

Jan | 09

MACHINE

Operation Manual V1.2

Hardware VST plug-in player



SM Pro Audio - Melbourne, Australia

1 Foreword

1.1 Thank you

Congratulations on purchasing the SM Pro Audio V-Machine. You now own an extraordinary product that offers stand-alone playback of VST (Virtual Studio Technology) plug-ins originally designed for operation on the Windows operating system.

We urge you to read this manual from start to finish as some of the concepts of the V-Machine require detailed explanation.

We hope you enjoy making music on the V-Machine!

SM Pro Audio



1.2 Important Notes:

Every effort has been made to ensure all information provided in this manual is accurate at the time of writing.

SM Pro Audio is not liable for any incorrect information contained in this manual and extends no liabilities in regard to this manual other than those required by local law.

SM Pro Audio may update the contents of this manual at any time without prior notice. The latest version of this manual is available from the SM Pro Audio website at all times.

<http://www.smproaudio.com>

1.3 V-Machine Team

SM Pro Audio would like to thank our V-Machine project partners VFX Systems Pty Ltd and Grey Innovation Pty Ltd.

A very big thank you goes out to everyone involved in the V-Machine project:

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2 What is the V-Machine?

The V-Machine is a purpose built stand-alone VST/VSTi plug-in player.

Based on the recently developed *Powered by VFX* embedded technology platform, the V-Machine is an extremely versatile musical instrument. By its very nature it can adapt with the push of button and transform from a classic synth into a soaring string section.

Traditional synthesizers, samplers and sound modules are great, however many of today's software instruments have much more to offer. The sonic possibilities are endless with literally hundreds of commercial and free VST instruments widely available.

The V-Machine lets you harness the flexibility of software in a reliable purpose built hardware unit. It represents the best of software and hardware combined.

2.1 What can you do with a V-Machine?

The V-Machine is an extremely versatile instrument that can be used in many ways.

The V-Machine can be used:

- As a synthesizer
- As a sample playback module
- As an outboard effects unit
- To play virtual instruments live with a keyboard controller
- To offload some of the work your computer performs when using virtual instruments in the studio
- To pre-load plug-ins into Banks and Presets for live performances
- To create unique sounds using plug-in chains, splits, and layers
- To connect MIDI controllers and bring plug-in technology to real hardware

2.2 Who can benefit from using a V-Machine?

The V-Machine benefits all types of users; from DJ's wanting trigger synths and samples live, to a piano bar pianist wanting to perform with some of the greatest piano samples ever recorded.

Keyboard players – Musicians – Studio Engineers – Live Engineers - Producers – Students – Teachers - Guitarists – and more.

3 System Requirements

The V-Machine is a stand-alone unit designed to operate without the requirement of PC/Mac computer. However, the full potential of the unit is only realised when connected to a computer and configured for use by the VFX Application software.

The VFX Application has the following requirements:

3.1 Intel based Mac

Minimal: Any Intel based Mac

Suggested: 1.66 GHz Intel Core Duo processor, 1 GB of RAM, Mac OS X 10.4.4 or later.

3.2 Windows based PC

Minimal: Pentium 1GHz / Athlon XP 1.33 GHz, 512 MB of RAM, Windows XP / Vista or later.

Suggested: Pentium 2.4 GHz / Athlon XP 2.4 GHz, 1 GB of RAM, Windows XP / Vista or later.

3.3 Windows based VST plug-ins

The V-Machine hardware offers support for a range of VST plug-ins programmed to originally operate on the Windows operating system. VST plug-ins programmed specifically for the Mac are not supported.

The good news is, the Mac compatible version of the included VFX Application offers built in support for VST plug-ins originally programmed for use on the Windows operating system.

VST and VSTi plug-ins are readily available from a variety of sources. Commercial plug-ins are available from music stores and often directly from the developers websites. Thousands of free plug-ins are also available for download directly from the many VST resource and community based websites on the internet.

4 What comes in the box

- V-Machine
- Power supply
- Quick start guide
- USB cable
- Getting started CD – VFX application, Operation manual (PDF), and a range of Free plug-ins to get started.

5 Overview and concepts

The V-Machine is a music synthesiser and effects unit. It has been designed to receive MIDI data from external MIDI controllers (e.g. a MIDI keyboard controller) and audio from a line level input source. Processed audio signal can be sent to headphones, an amplifier, a mixing desk, or similar.

The V-Machine does not implement any particular audio synthesis algorithm. Instead it acts as a host for a range of Windows VST and VSTi plug-ins. Individual plug-ins hosted on the V-Machine implement their own particular synthesis algorithms.

Figure 2 shows an over view of how the V-Machine is used.

- Load VST plug-ins into the VFX Application on a Mac or PC
- Use the VFX Application to create Banks of Presets. Each Preset consists of a particular configuration of one or more VST plug-ins.
- Use the VFX Application to copy these configured Banks to the V-Machine via a USB Cable or a USB Stick. Alternatively, you can copy compatible VST Plug-in .DLL files directly to a USB Stick and from there to the V-Machine without using the VFX Application.
- The V-Machine is connected to one or more MIDI controllers. MIDI messages from the controllers are sent to the VST plug-ins. The VST plug-ins resulting audio is sent to both the headphone and stereo outputs.

The V-Machines front panel displays four (4) lines of text and 3 x system status indicators:

- The currently selected Bank
- The currently selected Preset within the selected Bank
- The currently selected plug-in parameter within the selected Preset
- The currently selected parameter value
- Stereo audio input meter, Stereo audio output meter, and a system CPU meter (Vertical status meters are only visible on the right hand side of the display when system activity is present)

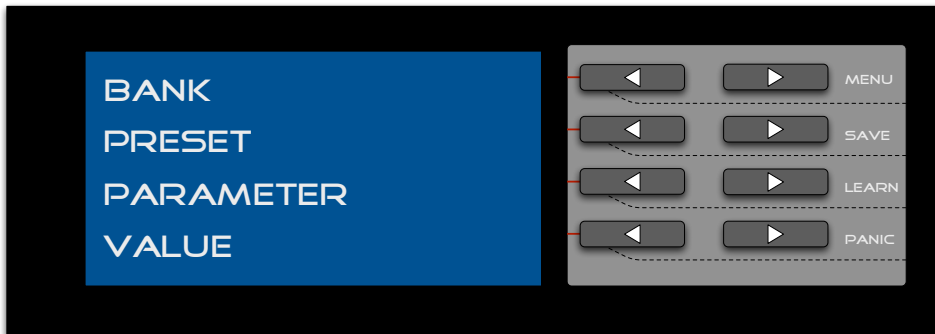


Figure 1: Standard LCD display view (status meters not shown)

Special Notes:

1. Previous/Next interface keypads adjacent to each line of text allow the corresponding item to be navigated or adjusted.
2. Dual press keypad functions (pressing two buttons at the same time) are designed to enter the Global System Settings menu.

