FX Overview Page

In the Overview Page all eight FX processors are visible at the same time and can also be adjusted. The parameters available for adjustment will depend upon the type of FX which is selected. A description of the Effects and their associated controls is given in the section which starts on page 13 of this chapter.
To enter the FX Overview Page press [MENU] and select the FX Tab.
The vertical white Bars on the Boxes represent the assignment mode : In INSERT mode the white bars are inside (example below LEX 1 = Channel Insert, LEX 2 = Master Insert). In PATCH mode the white bars are outside (exampled below LEX 3 = Patch). Note that the bars should both be outside or should both be inside.
The vertical white bars also indicate for each FX processor if a mono or stereo format is being used. In the example below LEX 1 is in a stereo format, all the others are in a mono format.

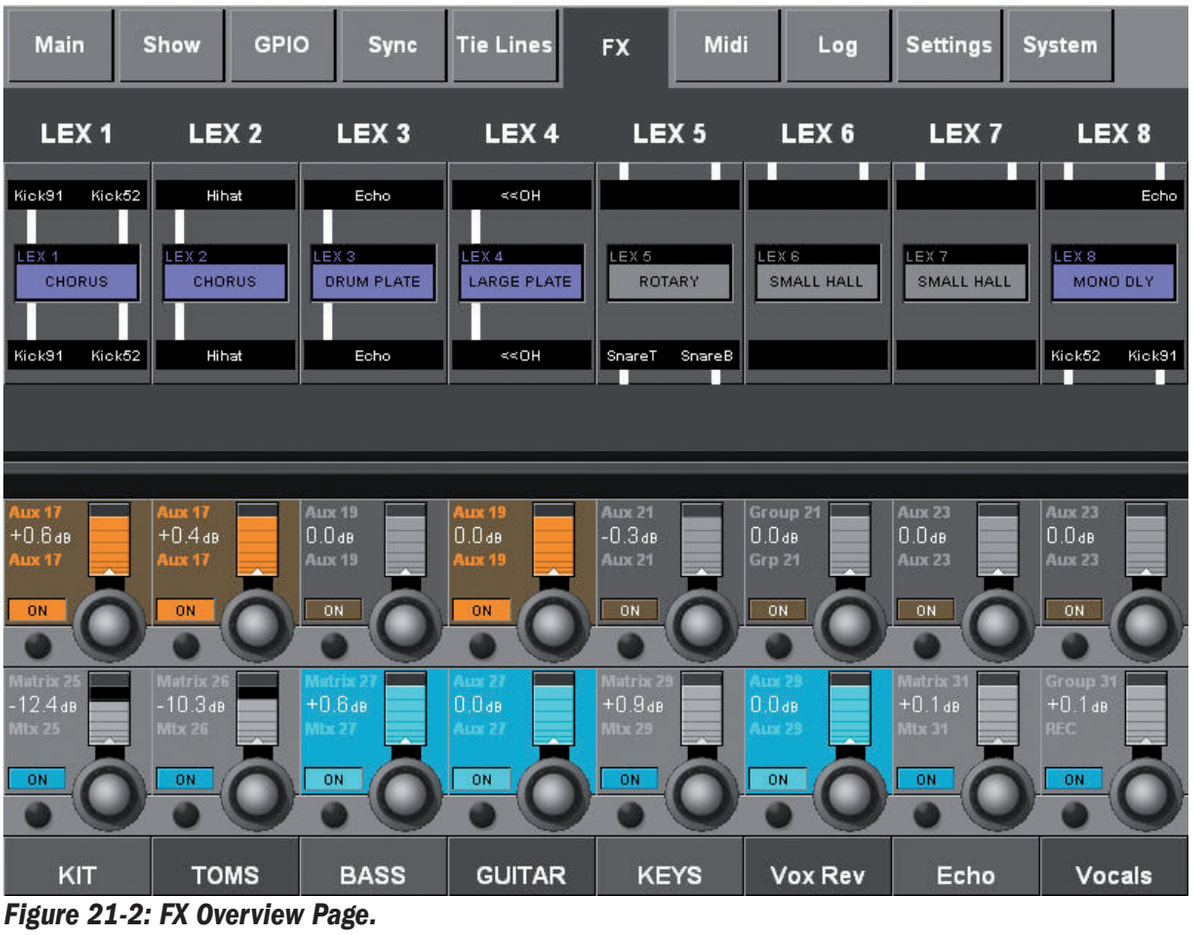


Figure 21-2: FX Overview Page.

HINT. The assignment of the FX processors is visible, but cannot be changed from this page.

It is recommended that before assigning any FX processor this page should be viewed to find out what processors are free (if any). If it is necessary to unassign a processor in order to use it somewhere else it is strongly recommended that the user should unassign all patches to it before re-patching it in its new location.

Snapshot integration

All Parameters from all Effect Types for each of the eight processors are stored in the console Snapshots. In the Basic implementation each of the 8 FX processors can be fully isolated.

TAP

For each effect that offers TAP Tempo (Tempo synchronisation using key press), the bottom left key is used as the TAP button.

ASSIGNING F1-6 KEYS TO FX TAP TEMPO (V2.0 Software and above)

In live situations it is often advantageous to be able to easily control the TAP function from a large button which is permanently accessible on the console surface. The large F1-6 keys below the Master screen can now be used for this purpose.

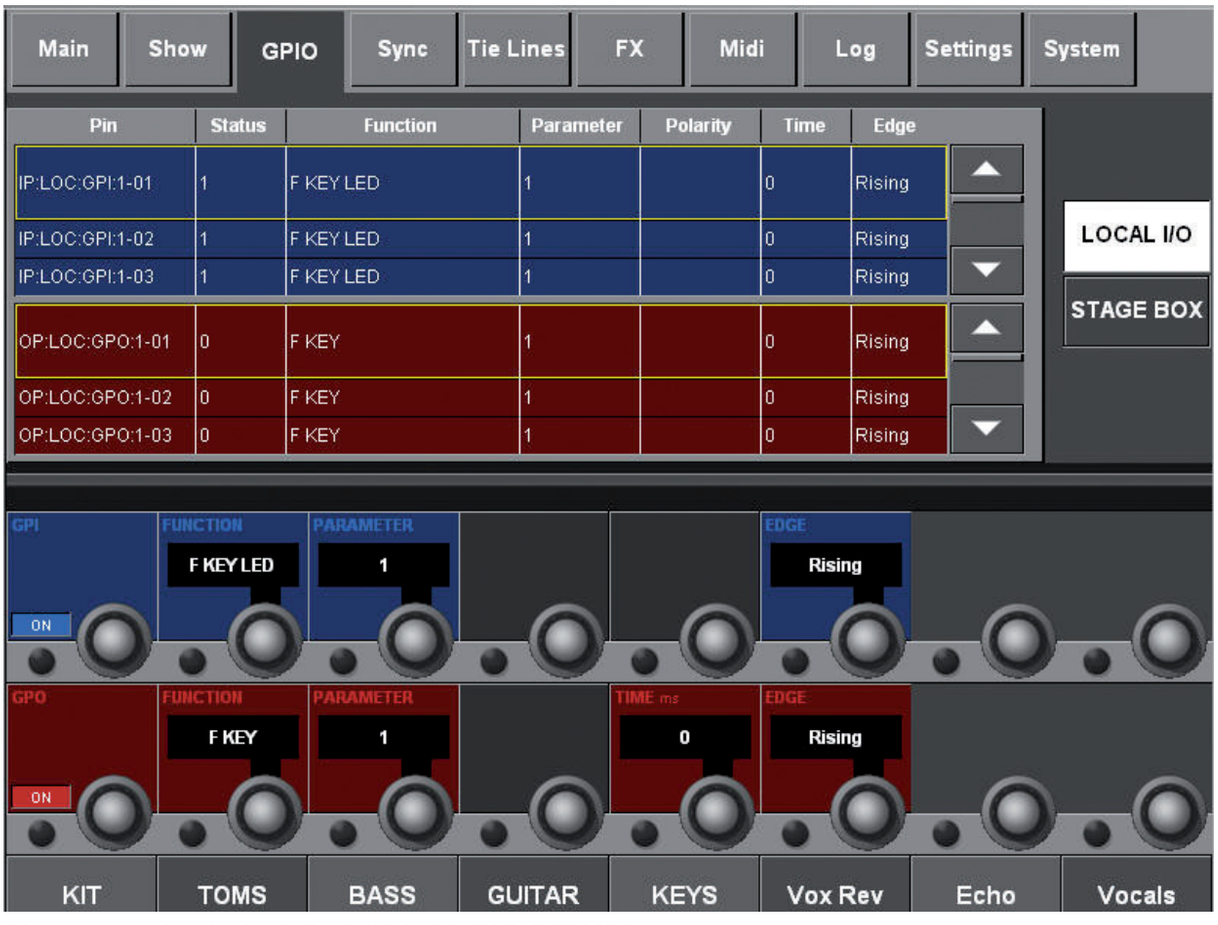


Figure 21-3: ASSIGNING F1-6 KEYS TO FX TAP TEMPO.

From V2.0 software, Virtual GPI and GPO Pins are available in the Local Rack section of the GPIO Page, in addition to the physical Pins that are used for wiring to external equipment.

The Virtual Pins (VGPI and VGPO) can be used as a way of assigning the F-keys and the F-key LEDs to internal functions in the console.

Currently it is possible to assign the F1-6 keys to remotely control the Lexicon TAP buttons in up to six of the Lexicon FX units.

The Tempo signal from the Lexicon units can be assigned to the F-key LEDs, in order to provide a visual indication of the current tempo.

Changing the assignment of F-keys to TAP function

The first 2 Lexicon units LEX1 and LEX2 have their Delay TAP buttons assigned to F1 and F2 by default because these settings are stored within the read-only factory default Shows (updated with V2.0 software release).

In order to assign the TAP functions of more FX units to the F-keys, proceed as follows:

. Press the [MENU] button and select the {GPIO} menu tab.

. Ensure the {LOCAL I/O} button is selected and scroll the input and output sections down to the VGPI and VGPO Pin settings. For LEX3, select VGPI Lex Tap3 and VGPO Lex Tap3.

. Set the parameters for the VGPI and VGPO as shown in the above picture, and ensure the input and output are switched ON.

Use a similar procedure for other FX units. Up to 6 of the 8 units can be assigned to F1-6 using this method. The settings will be stored when you save the current Show.

Assigning FX processors

Vi Series supports three different ways to patch an FX processor:

· Insert in an Input Channel
· Insert in a Bus Master
· Patch as an FX return

Channel Insert

This Mode is used for Channel effects.

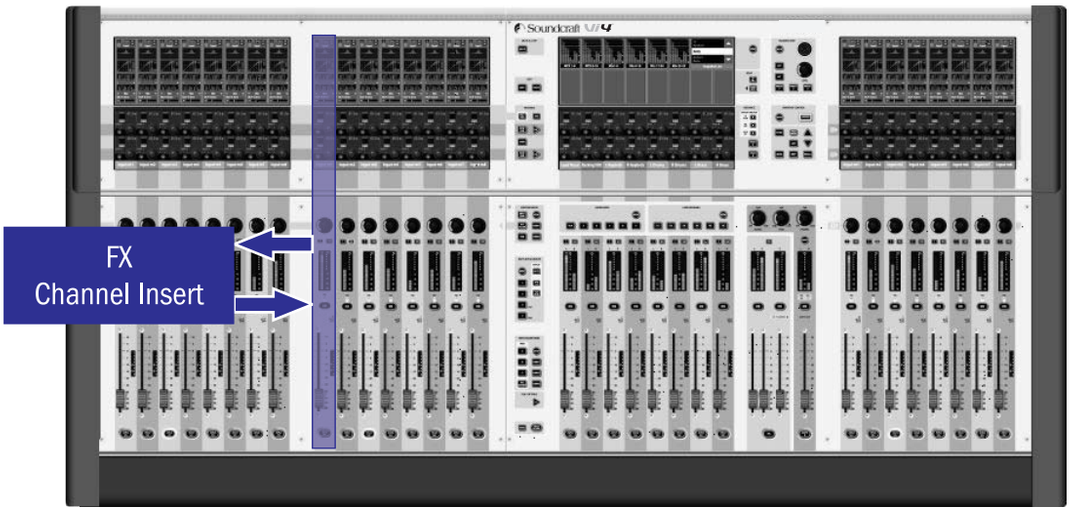


Figure 21-4: FX Channel Insert.

Insert a FX processor in a Input Channel

Touch the VST screen's <PAN> area for the required Input Channel (see Figure 4-13).
Press the {INSERT} key to open the Insert Pool select page (see Figure 21-5).
Pressing the <FX> buton opens the FX selection options.