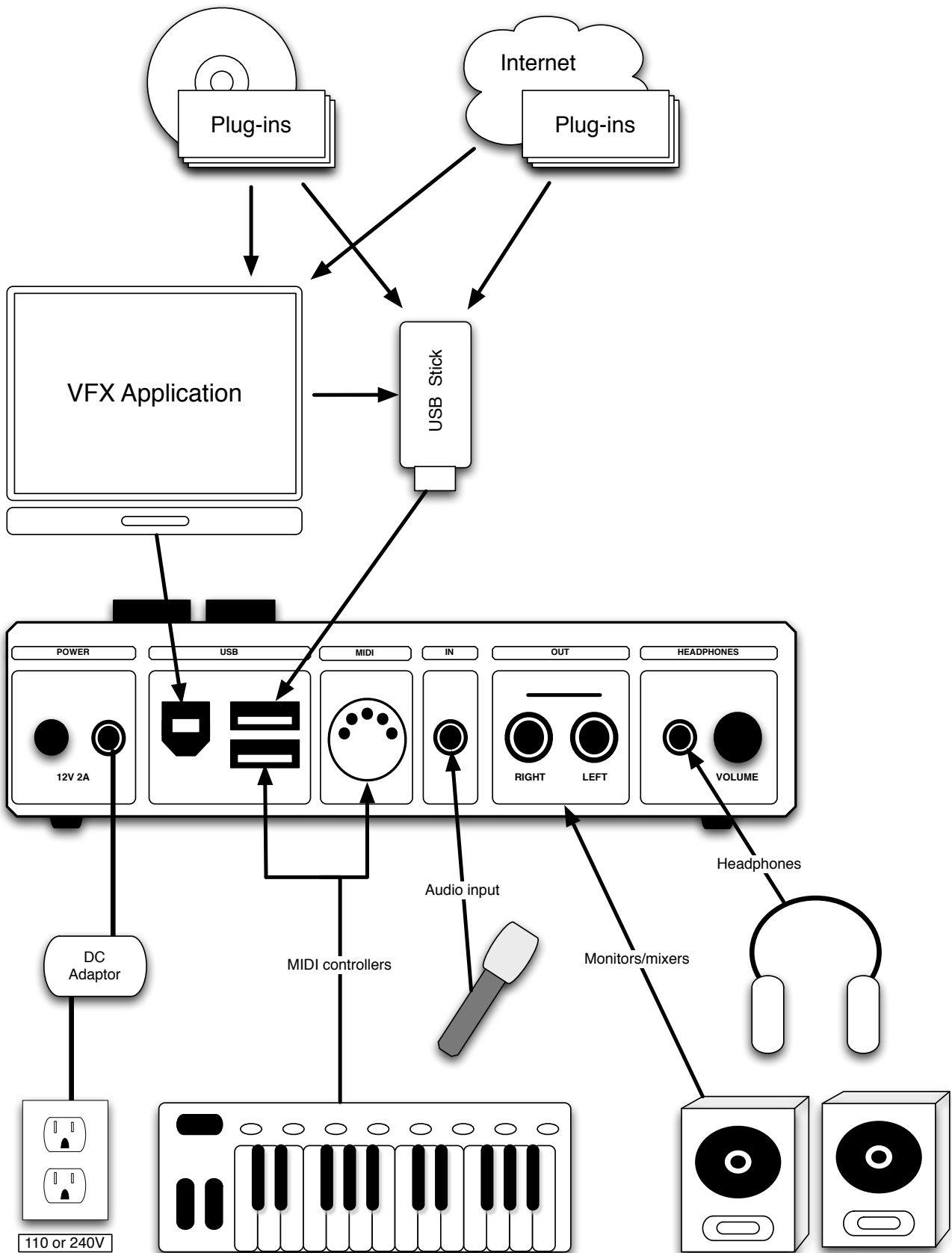


Figure 2: Operational overview

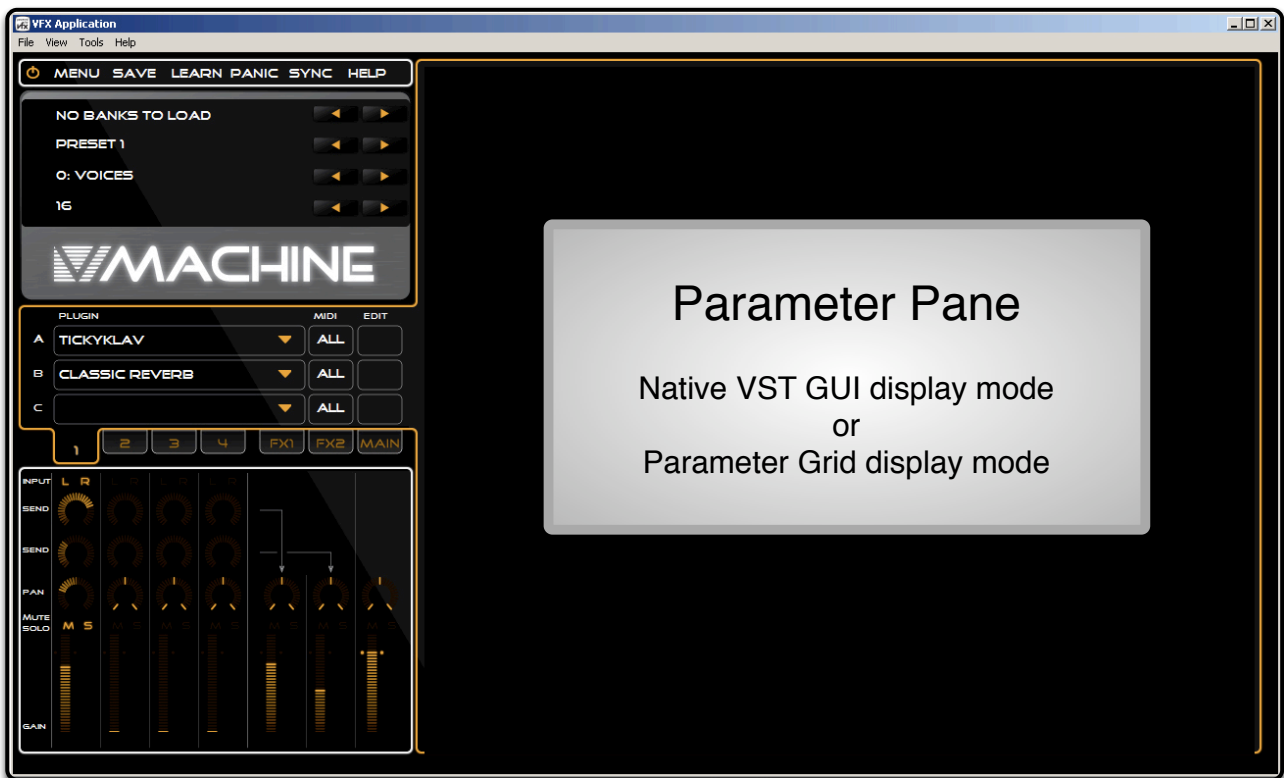


Figure 3: VFX Application

5.1 The VFX Platform

The V-Machine runs on the *Powered by VFX* platform developed by VFX Systems Pty Ltd, Melbourne Australia.

The *Powered by VFX* platform is a software framework designed to provide robust audio media support in embedded devices.

Built on a modern operating system core, the *Powered by VFX* platform is a dedicated lightweight solution offering extremely low overheads in comparison to traditional computer based solutions. The result is a robust powerful platform well suited for the high performance requirements of low latency audio hardware devices.

Built in support for leading audio processing technologies such as Steinberg's renowned VST (Virtual Studio Technology) plug-in format means dedicated hardware units can take advantage of the benefits of computer audio plug-in technology.

Expect to see the *Powered by VFX* platform bring powerful audio processing capabilities to mixers, keyboards, and guitar products in the future.

5.2 About Windows VSTi/VST plug-ins

Steinberg GmbH shook up the audio industry when they released their now famous Virtual Studio Technology (VST) interface back in 1996. Studio production changed forever as professional results were suddenly available on a standard PC or Mac based computer system.

Designed to integrate virtual instruments and effect processors into a digital audio environment, the VST format has quickly become the most widely adopted audio plug-in standard.

5.2.1 VSTi plug-ins

VST instruments (known as VSTi's) are typically virtual synthesizers or sampler units. They are triggered by MIDI controllers or sequencer devices and generate audio in real time. Plug-in parameters can often be assigned to external controllers effectively delivering a real hardware instrument experience.

VST instrument emulations are available for just about every known instrument. There are instruments for pianos, drums, strings, and everything through to classic synthesizers.

5.2.2 VST plug-ins

A VST plug-in contains computer code that provides instructions to process audio in real time. Typically a VST plug-in is inserted in a digital audio signal path to process audio as per the specified plug-in purpose.

There are many VST plug-in equivalents that emulate famous audio effect hardware devices in addition to a huge selection of interesting effects that have never before been possible.

Some common plug-in offerings provide audio processing effects such as compression, reverb, and equalization.

5.2.3 VST plug-in hosts

VST instruments and effects are loaded and used within a VST Host. A VST host is usually a software application. In this case however, the VST Host is the V-Machine hardware device.

5.3 Plug-in considerations and limitations

Thousands of commercially developed and Freeware VST plug-ins are available today. As is to be expected, the quality of plug-ins varies considerably from excellent to not so professional.

You will notice when testing plug-ins you may experience a great sounding highly featured plug-in that runs extremely efficiently on the V-Machine, and then wonder why a lesser featured plug-in seems to place excessive demands on the CPU. The answer usually comes down to whether or not the developer has written quality-optimized code.

Only testing of each plug-in will determine how suitable it may be for your creative demands on the V-Machine.

The V-Machine is based on a custom operating system. The VST plug-ins that the V-Machine recognizes are generally intended to run on Microsoft's Windows operating system. As such, some VST plug-ins may not function correctly or at all on the V-Machine.

Note: It is our intention over time to compile and maintain a certified V-Machine plug-in compatibility list on the SM Pro Audio website. Please check the website for more information.

5.4 V-Machine additional Preset parameters

The V-Machine adds a few additional parameters to each plug-ins normal parameter list. This is to facilitate special features tailored to the V-Machines hardware operation.

For more information see section 11 V-Machine specific plug-in parameters

5.5 Master and Persistent based memory states

The V-Machine has two memory states for individual Presets.

5.5.1 Master Saved State

The V-Machine Master Saved State refers to a Presets permanent saved state as written into non-volatile memory. When the V-Machine is turned on, Presets are loaded with parameter values presented in their Master Saved State.

For more information on how to save a Presets Master Saved State refer to section 10.3.2 Save command

5.5.2 Persistent Saved State

The V-Machine has provision to retain a Presets state during individual performance sessions. This option is accessed via a parameter known as the Persistent State Parameter.

The Persistent State Parameter is useful for configuring the Preset to either retain edits made to plug-in parameters during a performance session or to revert to the Master Saved State each time the Preset is selected.

For more information see section 11 V-Machine specific plug-in parameters

6 Freedom comes with responsibility!

The V-Machine is an extremely flexible device. As such we urge you to understand how creating a preset sound without due consideration of the possible pitfalls can lead to unexpected results.

Just as a master builder with a lot of experience will often build a masterpiece, a less experienced builder may take some time to achieve similar results. This analogy is also true when creating preset sounds for use on the V-Machine. With patience and experience you will learn how to get the most out of the V-Machine.

Please read this manual to understand some of the concepts you need to be aware of when creating your presets. Consideration should be given to things such as the impact of CPU intensive plug-ins, whether you need to adjust buffer setting per sound for latency refinement, and keeping gain structures under control so your preset does not overload the V-Machine's DAC (digital audio converter).

The V-Machine and the VFX application are the tools, what you do with them is up to you!

6.1 Building your own sounds – Main considerations

6.1.1 Excessive gain staging resulting in digital clipping

Digital clipping sounds terrible and is definitely something to be avoided. Preset sounds created without proper gain staging consideration can result in digital clipping in the V-Machine's output converters.

Gain staging is the art of setting multiple gain controls in the signal path to achieve the cleanest possible resulting signal. Too much gain in the signal path prior to conversion at the DAC (Digital Audio converter) results in digital clipping.

Possible gain stages in signal path when creating Presets in the VFX Application;

- Plug-in output gain settings (plug-ins can clip within themselves, check the plug-in GUI)
- VFX application Individual channel Gain controls
- VFX application FX 1&2 Bus Gain controls

- VFX application Main channel Gain control

Adding plug-ins in chains and layers can often build up excessive gain in the overall preset thus overdriving the V-Machine's DAC.

Set your levels according to the maximum velocity you will be playing the preset sound from your MIDI keyboard. This allows for dynamic playing without clipping.

Quick Tips:

- Put a limiter plug-in on the master output channel! (If you have enough CPU power available)
- Keep an eye on the V-Machines vertical status meters on the right hand side of the LCD display during operation. The Stereo inputs and outputs can be monitored visually and offer valuable information when configuring or adjusting Presets

6.1.2 Use the presets wisely

Try to use presets as much as possible rather than building up layers of sounds in the Mixer. This is a powerful way to get the most out of the V-Machine. You can quickly toggle between sounds whilst keeping the CPU and latency performance under control. The more you load into a single preset the more likely you are to reach the CPU performance ceiling.

Check the vertical CPU status indicator on the right hand side of the LCD display to see just how much CPU power is being used at any one time.

6.2 Managing resources

6.2.1 CPU considerations

The V-Machines firmware is purpose built for high performance operation and optimized to ensure most CPU cycles are dedicated to processing audio. However, just like any standard computer, there is a performance ceiling where the processor will have reached its maximum performance capability.

The performance ceiling of the V-Machine with regard to CPU power is dependant on many factors. It is only by using the V-Machine you will learn to appreciate how to obtain the best possible performance results. The main thing to remember at all times is that any active feature/function consumes CPU calculation power.

6.2.2 Optimising presets

Some of the following tips are worth considering to help make the best use of the V-Machine's CPU:

- Be mindful that all Gain adjustment calculations consume CPU cycles. As such, if you can set mixer faders to zero dB efficiencies can be made. It can be useful to keep the master fader at zero dB and adjust the channel volumes accordingly to reduce gain calculations.
- Adjust each Presets Audio Buffer Parameter to achieve the best balance of performance latency and CPU usage. The Audio Buffer Parameter setting can be configured on a per Preset basis. See section 11.4 for more information.

- Setting Pan positions hard left, hard right, or absolute centre in the Mixer reduces the quantity of stereo field calculations demanded of the CPU.
- Select a mono input if appropriate. There is no need to process a stereo input signal for a mono source such as an electric or bass guitar.
- If you only want to run a single plug-in in a particular Preset, it is advisable to load the plug-in into Plug-in Slot A in channel 1 of the Mixer. The V-Machine recognises this state and passes audio directly through the Mixer enabling efficiencies.
- Utilize FX sends rather than inserting a dedicated effect plug-in on each channel. This way you can share the effect resource between multiple channels.
- Setting an audio channels FX send parameter to set to zero will not use any CPU resources. As such, if a plug-in is using very small amounts of a particular shared effect in the FX bus it may be advisable to switch it off entirely!
- Switch off plug-ins that you can hardly hear. They are using up precious resources!
- Shorten the length of release tails for VSTi's if at all possible. Long release tails can build up polyphony (the number of notes playing simultaneously) during performances placing a burden on the CPU. Release tails can often be reduced without being detrimental to performances.
- Reduce plug-in polyphony if supported by the plug-in. Many VSTi plug-ins offer the ability to reduce polyphony. Every extra note consumes CPU cycles.
- Every single feature you turn on and off impacts CPU performance. Think efficient and program wisely!

7 Auditioning a Sound

For those who have read the manual to this point and cannot wait to get started, please refer to the printed quick start guide included with your V-Machine. The quick start guide outlines the basics to get you up and running without delay.

8 V-Machine Internal Architecture

8.1 VFX hardware host firmware concepts

The V-Machine audio architecture is designed around a flexible four (4) channel mixer concept. Each mixer channel can be configured to host three (3) plug-ins and offers a dedicated volume, pan, mute, solo, and two effects sends. Complex sound creations can be made by mixing layers of plug-in instruments together, adding effects, and routing the result to the main stereo output. Each of the two effects returns and the master output offers 3 plug-in slots for a total of 21 plug-in slots per individual mixer setup. Mixer setups are saved as user presets, and can be arranged into banks for quick navigation and access when loaded to the V-Machine.

8.2 Banks and presets

All V-Machine sounds and setups can be arranged in user definable Banks and Presets. This allows for simple navigation and organisation of your sounds.

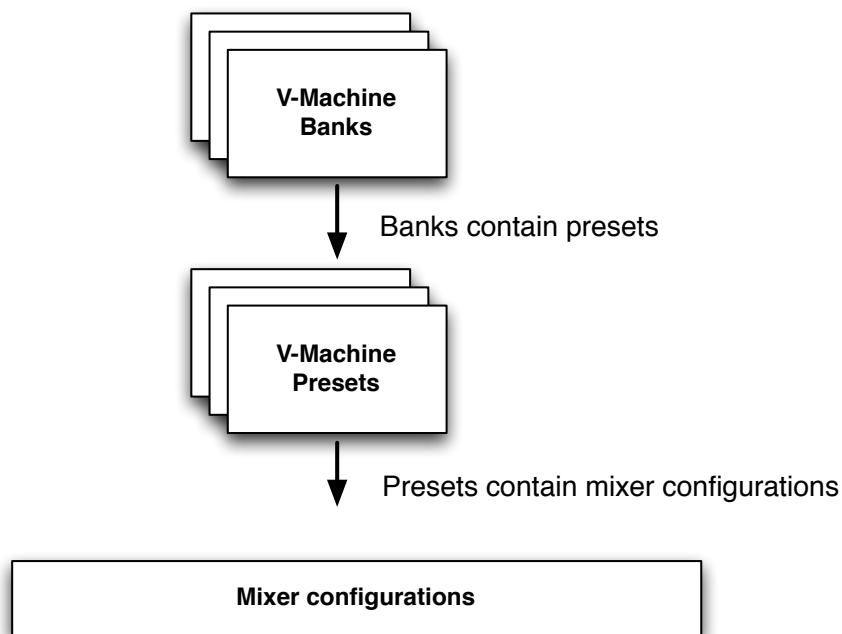


Figure 4: Bank and Preset structural hierarchy

8.2.1 Banks

Banks are collections of Presets. It is entirely up to you how you prefer to categorize your sounds. Some users may wish to organise similar types of sounds together in a Bank while others may wish to create a bank of sounds that are used in a particular performance.

Each Bank can store 127 Preset configurations.

Example 1 - You may prefer to keep your piano Preset sounds in a Bank named “Pianos” and all your bass Preset sounds in a Bank named “Basses”.

Example 2 - You may prefer to organise Preset sounds into Banks according to a particular performance. Your performance may be the keyboard part of a song performed by your band requiring three different Preset sounds. If you store the three Preset sounds together in a Bank named “Song 1”, you can access them quickly as needed during your performance. Then simply move to the next Bank (possible Song 2) for the next performance.

Banks can be loaded, saved, and renamed from within the VFX application.

8.2.2 Presets

Presets are your individual performance sounds. They are essentially saved mixer configuration states. A saved mixer configuration includes all information relating to audio and MIDI routing, selected plug-ins, and mixer settings such as channel volumes, pan settings, and so forth.

Preset sounds can be loaded, saved, and renamed from within the VFX application.

8.3 Plug-in Slot

A Plug-in Slot is a position in the V-Machine's internal audio signal path whereby you can load a VSTi or VST plug-in.

VSTi instrument plug-ins can be loaded into the first Plug-in Slot (plug-in slot A) in each mixer channel. All other Plug-in Slots are designed to accommodate VST effect plug-ins.

Plug-in Slots are available in three areas of the V-Machine's hardware mixer design;

- 3 x Plug-in Slots for each Mixer channel (1 x VSTi, 2 x VST)
- 3 x Plug-in Slots for each FX return channel (3 x VST)
- 3 x Plug-in Slots for the Main output channel (3 x VST)

The architecture of the V-Machine's mix engine allows for a total of 21 Plug-in Slots per individual Preset (mixer configuration).

The V-Machine's internal mixer architecture is designed for maximum flexibility. It is not meant to indicate the maximum CPU performance ceiling of the V-Machine. In practice, the total amount plug-ins that can be loaded into an individual Preset mixer configuration with acceptable performance results depends entirely on the CPU requirement of each chosen plug-in.

For a diagram outlining the internal mixer architecture see Figure 5: Mixer architecture

8.4 Audio routing

The audio routing architecture of the V-Machine is based around a simple four-channel Mixer design incorporating two (2) FX return channels and a Main output.

Audio signal for each channel is either generated by a VSTi instrument plug-in or received at the V-Machine's analog audio hardware input.

Audio enters each and passes through three (3) VST Plug-in Slots. Audio is passed from one plug-in to the next in series. This allows you to chain plug-ins as desired. If the Plug-in Slot is empty, the audio will pass directly to the next stage of the Mixer.

Audio signal can be routed to one of two (2) FX buses for further processing.

All Mixer channels and FX buses are summed together and directed to the Main output channel.

For a diagram outlining the internal Mixer architecture see Figure 5: Mixer architecture

8.5 MIDI Routing

MIDI data enters the V-Machine via either the 5-pin standard MIDI input or USB connector on the rear panel.

MIDI can be routed to each of the 21 Plug-in Slots in the V-Machine's Mixer architecture.

Configuration of the MIDI routing is performed within the VFX application. This offers a simple interface to assist in the configuration of MIDI channel assignment and the "MIDI learn" plug-in parameter function. MIDI learn allows you to assign individual plug-in parameters to external hardware control devices.

8.6 .VFX files

The file extension ".VFX" identifies files used by the V-Machine and VFX Application.

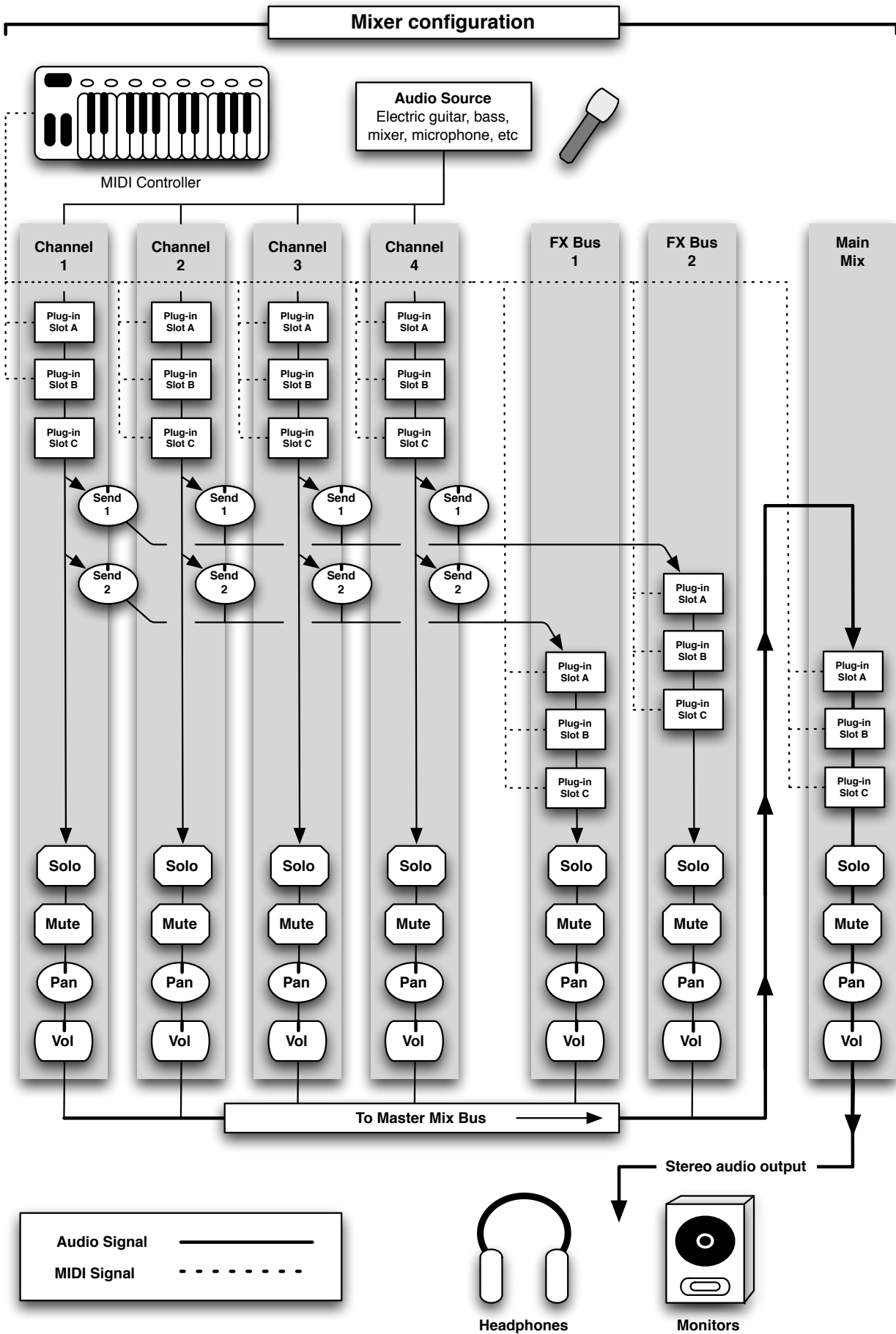


Figure 5: Mixer architecture - Audio and MIDI routing

9 V-Machine hardware & connections

9.1 Hardware introduction

The V-Machine is a compact purpose built audio processor. It has been designed to interface seamlessly within a wide range of common audio production and performance environments. Much attention to detail has been made to designing a modern, compact, high performance product that is simple to operate.

The chassis structure of the V-Machine has been designed in such a way as to:

- Provide a powerful yet compact unit suitable for live and studio applications
- Offer users a simple uncomplicated user interface
- Allow easy access for connection to peripheral devices
- Protect the V-Machine's critical electronics
- Provide adequate heat dissipation and air flow to the internal electronics

Many of the common connection options typical of audio processor units can be found on the rear panel including: Audio inputs and outputs, USB host and slave connectors, headphone connector, 5-pin MIDI, and a power connector.

9.2 Top panel

An LCD Panel display and keypad button user interface is provided on the V-Machine's top panel.

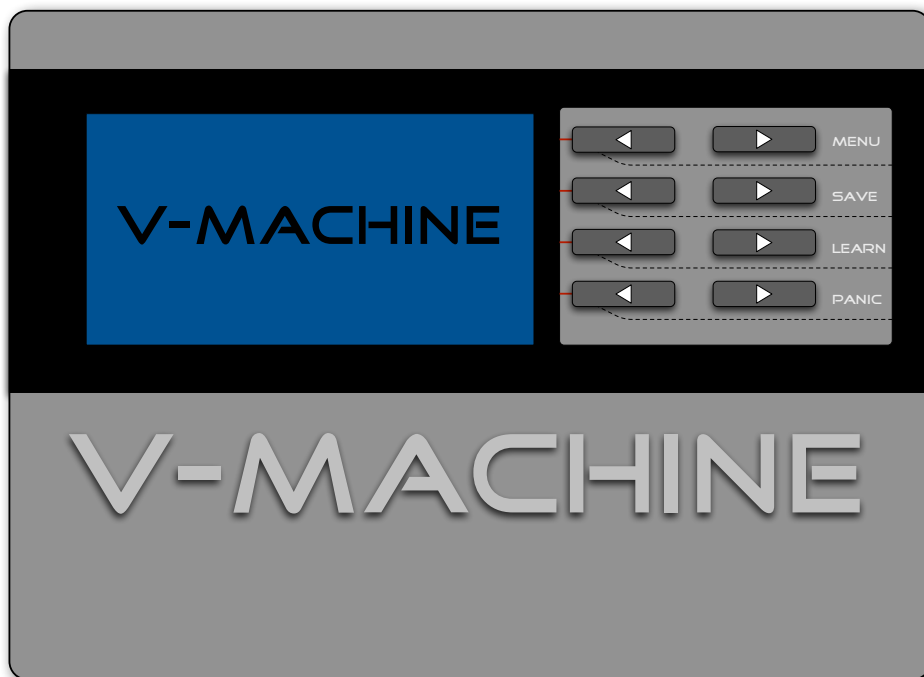


Figure 6: Front panel

9.2.1 Keypad button user interface

The V-Machine's keypad interface has been designed to provide a simple mechanism for navigation and control the V-Machine.