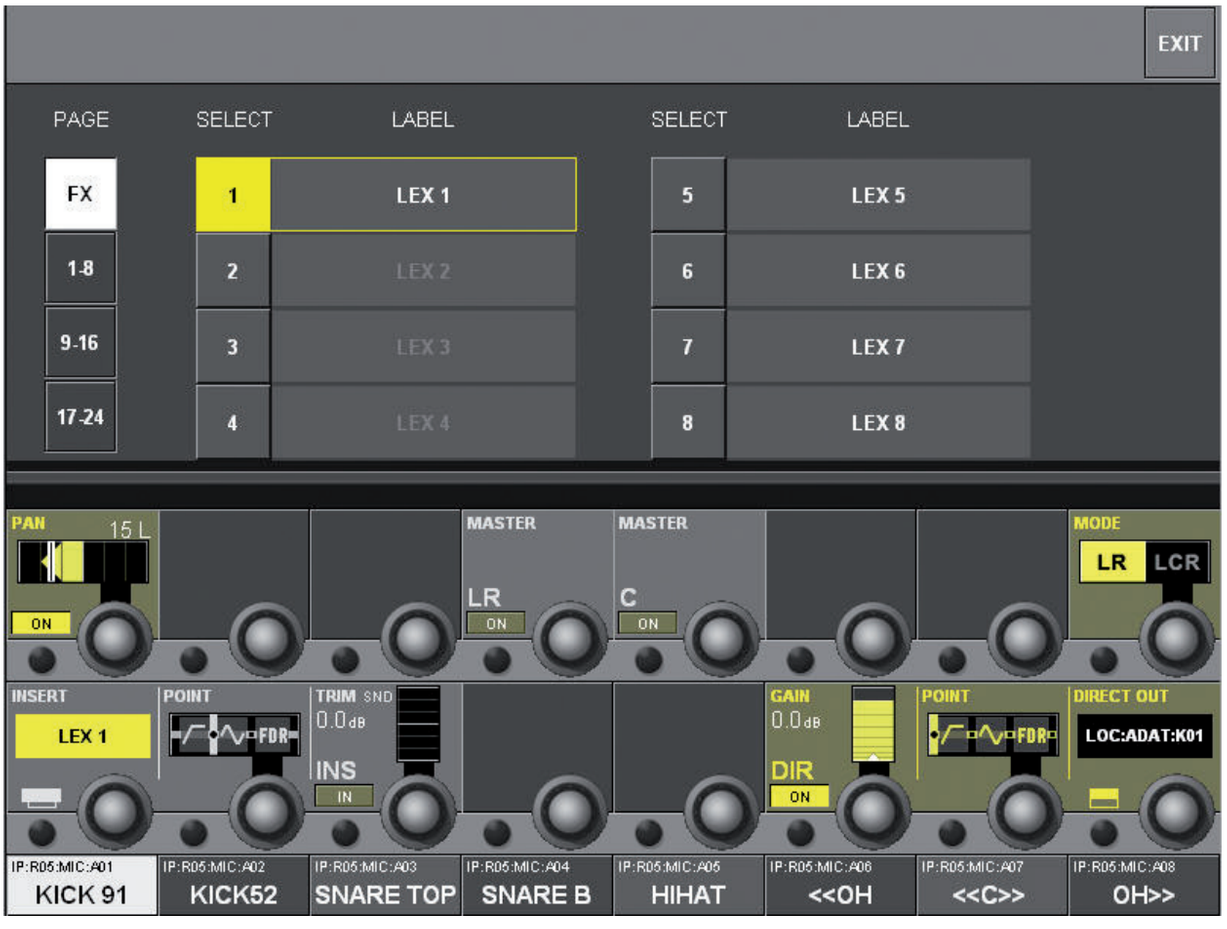


Figure 21-5: Selecting An FX Processor As An Insert Effect.

Select the desired FX processor. If the processor is in use, a dialog asks if you want to move it from its current location.

Pressing the <EXIT> key will return you to a page similar to Figure 21-6. Notice that the EQ area on the screen is now shared with an FX processor icon.
Pressing the <PAN> area will return the screen to its normal display mode.

The FX processor can be adjusted by pressing the FX processor icon on the screen. This will open a page similar to Figure 21-7. The parameters available for adjustment will depend upon the type of FX which is selected. A description of the Effects and their associated controls is given in the section which starts on page 13 of this chapter.

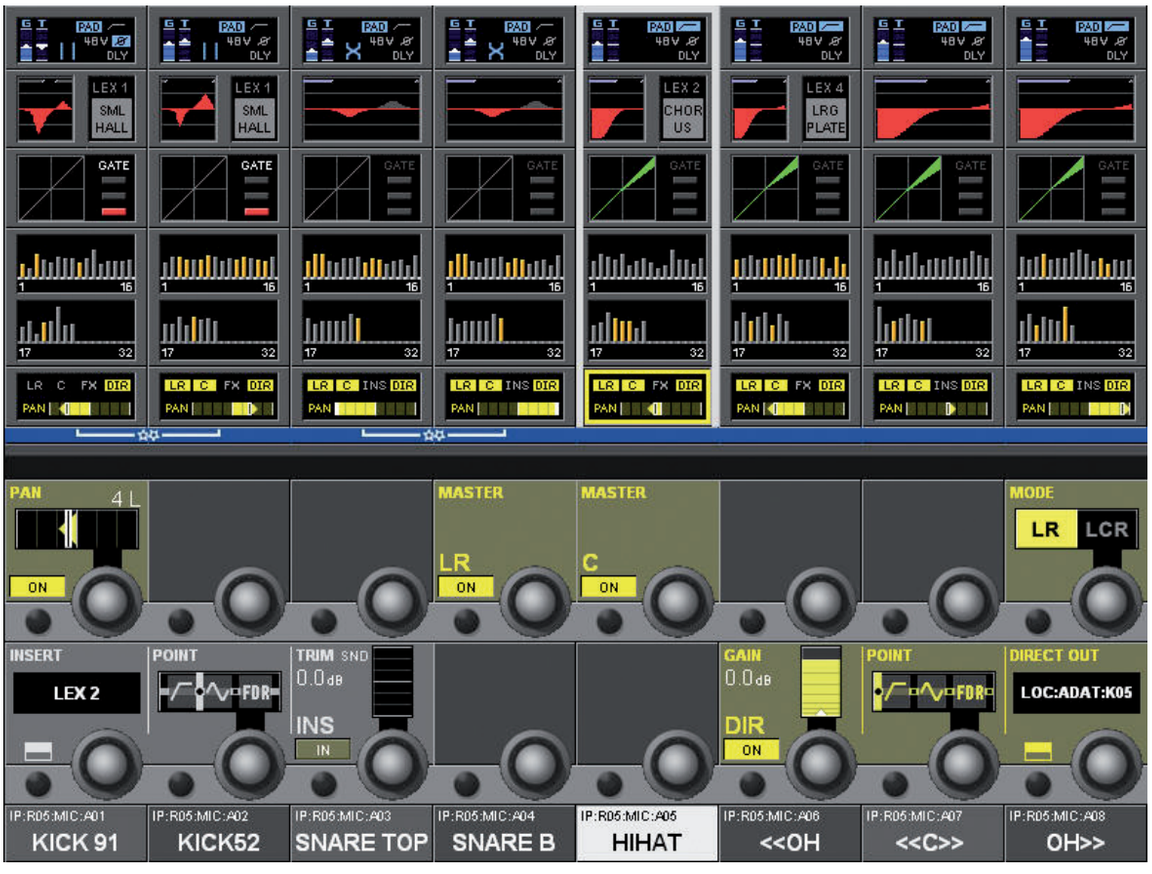


Figure 21-6: An FX Processor As An Insert Effect.



Figure 21-7: Adjusting An FX Processor.

Master Insert

This operation mode is an elegant way to use Reverb Effects without loosing Input Channels for the Return signals.
In this Mode the FX processor is inserted in an AUX Master, and the AUX Master is assigned to the Main Master (LR).
The Input Gain of the FX can be adjusted with the Insert Send TRIM control and the effect amount can be adjusted with the Master Fader

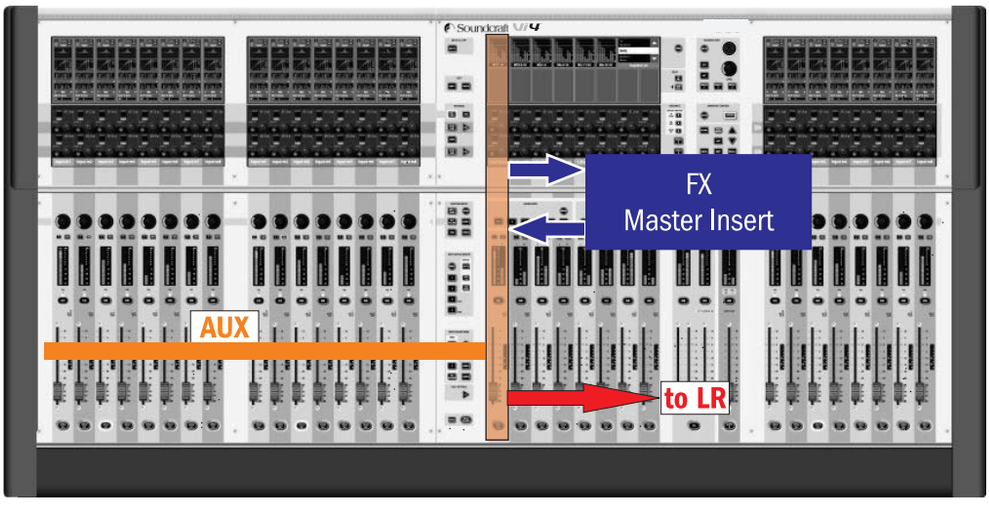


Figure 21-8: FX MASTER INSERT.

HINT
You can use the AUX Master like an FX Return, because it has EQ and Dynamics that can be used on the output from the FX Units. (You must set the Insert Point to pre processing.)

Inserting an FX processor in a Master Bus

Press the [ALL BUSSES] key.
Press the <PAN> area on the required Master Bus (see Figure 21-9).
Press the {INSERT} key to open the Insert Pool select page (see Figure 21-5).

Pressing the <FX> button opens the FX selection options.
Select the desired FX processor. If the processor is in use, a dialog asks if you want to move it from its current location.
Press <Exit> to return to the page similar to Figure 21-9. Notice that an FX processor icon appears in the FX area of the screen when an FX Processor is allocated to the master bus in question.

Press {LR} to route the FX signal to the Main Master bus.
Select the Insert {POINT} to be pre processing in order to use the EQ and Dynamics on the output of the FX.

Pressing the <PAN> area will return the screen to its normal display mode.

The FX processor can be adjusted by pressing the FX processor icon on the screen. This will open a page similar to Figure 21-10. The parameters available for adjustment will depend upon the type of FX which is selected. A description of the Effects and their associated controls is given in the section which starts on page 13 of this chapter.



Figure 21-9: Selecting An FX Processor As A Master Bus Insert Effect.



Figure 21-10: Adjusting An FX Processor.

Return in Channel section

This is the classical operation mode for Reverb Effects. The Output of an AUX Master is patched to the Input of an FX Unit, and the Output of the FX Unit is patched to either a mono or 2 paired (Stereo) Input Channels that mixes the Reverb content to the Main Masters or other destinations.

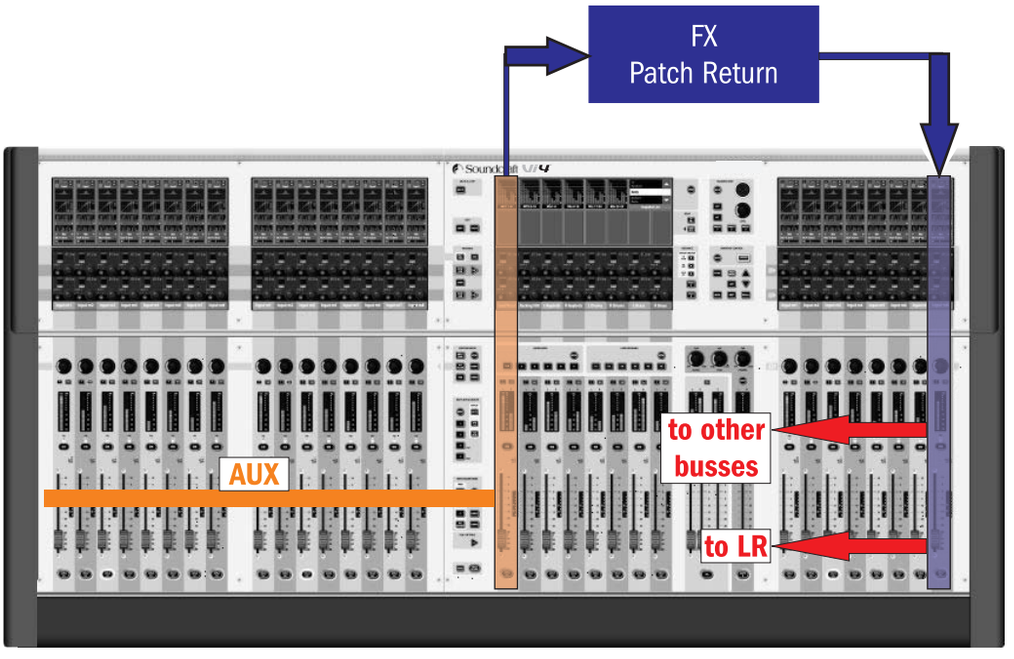


Figure 21-11: FX Return Via An Input Channel.

Patch an FX processor from an AUX Master to the Input section

Press the [ALL BUSSES] key.
Press the <PAN> area on the desired AUX Master bus.
Press the {BUS OUT} key to open the Output Patch page (see Figure 21-12). Press <Lexicon In> to open the FX selection options.
If the Aux bus is mono, you should select both Left and Right Lexicon In patches.
If the Aux bus is stereo, you should patch the Left bus out to the Left Lexicon In, and the Right bus to the Right Lexicon In.
Select the required FX processor. If the processor is in use, a dialog asks if you want to move it from its current location. Press <EXIT>.

Press the Fixed Fader Page [A] or [B] key to select the required bank of input channels.
Press the <INPUT> area on the desired return Input Channel.
Press {IN1 PATCH} to open the Input Patch page (see Figure 21-13). Press <Lexicon Out> to open the FX selection options.
Select the desired FX processor. If the processor is in use, a dialog asks if you want to move it from its current location. Press <EXIT>.

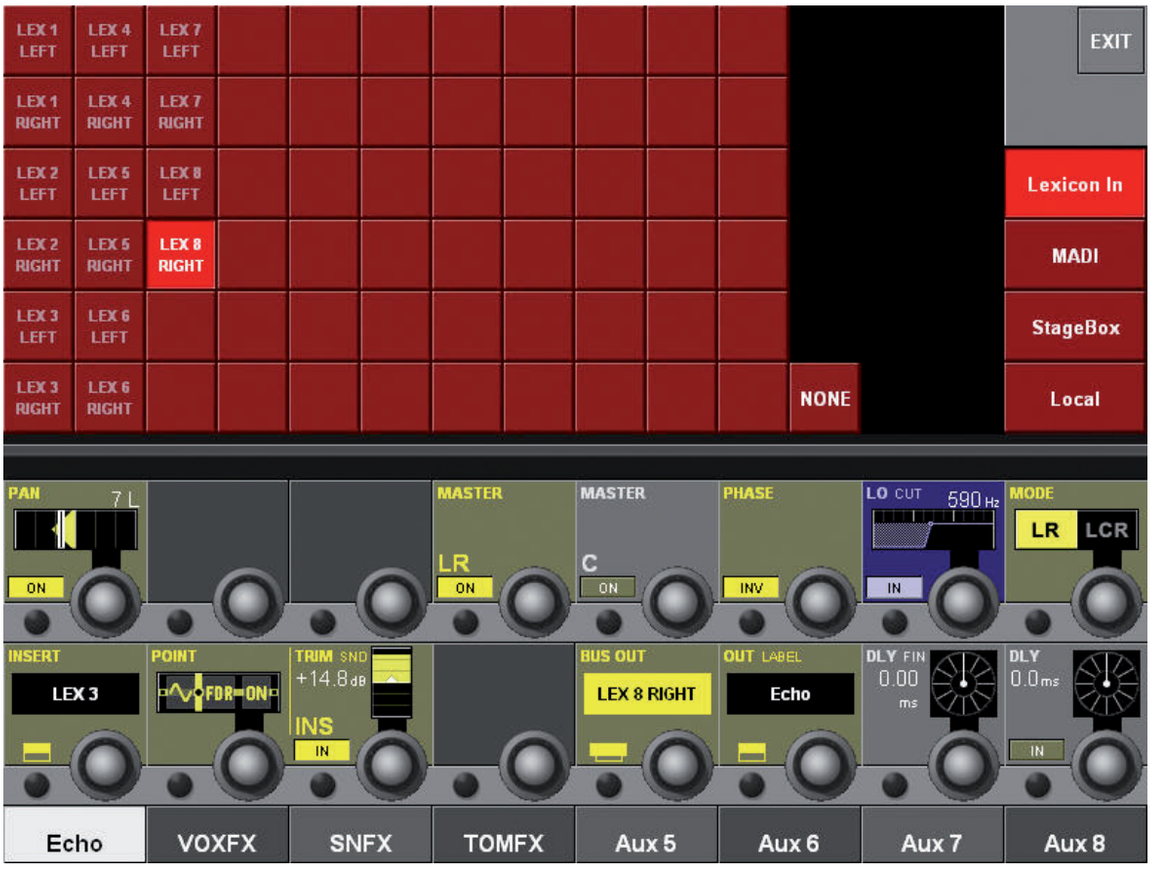


Figure 21-12: Patching An FX Processor To A Master Bus Output.