The keypads are arranged in four (4) rows of two (2) buttons.

Single and dual selection combo functions (pressing two buttons at the same time) are possible.

For more information please see section: *10* Turning on and navigating the V-Machine

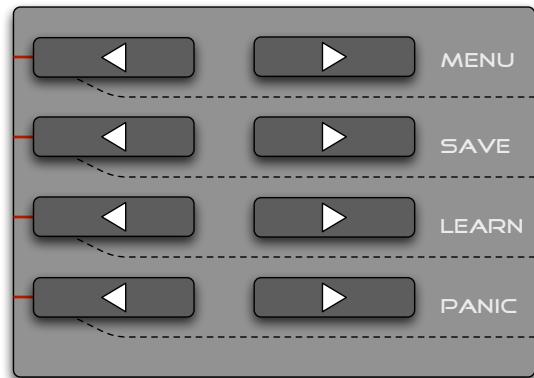


Figure 7: Button interface

9.2.2 LCD Panel

The V-Machine's LCD Panel displays information relevant for navigating and operating the system.

Automatic contrast control provides optimum LCD contrast settings under a wide variety of lighting conditions.

Contrast and backlight settings can be manually adjusted to suit preferred viewing angles from within the Global System Settings.

Special Note: During operation vertical status meters will be preset on the right hand side of the LCD. The meters display Stereo Audio Input, Stereo Audio Output, and CPU status.

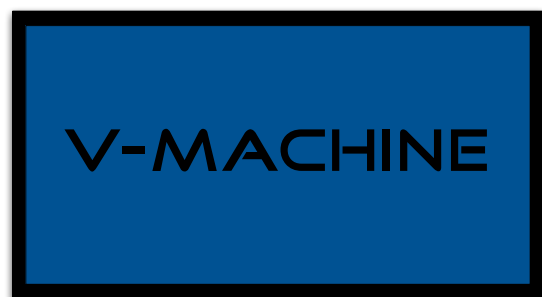


Figure 8: LCD Display

9.3 Rear panel connections

The V-Machine's rear panel provides connectivity options to facilitate the connection of a range of peripheral devices.

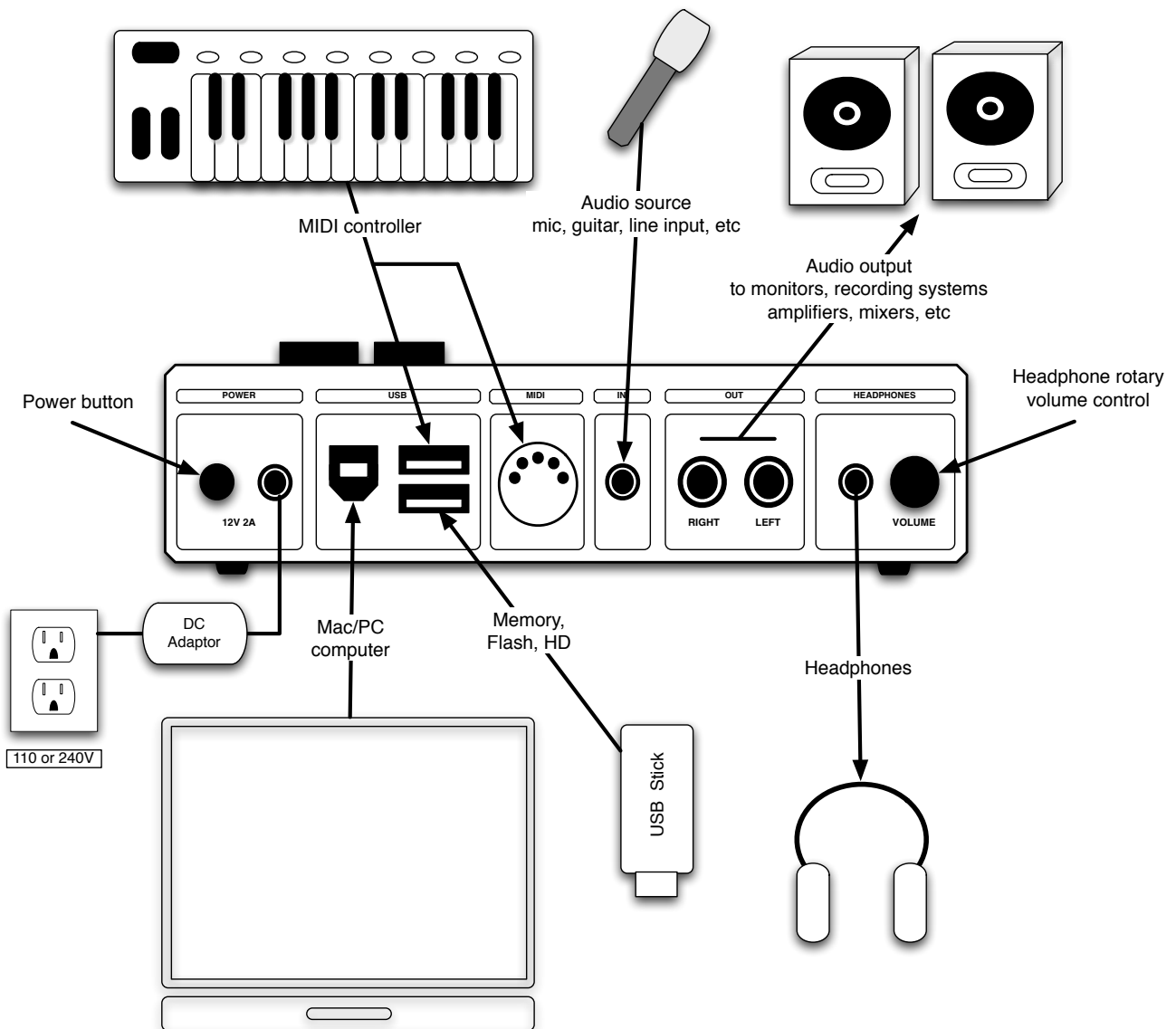


Figure 9: Rear panel connections

9.3.1 Power connector

The V-Machine features a power source input connector on the rear panel for connection of the included 12V 2A external 110-240V 50/60Hz plug-pack. The plug-pack is a compact, high-efficiency, low-noise switch-mode design that has been optimized and certified for audio applications.

Before you turn on the power check the following points:

- Ensure all peripheral connections made correctly
- Turn down all volume controls of the amplifier or destination equipment

9.3.2 Power button

The V-Machine's power button is located next to the power source input connector. To activate power to the unit, simply press the power button.

9.3.3 USB Slave connector

A USB Slave connector is provided for connection to a host PC. This is necessary to take advantage of the benefits of configuring the V-Machine directly from your computer.

9.3.4 USB Host connectors

Two (2) USB host connectors are provided for connection to USB peripherals such as USB Memory Sticks, USB Disk Drives, and USB MIDI controllers. Both Host connectors provide USB bus power.

Special Note: USB Midi controllers and USB hard/flash drives can be hot swapped to the V-Machine at any time after the unit has completed the full boot procedure at power up.

9.3.5 MIDI input

A standard 5-pin MIDI connector is provided on the rear panel for connection to MIDI compatible devices.

Quick Tip: If you have a MIDI device that offers both 5-Pin MIDI and MIDI over USB it may be a better choice to connect via USB as the USB host connectors on the V-Machine deliver bus power!

9.3.6 Audio input

One (1) 3.5mm stereo (-10dBV) mini jack audio input is provided on the rear panel.

The input level sensitivity can be adjusted in the Global System Settings (see section 10.3.1)

Quick Tip:

- If connecting a mono input source for processing it is a good idea to activate only the Left input channel in your Preset configuration. This ensures the processor is not actively processing non-existent and irrelevant data.
- The audio input status can be metered on the right hand side of the LCD during operation.

9.3.7 Audio outputs

Two (2) 6.5mm TS analog (-10dBV, Left and Right) output connectors are provided on the rear panel. These connectors deliver the V-Machine's stereo analog audio signal. Left and Right outputs are marked clearly for identification.

Special Note:

- When the mono output option is activated in the Global Menu options all audio is summed to both the LEFT and RIGHT outputs.
- The audio output status can be metered on the right hand side of the LCD during operation.

9.3.8 Headphone amplifier output

The V-Machine includes a quality headphone amplifier for monitoring the stereo audio output signal.

A standard 3.5mm TRS stereo output connector is provided on the rear panel to facilitate the connection of one (1) pair of headphones.

The headphone output is designed only to drive headphones. Never connect the headphone output to other peripherals such as a mixing desk as damage may result to the peripheral or V-Machine.

9.3.9 Headphone rotary volume control

The volume of the V-Machine's built in headphone amplifier can be adjusted by rotating the volume encoder to your preferred monitoring level.

Special Note: Always turn down the headphone amplifier volume prior to connecting and listening to the V-Machine via headphones. Start with the volume control at minimum, and gradually increase the level to an acceptable level. Protect your precious ears at all times!

9.4 Kensington Security Slot

A Kensington Security Slot (also known as a K-Slot or Kensington lock) is part of an anti-theft security system designed by Kensington Computer.



The lock is a metal-reinforced hole found on the front panel of the V-Machine. It is used for attaching a lock-and-cable product that can be purchased from Kensington and through their partner channels.

More information on the Kensington lock and associated products can be found at the Kensington website (<http://www.kensington.com>). The Kensington lock is a registered trademark and owned by Kensington.

10 Turning on and navigating the V-Machine

10.1 Power up the V-Machine

On powering on the V-Machine an initialisation progress bar will be displayed on the LCD panel.

The progress bar will advance as the V-Machine loads its firmware and discovers any compatible connected USB peripheral devices such as USB Sticks, USB Disk Drives, or USB MIDI controllers.

Any compatible and appropriately configured files (Presets, Plug-ins, etc) residing on USB memory devices will be recognized and made available for use.

Following initialisation, the LCD Panel displays a standard four (4) row text display;

- The currently selected Bank
- The currently selected Preset within the selected Bank
- The currently selected plug-in parameter within the selected Preset
- The currently selected parameter value

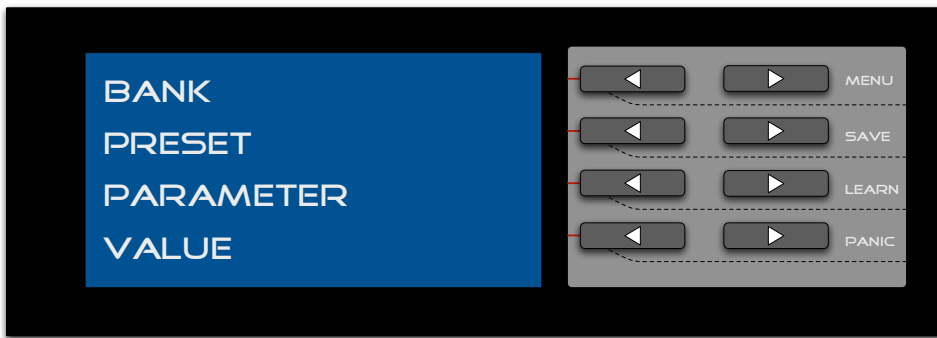


Figure 10: Standard LCD display view

Proceed to navigate the V-Machine with the keypad button user interface.