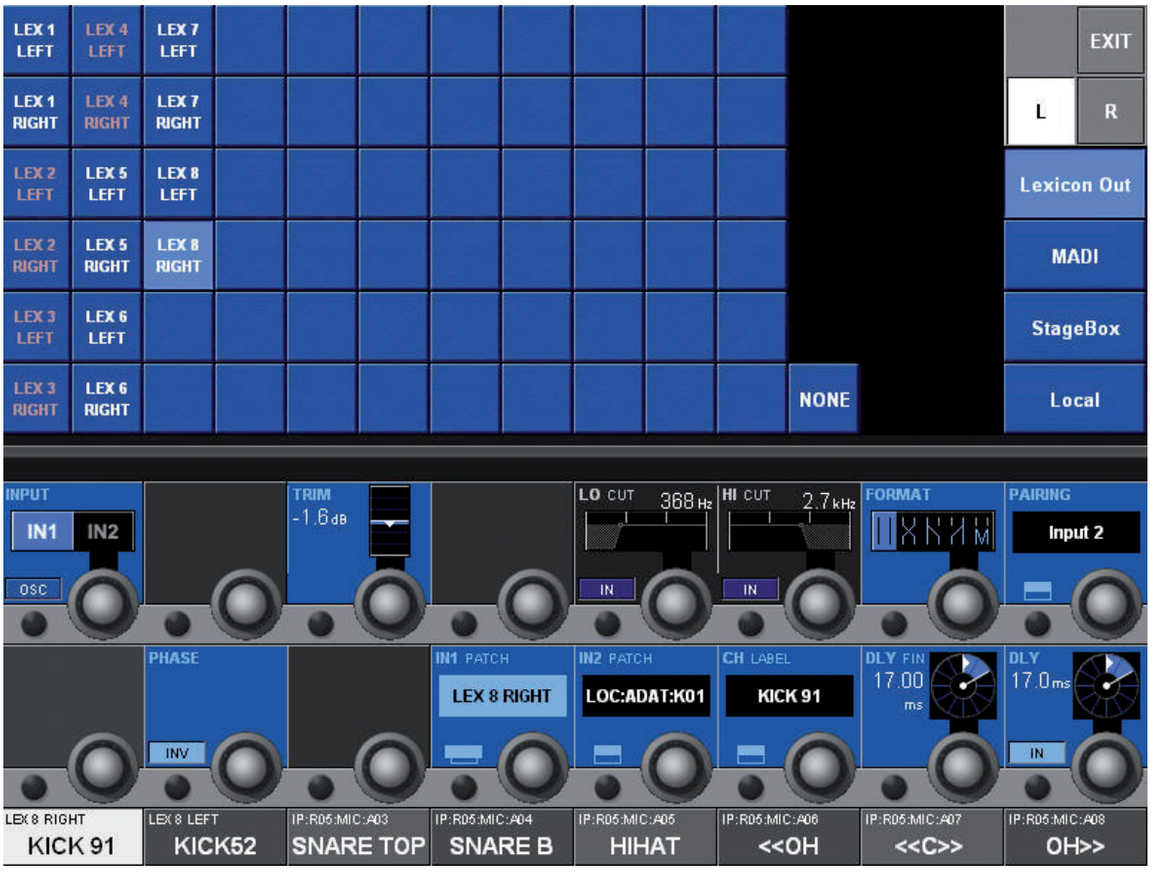


Figure 21-13: Patching An FX Processor To An Input Channel's Input.

FX TYPE

For each of the 8 FX processors an individual FX Type can be selected.
The FX Types are grouped into the following categories:

- REVERB
- DELAY
- MISC

A description of the Effects and their associated controls is given in the section which starts on page 13 of this chapter.

HINT: ***Selecting an FX Type always loads the last user parameter settings for this Type.***



Figure 21-14: Type Selection Page (Reverb).

This page is opened by pressing the {TYPE} button.



Figure 21-15: Type Selection Page (Delay).



Figure 21-16: Type Selection Page (Misc).

FX DESCRIPTIONS

The Vi Series Lexicon FX are divided into three categories: REVERBS, DELAYS and MISC.

REVERBS

Reverberation (or "reverb" for short) is the complex effect created by the way we perceive sound in an enclosed space. When sound waves encounter an object or boundary, they don't just stop. Some of the sound is absorbed by the object, but most of the sound is reflected or is diffused. In an enclosed space, reverb is dependent on many features of that space, including the size, shape and the type of materials that line the walls. Even with closed eyes, a listener can easily tell the difference between a cupboard, a locker room and a large auditorium. Reverb is a natural component of the acoustic experience, and most people feel that something is missing without it.

Hall Reverbs - *Stereo*

SMALL HALL, LARGE HALL, DRUM HALL, VOCAL HALL.

A **Hall** reverb is designed to emulate the acoustics of a concert hall – a space large enough to contain an orchestra and an audience. Because of the size and characteristics,Halls are the most natural-sounding reverbs, designed to remain "behind" the direct sound – adding ambience and space, but leaving the source unchanged. This effect has a relatively low initial echo density which builds up gradually over time. **Vocal Hall** and **Drum Hall** reverbs are specifically tailored for those uses. **Vocal Hall** has as lower overall diffusion which works well with program material that has softer initial transients like a voice. **Drum Hall** has a higher diffusion setting which is necessary to smooth out faster transient signals found in drums and percussion instruments.
In addition to general instrumental and vocal applications, the Hall program is a good choice for giving separate tracks in a mix the sense of belonging to the same performance.

Plate Reverbs - *Stereo*

SMALL PLATE, LARGE PLATE, DRUM PLATE, VOCAL PLATE.

A **Plate** reverb is a large, thin sheet of metal suspended upright under tension on springs. Transducers attached to the plate transmit a signal that makes the plate vibrate, causing sounds to appear to be occurring in a large, open space. The Plates in the Vi Series FX units model the sound of metal plates with high initial diffusion and a relatively bright, colored sound. **Plate** reverbs are designed to be heard as part of the music, mellowing and thickening the initial sound. **Plate** reverbs are often used to enhance popular music, particularly percussion.

Chamber Reverb - *Stereo*

Historically, recording studio chambers were oddly shaped rooms with a loudspeaker and set of microphones to collect ambience in various parts of the room. **Chamber** programs produce even, relatively dimensionless reverberation with little color change as sound decays. The initial diffusion is similar to the **Hall** programs. However, the sense of size and space is much less obvious. This characteristic, coupled with the low color of the decay tail, makes these programs useful on a wide range of material - especially the spoken voice, to which **Chamber** programs add a noticeable increase in loudness with low colour.

Room Reverb - *Stereo*

Room produces an excellent simulation of a very small room which is useful for dialogue and speech applications. **Room** is also practical when used judiciously for fattening up high energy signals like electric guitar amp recordings.

Ambience Reverb - *Stereo*
Ambience is used to simulate the effect of a small or medium sized room without noticeable decay. It is often used for voice, guitar or percussion.

Gated Reverb - *Mono In/Stereo Out*
Gated reverb is created by feeding a reverb, such as a metal plate, through a gate device. Decay Time is set to instant, while Hold Time varies duration and sound. The **Gated** reverb provides a fairly constant sound with no decay until the reverb is cut off abruptly. This program works well on percussion - particularly on snare and toms.

Reverse Reverb - *Mono In/Stereo Out*
Reverse reverb works in the opposite fashion from normal reverb. Whereas a normal reverb has the loudest series of reflections heard first that then become quieter over time, the **Reverse** reverb has the softest reflections (essentially the tail of the reverb) heard first, and then grows louder over time until they abruptly cut off.

Spring Reverb - *Mono In/Stereo Out*
A **Spring** reverb is created by a pair of piezoelectric crystals—one acting as a speaker and the other acting as a microphone—connected by a simple set of springs. The characteristic 'boing' of a spring is an important component of many classic rock and rockabilly guitar sounds.

Reverb Controls
Pre Delay
Creates an additional time delay between the source signal and the onset of reverberation. This control is not intended to precisely mimic the time delays in natural spaces, as the build-up of reverberation is gradual, and the initial time gap is usually relatively short. For the most natural effect, the **Pre Delay** values should be set in the range of 10-25 milliseconds. However, if a mix is very busy or overly cluttered, increasing the **Pre Delay** time may help clarify it, and set each instrument apart from each other.

Mid RT
Controls the amount of time the reverb can be heard. Higher settings increase reverberation times which are usually associated with larger acoustical environments, but can decrease intelligibility. Lower settings shorten reverb times and should be used when a smaller apparent space or a more subtle effect is desired.

Size
Size sets the build-up rate of diffusion after the initial period (which is controlled by Diffusion). The Size control changes reverb sound from very large to very small. Generally, set this control to the approximate size of the acoustic space being created, before adjusting anything else. The size in meters is roughly equal to the longest dimension of the space. Audio is temporarily muted when Size is changed.

Diffusion
Controls the initial echo density. High settings of Diffusion result in high initial echo density, and low settings cause low initial density. In a real-world situation, irregular walls cause high diffusion, while large flat walls cause low diffusion. For drums and percussion, try using higher Diffusion settings.

Shape & Spread
In the Hall reverbs, Shape and Spread work together to control the overall ambience of the reverberation. Shape determines the contour of the reverberation envelope. With Shape all the way down, reverberation builds explosively, and decays quickly. As Shape is advanced, reverberation builds up more slowly and sustains for the time set by Spread. With Shape in the middle, the build-up and sustain of the reverberation envelope emulates a large concert hall (assuming that Spread is at least halfway up, and that Size is 30 meters or larger). Low Spread settings result in a rapid onset of reverberation at the beginning of the envelope, with little or no sustain. Higher settings spread out both the buildup and sustain.

RT High Cut
Rt HC sets the frequency above which a 6dB/octave low-pass filter attenuates the reverberated signal. It does not attenuate the reflections. High frequencies are often rolled off with this parameter, resulting in more natural-sounding reverberation. Setting a low frequency for this parameter can actually shorten the reverb time, as it damps the audio as it recirculates.

Hi Cut
Adjusts the amount of high frequency content in the reverberation tails. Higher frequency settings increase high frequency response, creating brighter reverbs; lower frequency settings create darker reverbs with more bass frequency emphasis.

Bass Boost Frequency
Sets the frequency at which the transition from Mid Rt to Low Rt takes place. This control should be set at least two octaves higher than the low frequency you want to boost.
For example, to boost a signal at 100Hz, set Bass Boost Frequency to 400Hz. (This setting works well for classical music.) Crossover works best around 400Hz for boosting low frequencies, and around 1.5 kHz for cutting low frequencies.

Bass Boost Ratio
Bass Boost boosts or cuts frequencies below Bass Boost Frequency. The amount of boost or cut required is highly dependent on the material being processed.

ER Time
Adjusts the amount of time before reverb early reflections occur.

ER Level
Adjusts the level of early reflections within the reverb.

Feedback Delay
Changing this parameter changes the resonant frequencies of **Plate** reverb.

Feedback Level
Adjusts the **Plate** reverb's presence and prominence.

Boing
This is a unique parameter to the **Spring** reverb, designed to increase or decrease the amount of spring rattle that is a physical characteristic of spring tank reverbs.

DELAYS

Delays repeat a sound a short time after it first occurs. Delay becomes echo when the output is fed back into the input (feedback). This turns a single repeat into a series of repeats, each a little softer than the last.

Studio Delay - Stereo

The **Studio Delay** features up to 1 second of stereo delay and offers a built-in ducker that attenuates the delay output whenever signal is present at the input. This can be used to keep the original signal from being muddied up by delay repeats.

2-Tap Delay - Stereo

The **2-Tap Delay** is probably best described as an adjustable pong delay where each tap can be individually set in relation to the delay time. The 2 taps are a calculated percentage of the actual delay time from 1-100% (for example, if the delay time is 500ms and Tap 1 is set to 50% and Tap 2 is set to 100%, Tap 1 time would be 250ms and Tap 2 time would be 500ms). Narrow spacing of the tap percentages can widen the stereo image of the delay while wider tap spacing can create rhythmic delay lines.

Modulated Delay - Stereo

The **Modulated Delay** is enhanced by an LFO (low frequency oscillator) that produces a chorusing effect on the delay repeats. This is a great delay for guitar and instrument passages that need that "special something."

Mono Delay - Mono In/Stereo Out

The **Mono Delay** is the cleanest, most accurate of the delay programs, with up to 1 second of mono delay with panned output, and the built-in ducking feature.

Pong Delay - Mono In/Stereo Out

This delay effect pans the delay repeats from left to right, while the input signal remains at its original (center) position.

Tape Delay - Mono In/Stereo Out

In the days before digital, delays were created using a special tape recorder in which the magnetic recording tape was looped, with closely-spaced recording and playback heads. The delay effect was created by the tape moving in the space between the record and playback heads – while delay time was adjusted by changing the speed of the tape loop. Although very musical-sounding, wow and flutter combined with a significant loss of high frequencies, and to some extent also low frequencies, are all elements commonly associated with tape recordings.

Reverse Delay - Mono In/Stereo Out

This delay effect emulates the old studio trick of flipping a tape over, playing it backwards through a tape delay, and recording the effect. The delays "build up" from softer to louder – creating the sensation that the delays come before the signal.

Delay Controls

Tempo

The actual delay time, as tapped in by the **Tempo** button. This time is expressed as tempo in BPM (beats per minute). Tempo works in conjunction with Delay Time to set the actual delay time that is heard.

Delay Time
Controls the length of the delay time relative to Tempo. At the middle of its range, delay repeats are synchronous with the **Tempo** button; lower values create faster repeats, while higher values increase the time between repeats.

Feedback
Controls the number of delay repeats by feeding the delay output signal back into the delay input. This creates a series of delay repeats, each slightly attenuated until they become inaudible. Higher settings create more repeats; lower settings reduce the number of repeats. When this knob is turned fully clockwise, it engages Repeat Hold – delay repeats play back in an infinite loop, but no further input signal is introduced into the delay effect. Repeat Hold is available only on **Studio**, **Mono** and **Pong Delay**.

Lo Cut Filter
Frequencies below this level are attenuated.

Hi Cut Filter
Frequencies above this level are attenuated.

Ducker Threshold
The **Studio, Mono** and **Pong** delays offer a "ducking" feature, which causes the delay repeats to be attenuated by a variable amount (between 0 and 18dB) when an input signal is present. As the performance pauses, the delay signal level returns to its normal setting.This allows the delay to remain as an effect, but not clash with the original signal. For example whilst a vocalist is singing, the level of delay is kept down, but in the pauses the level of the repeats is brought up to provide a smooth tail to the vocal phrases. The Ducker Threshold sets the level at which the input signal has to be at for ducking to cut in – the higher the threshold, the louder the signal has to be for ducking to occur.