Special Note: The fitment of some USB storage devices may prevent the V-Machine from starting up. Delay connection of USB storage devices until the V-Machine is fully operational. For more information see the V-MACHINE FAQ at www.smproaudio.com

10.2 Single keypad navigation

Defined below are the single press Next and Previous keypad interface functions.

10.2.1 Bank navigation Next/Previous

Use the Previous and Next buttons as shown to navigate quickly through predefined Banks of Preset collections.

Quick Tip: For speedy access to Presets during a performance it may be useful to store Presets in Banks according to the order you plan on

performing them. For example: A Bank named “Song1” might include all the Presets you will use in song 1.

Special Note: When a Bank is selected, the first Preset residing in that Bank will be loaded automatically.

Bank navigation/selection can also be accessed via a MIDI controller as described in section 10.3.1.5

10.2.2 Preset navigation Next/Previous

Use the Previous and Next buttons as shown to navigate quickly through predefined Presets of sounds (mixer configurations).

Special Note: When using a Preset for the first time on the V-Machine there may be a small delay as plug-ins are initially loaded into memory.

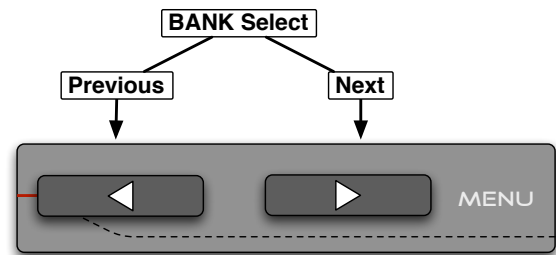


Figure 11: Bank navigation

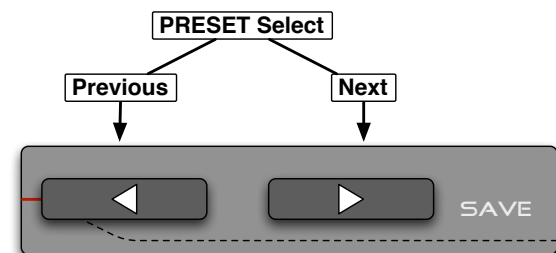


Figure 12: Preset navigation

Preset navigation/selection can also be accessed via a MIDI controller as described in section 10.3.1.5

10.2.3 Parameter navigation Next/Previous

Use the Previous and Next buttons as shown to navigate quickly through plug-in parameters associated with the currently selected Preset.

Quick Tip: As some plug-ins have literally hundreds of available parameters it may be useful to

prioritize the order of the parameter list for speedy access. Priority parameter assignment can be configured per individual Preset in the VFX Application.

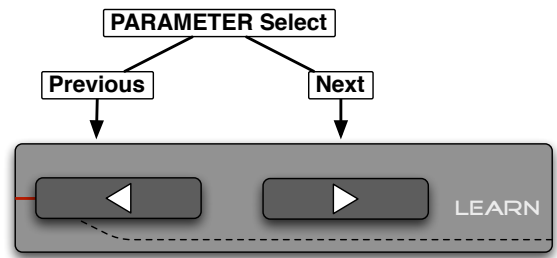


Figure 13: Parameter navigation

Parameter navigation/selection can also be accessed via a MIDI controller as described in section 10.3.1.5

10.2.4 Value adjustment Next/Previous

Use the Previous and Next buttons as shown to adjust the currently selected Parameter Value up or down as desired.

Quick Tips:

1. Hold the Previous or Next button down to scroll the up/down value with greater speed.
2. Map all your favourite parameters to knobs and faders on an external MID controller for hands on access to multiple plug-in parameter values.

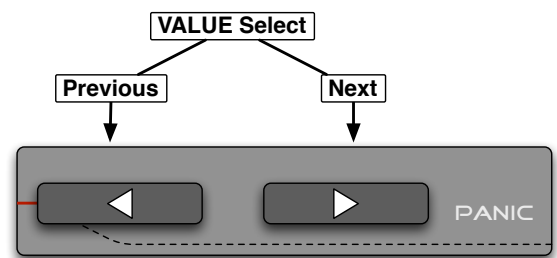


Figure 14: Value adjustment

Value adjustments can be accessed via a MIDI controller as described in section 10.3.1.5

10.3 Dual keypad combo selection functions

Defined below are the dual press keypad menu functions.

Pressing two keypad buttons at the same time!

10.3.1 Global System Settings MENU

Pressing the two in-line keypads adjacent to the MENU command label allows you to navigate and configure the V-Machine's Global System Settings MENU.

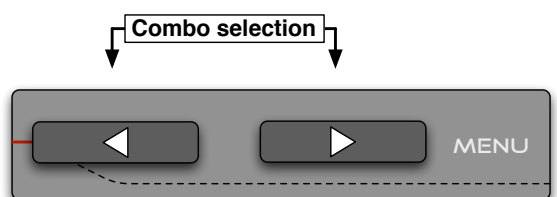


Figure 15: Global Menu keypad combo

Global System Settings include:

- System Info - Firmware version number, Internal flash storage usage %
- LCD Display - Contrast setting
- Audio settings – Mono/Stereo output setting, Audio input gain adjustment
- Midi Options - Program change (Patch/Preset), Parameter feedback (On/Off)
- MIDI Control – Options to control the V-Machine hardware controls via MIDI
- System options – Delayed plug-in loading (On/Off)
- Clear – Clear (Preset/Bank/V-Machine)
- Delete plug-in – Delete selected plug-in from memory

When in the Global System Settings use the Next/Previous keypad buttons adjacent to the MENU label to scroll through the available settings.

Adjustment of individual settings can be made using the keypad buttons adjacent to each option displayed on the LCD Panel.

To exit the Global System Settings press the keypad button adjacent to the RETURN text displayed on the LCD Panel

10.3.1.1 MENU - System Info

The system information provides the following information:

- I. *The V-Machine's current firmware version.* Updates to the V-Machine firmware are released periodically and include bug fixes, improvements, and new features. Determining the V-Machines firmware version is useful when deciding to upgrade, or providing system information when requesting support.
- II. *The Internal flash memory (1GB) storage status.* A percentage (%) occupied value is displayed. The storage indicator is very useful when considering how to best allocate memory requirements.

10.3.1.2 MENU - LCD Display

The LCD display contrast setting can be adjusted to suit varied lighting conditions and viewing angles.

Use the Next/Previous keypad buttons adjacent to the Contrast label to adjust the contrast in percentage terms.

10.3.1.3 MENU - Audio Settings

The Audio settings offer the following configuration options:

- I. *Output (Mono / Stereo).* The V-Machine's audio output can be adjusted as either mono or stereo. Some plug-ins only operate in MONO, and as such it may be desirable to output the same signal from both physical outputs. It may also be necessary to send a MONO signal to an amplifier for monitoring, and to the front of house in performance situations where there is limited audio channel support.

Use the Next/Previous keypad buttons adjacent to the Output label to toggle the setting from Stereo or Mono.

- II. *Input Gain*. The V-Machine's audio input gain can be adjusted to accommodate differing input signal levels. This is very handy when using the V-Machine as a real-time audio processor (effect unit).

Use the Next/Previous keypad buttons adjacent to the Input Gain label to adjust the input level up or down in .1dB steps.

10.3.1.4 MENU - MIDI Options

The MIDI options offer the following configuration options:

- I. *Prog Change (Patch / Preset)*. By sending MIDI Bank and Program change messages from a connected MIDI controller it is possible to change the current Bank and Preset of the V-Machine. This can be handy if the V-Machine controlled by a sequencer, or is not within reach to click the keypad buttons manually.

Please refer to your MIDI controller devices operational manual for information on how to transmit MIDI Bank and program change messages.

The V-Machine can be configured to pass MIDI program change messages to either Patches or Presets. When set to Patch, program change messages are passed directly to the current Plug-in to change internal patches. When set to Preset, program change messages will change the V-Machine Preset.

The V-Machine always responds to standard MIDI Bank messages.

- II. *Param Feedback*. The V-Machine's parameter feedback setting can be turned On or Off. Parameter feedback is especially useful when using external motorized MIDI controllers. Motorized faders, or led encoded pots will update to the correct positions when changing Patches and Presets on the V-Machine.

10.3.1.5 MENU - MIDI Control

The MIDI control section of the Global System Settings offers the ability to configure external MIDI control of the V-Machines button interface, functions, and other useful settings.

Control assignments allow you to **remote control** your V-Machine button interface from an external MIDI controller.

MIDI controllable buttons, functions, and settings include:

- Bank knob
- Preset knob
- Parameter knob
- Value knob
- Menu button
- Save button
- MIDI learn button
- Return button
- Panic button
- Mono Out setting

Use the Next/Previous keypad buttons adjacent to the desired label to scroll through the available MIDI controllable functions. Once you have selected the function you want to control

remotely, send a MIDI CC control signal from your MIDI controller. The V-Machine will recognise the incoming MIDI signal and assign the control to the selected function to you MIDI controller.

Ideas:

1. It can be very handy to scroll through a plug-ins internal Patches using a rotary encoder on your MIDI keyboard rather than using the buttons on the V-Machine.
2. Why not assign some useful V-Machine functions to buttons on your keyboard controller? How about assigning the SAVE function to a button on your keyboard so you can capture your Preset in at the touch of a button during a performance. How about having that MIDI Panic button close to hand for emergencies!

Special Note: The MIDI control in this section refers to the V-Machine hardware control (the V-Machine buttons and settings). Plug-in parameter control can also be configured individually on a per Preset basis so you have hands on control of all your plug-in parameters.

10.3.1.6 MENU - System options

The system options allow for the configuration of the *Delayed Plug-in Load* setting (On/Off). When set to “On”, the loading of plug-ins into memory is delayed when scrolling through and switching Presets. When set to “Off”, plug-ins load immediately when switching Presets.

Use the Next/Previous keypad buttons adjacent to the “*Delayed Plug Load*” label to toggle the setting On or Off.

Quick Tip: The default setting for the Delayed Plug-in Load setting is “On”. This makes it faster to scroll through a large selection of Banks or Presets.

10.3.1.7 MENU - Clear

The Clear Menu allows you to clear Preset, Banks, or even the whole V-Machine.

It is important to understand what is actually cleared. For example, clearing a Preset only clears the Preset information, not the associated plug-in. This is because there maybe another Preset that uses the same plug-in!

Use the Next/Previous keypad buttons adjacent to the “*Clear*” label to select the desired option for clearing.

Clear Preset – This option clears the currently selected Preset information only. All associated plug-ins used in the Preset remain in their original storage location (internal flash, USB stick, etc) for use with other Presets.

Clear Bank – This option clears the currently selected Bank of all included Presets so that an empty bank remains. All associated plug-ins used in the Preset remain in their original storage location (internal flash, USB stick, etc) for use with other Presets.

Delete Bank – This option deletes the currently selected Bank and all Presets within. All associated plug-ins used in the Preset remain in their original storage location (internal flash, USB stick, etc) for use with other Presets.