Ducker Level
Ducker Level sets the amount of attenuation once the signal has exceeded the threshold. 0dB is no ducking, 18dB is the maximum amount of ducking to the delayed signal.

Smear
Available only for **Tape** and **Reverse Delays**, this parameter controls the amount of "smear," or signal degradation and frequency loss. The higher the setting, the more each delay repeat loses intelligibility compared to the original signal.

Level 1 & 2
Adjusts the output level of Tap 1 and Tap 2.

Pan 1 & 2
Adjusts the pan position in the stereo field of Tap 1 and Tap 2.

Mod Depth
This controls the intensity of modulation, or "depth" in the **Modulated Delay**. Lower settings produce a more subtle chorus effect, while higher values give a more lush chorusing of the delay repeats.

MISC EFFECTS

The MISC category provides primarily modulated and pitch-varying effects.

Chorus - Stereo
Chorus creates a lush, full sound by combining two or more signals together where one is unaffected and the other signals vary in pitch ver y slightly over time. **Chorus** is commonly used to fatten up tracks and to add body to guitars without coloring the original tone. **Chorus** can also be used with discretion to thicken a vocal track.

Flanger - Stereo
This effect was originally created by simultaneously recording and playing back two identical programs on two tape recorders, then using hand pressure against the flange of the tape reels to slow down first one machine, then the other. The result was a series of changing phase cancellations and reinforcements, with characteristic swishing, tunneling, and fading sounds.

Phaser - Stereo
The **Phaser** automatically moves frequency notches up and down the spectrum of the signal by means of a low frequency oscillator (LFO), creating an oscillating "comb filter" type effect. This effect is very useful on keyboards (especially pad presets) and guitars.

Tremolo/Pan - Stereo (Wet Only)
Tremolo/Pan creates rhythmic changes in signal amplitude. **Tremolo** is obtained by setting Phase to 0 degrees, and affects both channels' amplitude simultaneously.
If the Phase is set to 180 degrees, an **AutoPanner** effect is generated, with the amplitude of one channel being raised whilst that of the other channel is lowered. Speed settings below 1Hz are recommended in this case.

Vibrato - Stereo (Wet Only)
Vibrato is obtained by smoothly varying the pitch of the signal just sharp and flat of the original at a determined rate. Phase controls whether the pitch of both channels is modulated together, or in an opposite direction.

Rotary - Mono In/Stereo Out (Wet Only)
Rotary speaker cabinets were designed to provide a majestic vibrato/choir effect for electronic theater and church organs. The most well known rotary speaker is the Leslie™ Model 122, which has two counter-rotating elements: a high-frequency horn and a low-frequency rotor with slow and fast speeds. The sound generated as the spinning elements change speed is truly magical. The swirling, spacious effect is difficult to describe – but clearly recognizable.
The **Rotary** effect is modeled after a Leslie-style cabinet. The input signal is split into high and low-frequency bands. The rotation effect is created by a synchronized combination of pitch shifting, tremolo, and panning. Like the physical cabinet, the high (horn) and low (rotor) frequencies are "spun" in opposite directions. Horn and rotor speeds are independent, and designed with acceleration and deceleration characteristics to simulate the inertia of the original mechanical elements.
A virtual necessity for organ music, **Rotary** also sounds remarkable with guitar and electric piano rhythm parts. In fact, this program is a great alternative to the **Chorus** and **Tremolo** effects for any sound source.

Pitch Shift - Stereo
This effect shifts the frequency spectrum of the input signal. Altering the pitch of a sound produces a wide range effects - from subtle detunes to full interval shifts up or down a two octave range. The **Pitch Shift** effect is a chromatic shifter, meaning all notes of the scale are shifted by the same interval. **Pitch Shift** is very useful with guitar tracks, monophonic synth lines, or where special vocal effects are needed.

Detune - Stereo
Detune adds a slightly pitch-shifted version of the original source, thickening the sound. This creates a particularly effective simulation of "double-tracking." This effect is also a great alternative to the **Chorus** effect, adding the richness of a chorus without the audible sweep caused by the chorus rate. It is also useful for creating a wide stereo signal from a mono source, by setting a small detune amount up on one output and down on the other, and panning the two outputs hard left and right.

MODULATED EFFECT CONTROLS
Speed
Sets the speed at which the modulated effect cycles.

Depth
Scales the intensity of the effect. This control affects the output of the LFO only. It has no effect on the outputs of the individual waveforms.

Voices
Controls the number of additional Chorus voices.

Regen
Controls the amount of modulated signal being fed back into the input, creating feedback. Higher amounts add more resonance to the signal.

Diffusion
Creates a time-smoothing effect similar to diffusion in reverb. Diffusion can be a subtle effect to add a little warmth to the chorus.

PreDelay
Determines the amount of offset between the two signals that create the flange effect. Lower values create a tighter effect, higher values result in a more extreme "whooshing" sound.

Waveform
Selects the wave pattern used by the modulated effect.

Phase
Controls whether amplitude or depth change occurs in both left and right outputs simultaneously or alternates between left and right outputs.

Phase Stages
Selects between a 4, 8, or 12 state phase shifter.

Stereo Spread
Increases or decreases the stereo imaging of the Rotary effect.

Drive
Provides overdrive gain to the preamp section of the rotary speaker effect.

Minimum Speed
Sets the minimum speed at which the effect will oscillate.

Maximum Speed
Sets the maximum speed at which the effect will oscillate.

Doppler
Increases or decreases the Doppler pitch effect that is created by the physics of a rotating speaker.

Shift 1 & 2
Determines the amount of pitch shift or detune shift from the original signal source. Works best with individual notes.

Delay 1 & 2
Sets the delay time before the pitch shift or detune effect is heard in the Pitch Shift and Detune effects.

Feedback 1 & 2
Adjusts how much of the shifted signal is sent back through the delay line in Pitch Shift and Detune for creating cascading arpeggio type effects.

Pan 1 & 2
Sets the pan position in the stereo field for each tap in the 2-Tap Delay.

BSS® Graphic Equalisers

The Vi Series uses a total of 35 high-quality BSS® Graphic Equalisers (GEQ).
Each of the 32 Busses and the three Main Masters are equipped with a 30-band Graphic Equalizer from BSS®. The overall Q of the graphic EQ is adjustable from 4 to 6 in 0.5 steps, to allow a narrower or wider bandwidth of the filers as desired. Narrower bands are better for feedback tuning, while wider bands are more suited to room equalisation.

To access any of the GEQs first press the [ALL BUSSES] key.
A touch on the <GEQ Field> opens the GEQ VST Page and changes the Fader Glow colour of the first 30 Faders to red, this is known as 'LARGE' mode.

It is also possible to have a 'SMALL' control mode where the GEQ is scrolled across only 8 faders to leave input faders available, see page 23.

The first 30 Faders are labelled (small label) in the LCD display with the GEQ Frequencies, and control the Gain of the individual bands. The range of control is +/- 12dB. The cut/boost value of the band is shown in the LCD display and in the Vistonics section when a fader is touched and while being adjusted.

Hint: when a fader is moved away from its default 0dB position, the [ON] key above the fader glows red. Pressing a red [ON] key will reset the fader to the 0dB position.

Figure 21-17 shows an example of the top part of one of the input bay screens.



Figure 21-17: Top Part Of A Graphic EQ Page.