Clear V-MACHINE – This option completely clears the V-Machine’s internal memory. All Banks, Presets, and Plug-ins are deleted. This is essentially a complete format of the V-Machine’s internal memory.

Pay due consideration to what you clear, as you might lose a great sound forever!

10.3.1.8 MENU - Delete Plug-in

The delete plug-in option allows for selection and deletion of plug-ins from the V-Machine’s internal flash memory.

Use the Next/Previous keypad buttons adjacent to the “Plug-in Name” label to select the desired plug-in for deletion. Once selected, press the keypad button adjacent to the “Delete” label, and confirm by pressing the keypad button adjacent to the “Confirm” label.

Quick Tip: If you have enough memory available in either internal or external flash storage locations, it’s can be very convenient leave them there. Often many of your presets will use the same plug-in, so it makes no sense to continually load or unload the actual plug-in (and associated files, samples, etc.) as you make new Presets. Synchronising (uploading) a new Preset to the V-Machine from the PC is much faster if the plug-in information is already stored in the V-Machine!

During synchronisation, the VFX Application will recognise that the plug-in is already uploaded, and continue to only synchronise the Preset information required.

10.3.2 Save command

Pressing the two in-line keypads adjacent to the SAVE command label activates the SAVE command.

The SAVE command saves a snapshot of the currently selected Preset including all parameter values to non volatile memory. This is the Master Saved State of the selected Preset.

The SAVE command can also be accessed via a MIDI controller as described in section 10.3.1.5

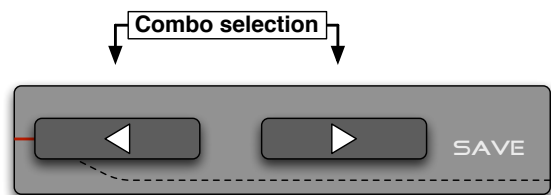


Figure 16: Save command keypad combo

10.3.3 Learn command

Pressing the two in-line keypads adjacent to the LEARN command label activates the LEARN command.

The LEARN command is used for assigning plug-in parameters to external MIDI controllers. This is a great way to have hands-on control during performances.

To use this function follow these steps:

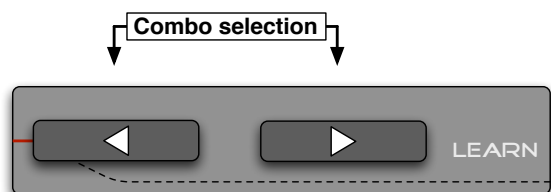


Figure 17: Learn command keypad combo

1. Make sure you have the current Presets plug-in parameter selected and visible in the V-Machine Pane display that you wish to assign to an external controller knob/fader. If not, scroll through the plug-ins parameters (as per 10.2.3) until you find the parameter you wish to control
2. Activate the LEARN function
3. Move the controller knob/fader on your connected MIDI controller

The plug-in parameter has now been assigned to receive MIDI control messages from your chosen controller.

Quick Tip: If you wish to permanently use the assigned MIDI control message you should also SAVE the Preset after using the LEARN command.

The SAVE command can also be accessed via a MIDI controller as described in section 10.3.1.5

10.3.4 Panic command

Pressing the two in-line keypads adjacent to the PANIC command label activates the MIDI PANIC command.

The MIDI PANIC command sends an “all notes off” MIDI command to the V-Machine engine. This may be necessary to eliminate troublesome “stuck MIDI notes” as can sometimes occur with various combinations of MIDI controllers and VSTi plug-ins.

The MIDI PANIC command can also be accessed via a MIDI controller as described in section 10.3.1.5

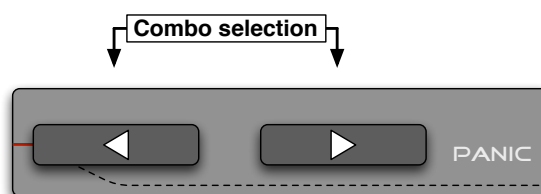


Figure 18: Panic command keypad combo

11 V-Machine specific plug-in parameters

V-Machine specific plug-in parameters are parameters that have been added to each plug-ins normal parameter list to assist using plug-ins live on the V-Machine.

11.1 Patch Parameter

Some plug-ins have the ability to store multiple patch sounds within the plug-in themselves. We refer to this type of plug-ins as a Multi-Patch plug-in. The Patch Parameter facilitates access to these internal plug-in Patch sounds.

When the Patch Parameter is selected for a Preset incorporating a Multi-Patch plug-in, the Value area will display the plug-ins Patch name. Changing the Value of the Patch Parameter will scroll through the Multi-Patch plug-ins Patches.

11.2 Mixer configuration specific additional parameters

As outlined in section Figure 5: Mixer architecture – Audio and MIDI routing, each Preset is a representation of a complete Mixer Configuration.

All Mixer configuration settings can be controlled on the V-Machine by the additional mixer parameters: Channel Gain, Channel Pan, Send level, etc.

The V-Machine intelligently displays only those Mixer configuration parameters relevant to the current Preset. For example, if the current Preset only uses one (1) channel of the Mixer, then only the channel one (1) parameters are displayed. This relieves the display of unnecessary clutter.

The additional Mixer parameters can be navigated by clicking the parameter navigation Next/Previous keypad buttons as described in section 10.2.3

11.3 Tempo parameter

Many plug-ins feature a tempo parameter. This is useful for setting the tempo/speed of particular effects, delays, and oscillators.

11.4 VFX Buffer Parameter

The latency of individual Presets is adjustable by configuring the VFX Buffer Parameter.

The VFX Buffer Parameter sets the size of the buffers used when sending audio data between the V-Machine host software and the V-Machine hardware output connectors.

The lowest buffer setting of 64 samples is equivalent to approximately 1.5ms output latency.

Considerations:

- Buffer size settings affect CPU processing power
- Lower buffer sizes allow you to decrease latency and demand more CPU cycles
- Higher buffer settings increase CPU efficiencies whilst increasing latency

The most appropriate buffer setting for each of your Presets can depend on the amount of plug-ins used in the Preset and their individual requirements.

You will need to experiment to find the best setting for each Preset on the V-Machine.

Quick Tip: Only Presets that truly require low latency (clav, synth, and drums sounds, etc) should be set to the lower buffer settings. You may find that Presets with slow attacks such as Synth Pads and Reverb effects perform just as well with higher settings. Think efficient!

You will need to SAVE your Preset after changing the VFX Buffer size if you wish the setting to be retained permanently as part of the Preset.

12 The VFX Application

12.1 Application concepts

The VFX Application is a PC and Mac compatible application designed to assist in the creation and configuration of sounds and settings for the V-Machine hardware.

Although the V-Machine can be used in 'stand-alone' mode, connecting the unit to your computer and running the VFX application software will offer greater flexibility when modifying the unit to suit your personal preferences. It's also a great place to start learning about the architecture of the V-Machine hardware.

The V-Machine does not have to be connected to your computer to enjoy the benefits of the VFX Application. Auditioning of Preset sounds is possible in real-time using your computer's built sound card or connected audio interface.

The VFX Application provides a selection of tools that facilitate:

- Installation of plug-ins
- Creation of Preset sounds incorporating plug-in chaining, layering, keyboard mapping, and mixing
- Auditioning of Presets
- Synchronization of all settings including Banks and Presets to the V-Machine

It is important to understand that you can Save as many configurations of the mixer as Presets as you want. Each Preset has its own mixer state!

The basic process for using the VFX application is visually represented in the diagram below.

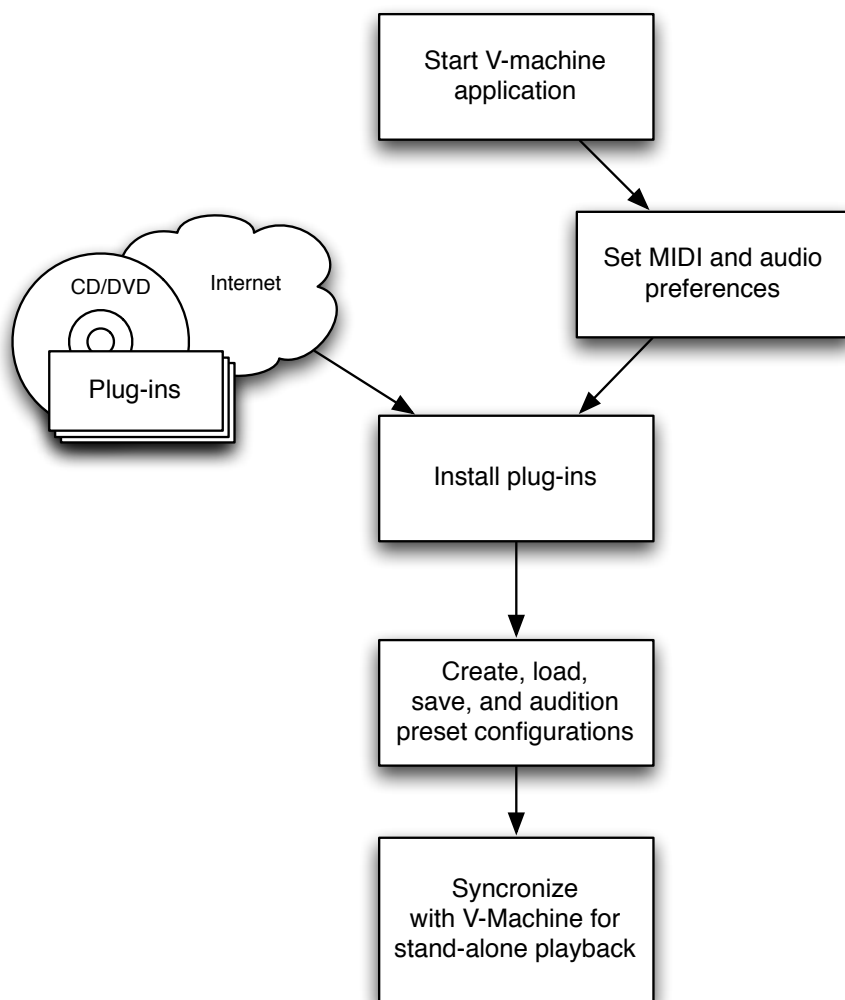


Figure 19: VFX Application user process

12.2 First steps

Make sure you install the software BEFORE connecting the V-Machine!

Most of the information and images in this manual relate to the version of the VFX Application designed to run on the Windows operating system. Although many of the concepts, processes, and images are identical when running the Mac version of the VFX Application, there are several differences you should be aware of. Most notably these are the installation method, file directory structures, and audio interface preference settings. A Mac specific manual addendum is provided when you download the Mac VFX Application from the SM Pro Audio website.

12.2.1 Installation of the VFX Application for the Windows operating system

The 'Getting Started CD' includes a download wizard (VFXWebSetup.exe) for the Windows operating system. The wizard automatically downloads the most up to date version of the VFX Application from the SM Pro Audio website.

Steps to install:

- Insert the Getting Started CD into your computers CD drive
- Run the 'VFXWebSetup.exe' download wizard
- The wizard automatically downloads the most up to date version of the VFX Application and prompts for user for confirmation during the installation process on your computer
- After installation is complete the VFX Application is available for use from the Start Menu->All Programs->VFX->VFX Application

Note: It is also possible to download the latest version of the VFX Application from the SM Pro Audio website at any time.

12.2.2 Installation of the VFX Application for the Mac operating system

The 'Getting Started CD' includes a download wizard (Download VMACHINE for Mac) for the Mac OS X operating system (compatible with Intel based Macs only). The wizard directs your web browser to the SM Pro Audio website where you can download the most up to date version of the VFX Application.