Alternatively, solo an output bus in the Control Bay (ensure that [LOCK MTR] os not ON). This brings up the Output Channel Strip on the Control Bay Vistonics™ screen (see Figure 21-18). Touch the <GEQ> field of the Output Channel to access the GEQ on the faders, as described above.

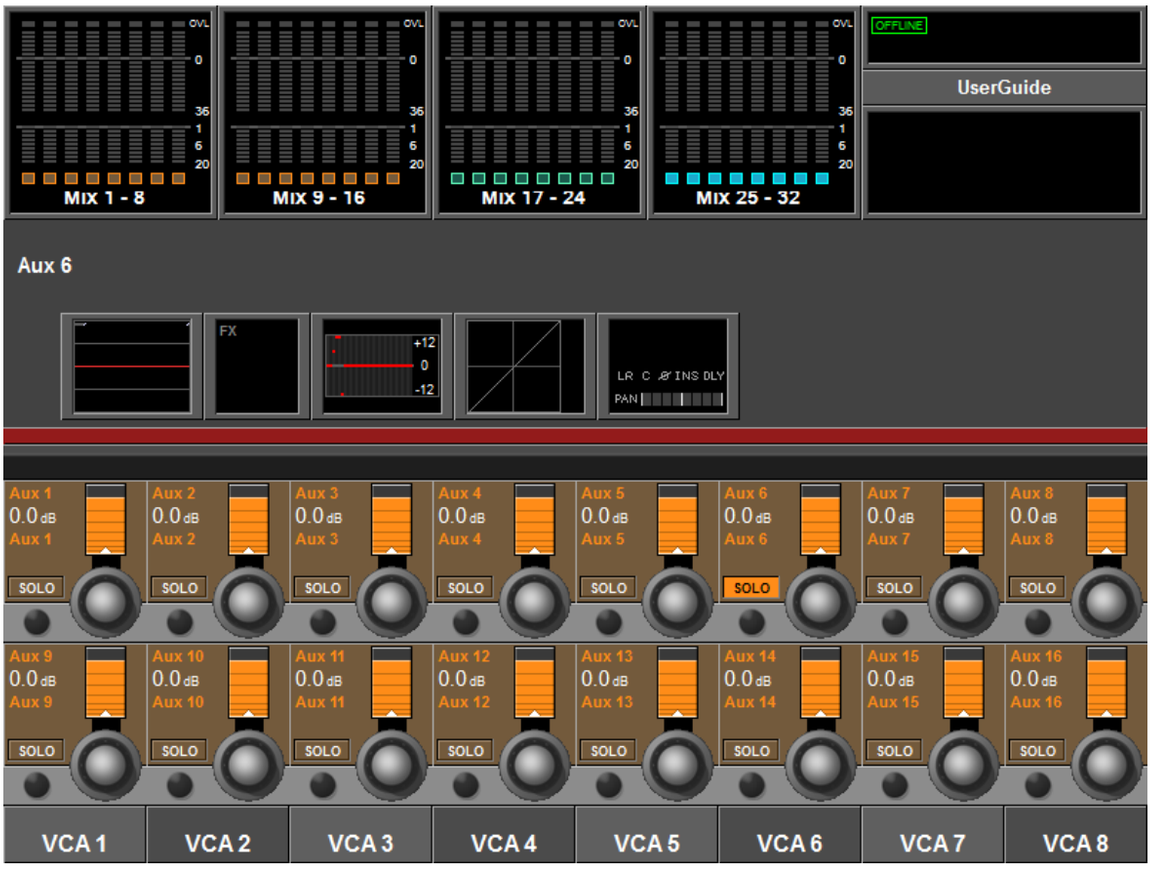


Figure 21-18: Master Bay With An Output Bus Soloed.

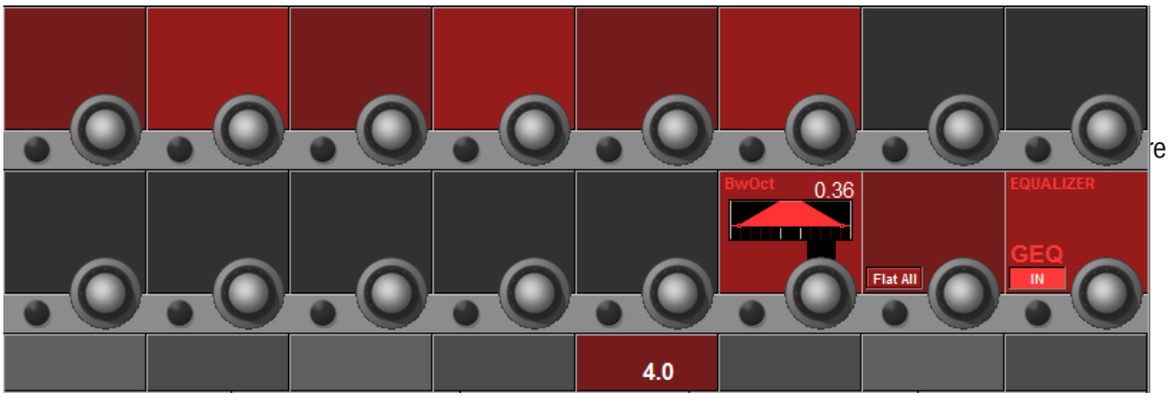
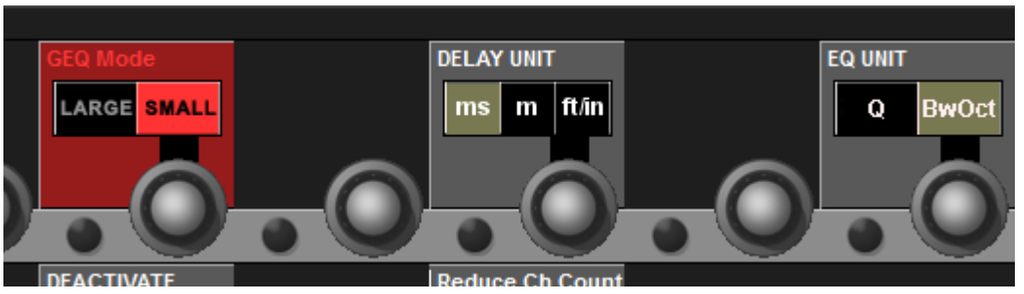


Figure 21-19: Lower Part Of The Master Bay's Screen in Graphic EQ Mode showing cut/boost in Vistonics area when fader is touched.

There are three controls available on this screen:

Width (Q or BWOct)

This allows the operation of the bandwidth controls in the EQ sections throughout the console to be selected as either Octaves or Q-factor. The direction of the control is reversed between the two settings: In Q mode, clockwise narrows bandwidth, in Octaves mode, clockwise widens bandwidth. Settings are saved in the Show file.



The Octaves setting provides a more intuitive control in a musical context

The control adjusts Q between 4 and 6 in 0.5 steps, or bandwidth between 0.24 and 0.36 in 0.03 steps. Selection of Q or BW is made in the SETTINGS Menu.

Note: The setting of the Q/BWOct control affects **ALL** EQ's on the desk, parametric and graphic.

FLAT ALL
{FLAT ALL} set the Gains of all 30 bands to 0 dB

GEQ {IN}
GEQ {IN} switches the GEQ on. The colour of the graph in the <GEQ Field> of the output in question changes to red when it is switched on.

SMALL/LARGE Mode (SETTINGS menu)

Choose 'Large' 30-fader mode for fast access on multiple faders, at the expense of access to the input faders.

Choose 'Small' (8-fader) mode when access to input faders must be retained at all times.

The frequency bands can be scrolled in banks of 4 or 8 bands, using the Output Fader page buttons.