Steps to install:

- Insert the Getting Started CD into your computers CD drive
- Run the 'Download VMACHINE for Mac' download wizard
- The wizard directs your web browser to the SM Pro Audio website where you can download the most up to date version of the VFX Application
- The Mac VFX Application is downloaded in .dmg disk image file format
- Double click the .dmg image file to mount the image and follow the installation instructions provided

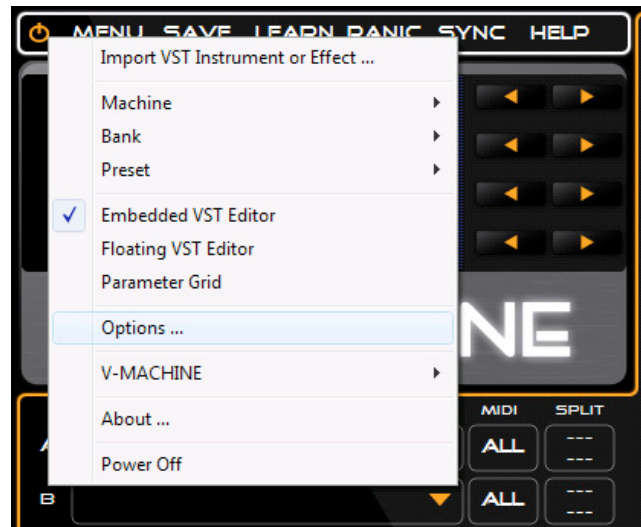
Note: It is also possible to download the latest version of the VFX Application from the SM Pro Audio website at any time.

12.2.3 Configuring the VFX Application preferences

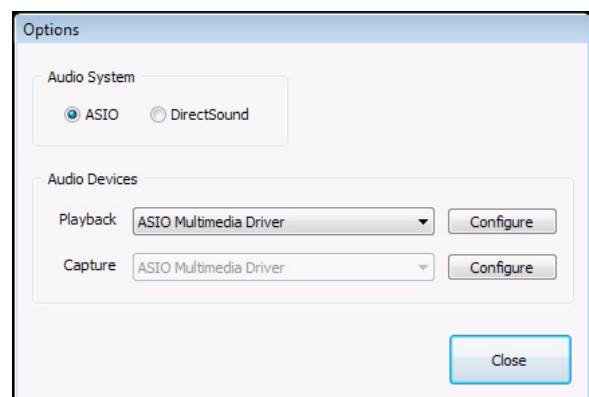
Many of the VFX application settings and operations can be accessed from the VFX Application Settings Menu. The Application Settings Menu is a round orange icon that can be found in the top left hand corner of the VFX application. Clicking on the orange icon will present a drop down menu with further options.

The VFX Application preferences are available from the “Options” dialog found within the main application drop down menu. These settings provide the VFX Application with details regarding your computers audio system.

Select the Audio System driver model and Audio Device Playback and Capture devices you would like the VFX Application to use. For the best possible performance we recommend selecting the ASIO driver model if supported by your hardware.



Click on the Configure button to open your audio interface’s control panel. Your computers audio interface control panel may offer additional settings such as buffer size/latency settings in addition to its own mixer. Please refer to your audio interface operational manual for more details.



Special Notes:

1. The VFX Application automatically accepts MIDI data from any MIDI device correctly installed on the Machine. There is no need for a MIDI preference setting.
2. If the VFX Application does not recognize incoming MIDI, or your computer MIDI drivers are not working it can be advisable to use a USB driver cleanout program and reconnect/reinstall your MIDI devices.
3. There is currently no provision to send MIDI data out of the VFX Application other than to a connected hardware V-Machine over USB.
4. Mac users – please refer to the Mac manual addendum available from the SM Pro Audio website for more information regarding preferences for the Mac VFX Application.

12.3 Installing plug-ins on the computer

12.3.1 Plug-in Installation Wizard

The VFX Application includes a Plug-in Installation Wizard designed to assist in importing plug-ins for use within the Application and V-Machine hardware.

Selecting the “Import VST Instrument or Effect” option from the VFX Application Settings Menu initiates the Plug-in Installation Wizard.

The installation wizard prompts for user feedback/confirmation during a step-by-step installation process.

Typically the selected plug-in *.dll file is transferred to the appropriate folder along with any support and sample files.

Step by step:

- Select “Import VST Instrument or Effect” from the VFX Application Main Menu
- The VFX Application will open a file browser and prompt you to “Choose VST plug-in DLL to Import”
- Use the file browser to choose your desired plug-in .dll file and select “Open”
- The VFX Application will open another file browser and prompt you to “Choose plug-in information file (optional Wizard File)”
- You can select “Open” or “Cancel” depending on whether you have the plug-ins VFX Information file (Plug-in Wizard File – “vfxinfo.txt”).

12.3.2 Wizard Files (Plug-in Information File – vfxinfo.txt)

Many plug-ins can be installed on your computer and successfully synchronized to the V-Machine without the need for a Plug-in Information Wizard File (vfxinfo.txt). However, other more complex plug-ins may have additional files, folders, and even Windows registry settings that are required to ensure successful operation.

A Plug-in Wizard file is a text file that describes all additional information required by a plug-in to import and operate on the VFX Application and V-Machine hardware. Wizard files help provide greater compatibility for plug-ins which otherwise would not function on a stand-alone host.

It is interesting to note that Wizard Files are actually more important to the V-Machine hardware operating successfully after synchronization rather than the VFX Application operation itself. This is because Windows applications like the VFX Application know how to handle the plug-in if it was originally installed to the system with its own installation program.

Wizard Files are essentially needed by the V-Machine to load plug-ins and associated files, samples, registry entries, and other requirements when used outside of Windows.

A database of commonly requested Plug-in Wizard files is maintained in the SM Pro Audio website for users to download. The list of available Wizard files is growing rapidly. Please check the website for updates.

How do I know if the plug-in I want to load requires a Wizard file or not?

The answer to this is to try importing and running the plug-in without a Wizard File! As mentioned previously, many plug-ins will function without a Wizard file. Every plug-in has different requirements, so the only sure way is to test. Keep in mind that although the plug-in

may import and function within the VFX Application, it may not synchronize and function correctly (or at all) in the V-Machine without an accompanying Wizard File.

What do I do if there isn't a Wizard file for the plug-in I want?

- Check the website often for new Wizard Files
- Exchange Wizard Files with other users. Another user may have a Wizard File you need! Forums can be a great place to share ideas, Wizard Files, and other information
- Try creating a Wizard File yourself. We have a tutorial available on our website with information on how to go about building a plug-in Wizard File
- Send us an email. We will add the request to development team
- Ask the manufacturer of your plug-in if they can send you a V-Machine Wizard File for their plug-in

12.3.3 Plug-in Authorisation

Firstly, any plug-in you wish to install to the V-Machine and/or VFX Application should first be installed and authorised to run on the PC as per the original manufacturers instructions. This makes it much easier to import and synchronise successfully to the V-Machine.

Commercial plug-ins often require a mechanism for authorisation. The V-Machine offers support for various methods to assist with compatibility.

Serial Number authorised plug-in – Many plug-ins ask users to enter a serial number before using the plug-in for the first time. The serial number is often then stored in the Windows registry or to a particular key-file stored on the local system. The plug-in checks for the serial number during loading to ensure you have a license to use the software.

A V-Machine Wizard File can be used to ensure that any key-files or Windows registry entries containing serial number/unlock codes are synchronized to the V-Machine and understood at the time of loading.

Wizard Files have support for serial/license number registration. During importation of a plug-in with a Wizard File, you may be prompted to insert your plug-in serial/license number. The serial number will be automatically added to the correct location within the plug-in Wizard File. This will then be available for use on the V-Machine after synchronisation.

Challenge response (hardware profiling) – Some plug-ins perform a hardware profile of the PC you wish to authorise to during installation, and create a special code/s that allows the software to run only on that machine.

SM Pro Audio provides third party plug-in developers a mechanism whereby the VFX Application can run developers profiling applications directly on the V-Machine (via USB) and respond to the results as required.

Many Vendors using challenge response are working with us to include their profiling tools into the VFX Application. Check the website for further updates.

The next major update is set to include the Challenge Response application provided by IK Multimedia to access the full range of their commercial plug-ins on the V-Machine.

Hardware USB key dongle protection: Pace iLok and Syncrosoft USB protection key support is currently under investigation by the development team. Check the website for updated information.

12.3.4 Installing plug-ins on the V-Machine without the VFX Application

The V-Machine will recognize certain raw VST .dll files when loaded onto the V-Machine. This method will not work with all plug-ins as some plug-ins have much more complex installation requirements and require a Wizard File describing supporting files, samples, Windows registry settings, etc.

The V-Machine recognises Plug-ins, Banks, and Presets on connected USB drive/Flash sticks when presented in the following format:

Flash/USB Drive → “plugs” (directory) → “plug-in name” (directory) → “plug-in.dll” file

Example: Procedure for a plug-in named plug1.dll

- Create a folder and rename it “plugs”
- Create a folder inside “plugs” and rename it “Plug1”
- Copy the plug-in file “Plug1.dll” to the folder “Plug1”
- Copy the folder “plugs” onto a USB memory stick
- Reboot V-Machine
- Insert the USB memory stick into the V-Machine
- You should now be able to access the plug-in named plug1.dll

12.4 VFX Application layout and design

The VFX Application GUI has an intuitive four (4) Pane layout design.

- V-Machine Pane – Represents a virtual V-Machine. The clickable keypad interface responds just as the hardware version.
- Plug-in Pane - A tab layout structure offers quick access to all Plug-in Slots in the current Presets mixer configuration.
- Mixer Pane - The Mixer Pane offers quick access to traditional mixer channel operations such as gain, pan, mute, and solo, etc.
- Parameter Pane - This Pane displays the currently selected VST plug-ins parameters in either Native VST GUI mode or Parameter Grid mode.

12.5 V-Machine Pane

The V-Machine Pane is a virtual representation of the real V-Machine’s front panel. Clicking on each of the eight (8) keypad buttons exhibits behaviour just like it would on the real hardware version. This is a great way to assist you when configuring and testing your Presets.

Use the V-Machine Pane to navigate your Banks and Presets, adjust parameter values, assign external MIDI controllers, and enter Global System Settings.

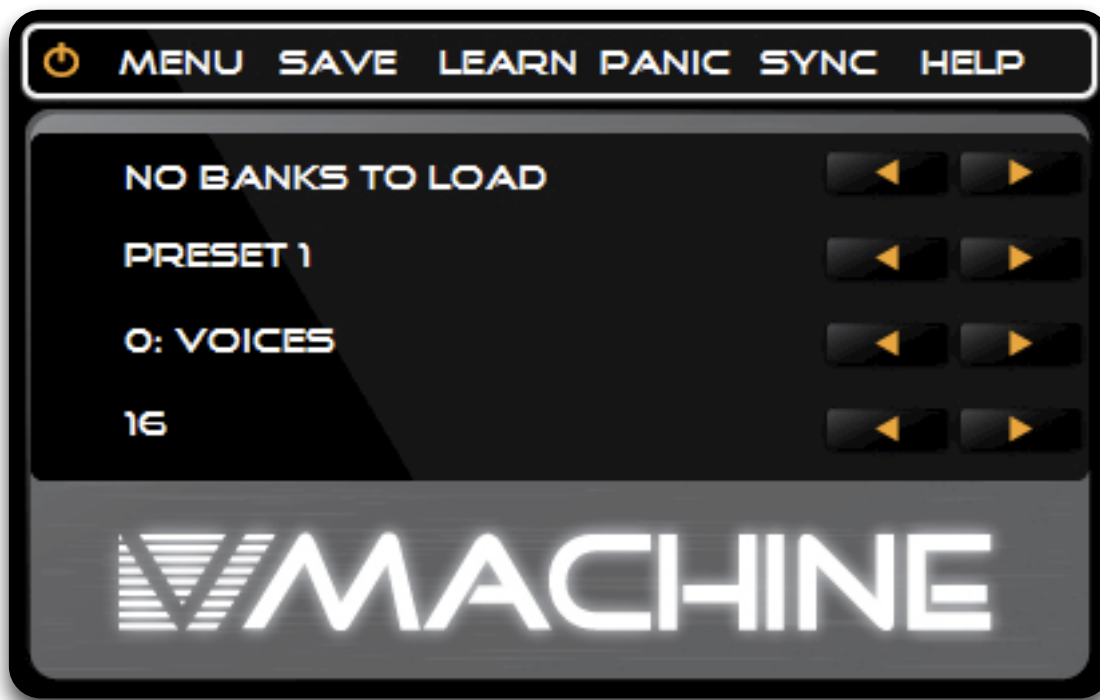


Figure 20: V-Machine Pane

12.5.1 Standard keypad browsing

The keypads on the V-Machine Pane respond just as expected. Browse up and down through Banks and Presets by mouse clicking the virtual Previous/Next virtual keypads.

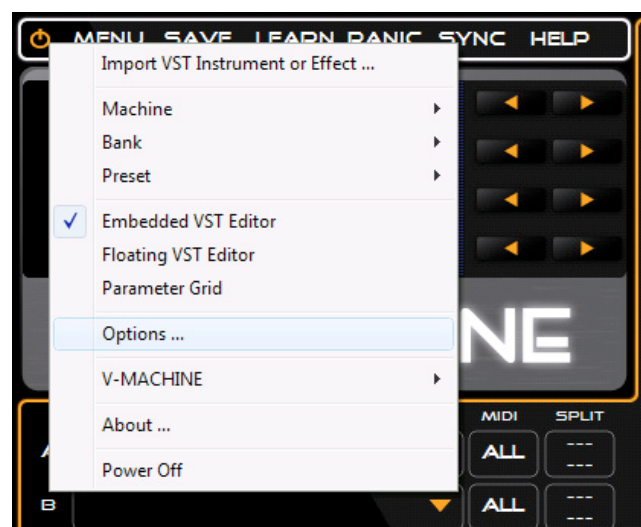
Parameters can be adjusted with results updated immediately in the Parameter Pane view (either Native VST GUI or Grid mode).

12.5.2 VFX Application Settings Menu

The VFX Application Settings Menu can be found in the top left corner of the V-Machine Pane. It is a small orange coloured icon.

Clicking on the Menu reveals a selection of options including:

- Plug-in Import wizard
- Memory management, Import/Export Banks, Presets, entire application memory
- Preference settings for viewing VST plug-in GUI/parameters
- Audio interface options/preferences
- V-Machine formatting
- Power down/quit application



12.5.3 V-Machine Global System Settings Menu icon

Mouse clicking the MENU icon allows you to navigate the available Global System Settings.

Just as on the real V-Machine hardware, the Global System Settings include:

- System Info - Firmware version number, Internal flash storage usage %
- LCD Display - Contrast setting
- Audio settings – Mono/Stereo output setting, Audio input gain adjustment
- Midi Options - Program change (Patch/Preset), Parameter feedback (On/Off)
- MIDI Control – Options to control the V-Machine hardware controls via MIDI
- System options – Delayed plug-in loading (On/Off)
- Clear – Clear (Preset/Bank/V-Machine)
- Delete plug-in – Delete selected plug-in from memory

Please refer to the Global System Settings operation as described in section 10.3.1 as the Menu items available in the VFX Application are exactly the same as those available on the V-Machine hardware.

Global System Settings can be navigated and adjusted as desired. All settings will be saved and transferred to the V-Machine during the synchronization process via USB or the 'Load/Save to Stick' synchronization method.

Special Note: Some Global System Settings are not applicable for use in the V-Machine Pane. For example the LCD contrast adjustment settings.

To exit the Global System Settings press the keypad button adjacent to the RETURN text displayed on the LCD Panel.

12.5.4 Save icon

Mouse clicking the SAVE icon activates the SAVE command.

Just as on the real V-Machine the SAVE command saves the current Master Saved State of the currently selected Preset. This function takes a snapshot of the current state of the Preset in its entirety.

12.5.5 Learn icon

Mouse clicking the LEARN icon activates the LEARN command.

The LEARN command is used for assigning plug-in parameters to external MIDI controllers. This is a great way to have hands-on control during performances.

This function operates the same way as on the real hardware V-Machine:

1. Make sure you have the plug-in parameter selected that you wish to assign to an external controller knob/fader. . If not, scroll through the plug-ins parameters (as per) until you find the parameter you wish to control
2. Mouse click the LEARN icon to activate the LEARN command
3. Move the controller knob/fader on your connected MIDI controller

The plug-in parameter has now been assigned to receive MIDI control messages from your chosen controller.

12.5.6 Panic icon

Mouse clicking the PANIC icon activates the MIDI PANIC command.

The MIDI PANIC command sends an “all notes off” MIDI command to the V-Machine engine. This may be necessary to eliminate troublesome “stuck MIDI notes” as can sometimes occur with various combinations of MIDI controllers and VSTi plug-ins.

12.5.7 Sync icon

Mouse clicking the SYNC icon activates synchronization if a V-Machine hardware unit is connected via USB.

Synchronization transfers all Global System Settings, Banks, Presets, plug-ins, and associated files (samples and configuration files) to the V-Machine. It is possible to synchronize Banks and Presets individually, or the entire V-Machine at one time.

Special Note: A dialog box will advise you during synchronization if the current state of the VFX Application exceeds the memory specifications of the 1GB of internal flash memory available on the V-Machine hardware. If this is the case you can use the ‘Export Machine’ method to a USB memory device (Flash/HD). This is especially true when transferring large sample libraries to the V-Machine. See section 12.10.1

Quick Tip: Synchronization over USB cable does not run at full speed as it transfers data using the MIDI system exclusive protocol. As such it is considerable faster to use the ‘Export Machine’ method with large data transfers.

12.5.8 Help icon

Mouse clicking the HELP icon opens the V-Machine FAQ page on the SM Pro Audio website.

12.6 Plug-in Pane

The Plug-in Pane is where you insert and configure plug-ins for use in your Presets.

A selection of tabs offers quick access to each of the main areas of the Mixers signal path. Select the appropriate channel, FX, or Main tab to view the corresponding Plug-in Slots.

The V-Machine's architecture allows for three plug-ins to be inserted into each section of the mixer; Each of the four (4) mixer channels, two (2) FX returns, and the Main output channel. VST instrument plug-ins can only be loaded into the first Plug-in Slot (Plug-in Slot A) of each Mixer channel.

Individual Plug-in Slots provide a Plug-in Name Display area, MIDI Channel selector, and a Plug-in Slot Edit Menu.

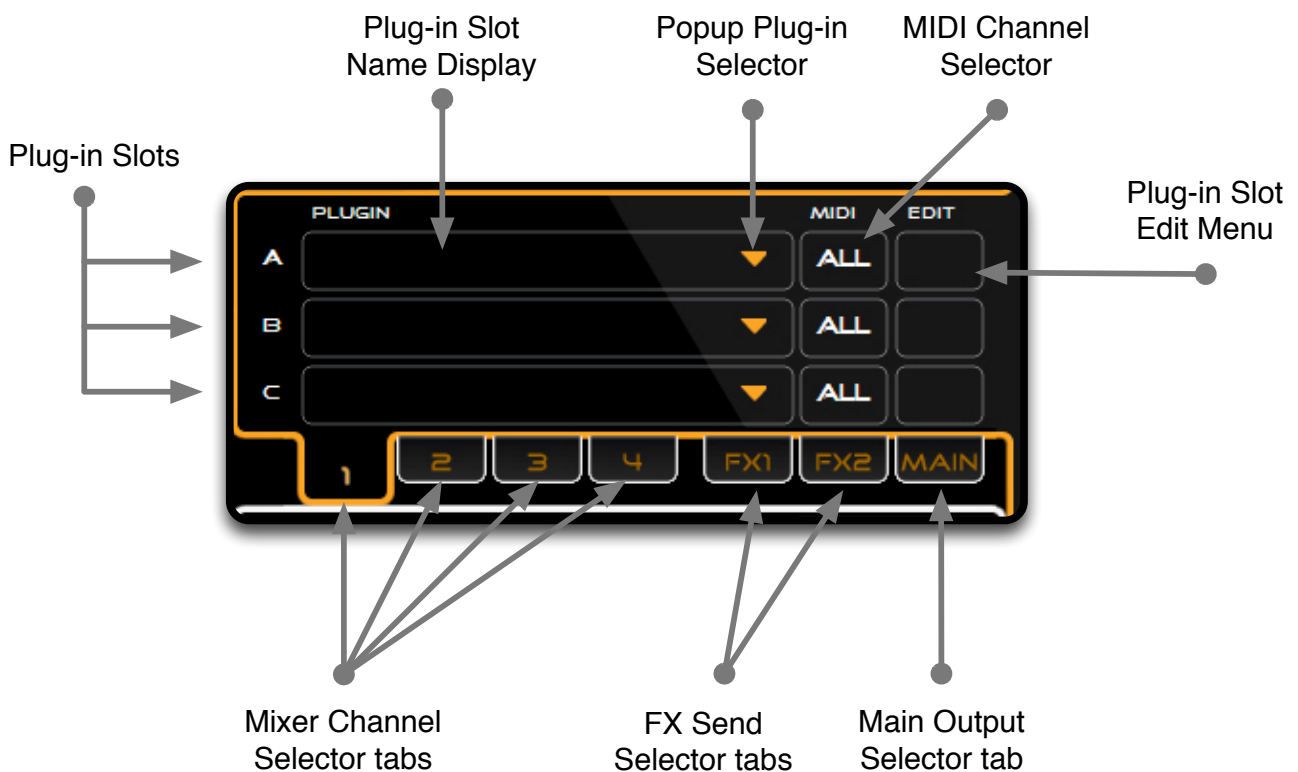


Figure 21: Plug-in Pane

12.6.1 Channel Plug-in Slot

Each Mixer channel features three (3) Plug-in Slots (A, B, and C). VST instrument plug-ins can only be loaded into Plug-in Slot A of each channel. The Plug-in Slot Name Display area shows the name of the currently loaded plug-in.

Audio is routed through each of the three (3) Plug-in Slots in order. The output of Plug-in Slot A is routed to the input of Plug-in Slot B, and then to Plug-in Slot C before continuing to the Main output.

Quick Tip: Clicking your mouse in the Plug-in Slot Name Display area will update the Parameter Pane with the plug-in's VST GUI or parameter list (depending on your View option setting) for the corresponding plug-in. You can then tweak parameters with greater ease on the Parameter Pane.

12.6.2 Popup Plug-in Selector

Clicking your mouse on the Popup Plug-in Selector displays a list of plug-ins that have been previously installed/imported for use by the VFX Application.

Select the desired plug-in from the list to load into the corresponding Plug-in Slot. To remove a plug-in from the Plug-in Slot select 'None' from the Popup Plug-in Selector menu.

12.6.3 Plug-in MIDI Channel Selector

Clicking your mouse on the MIDI Channel Selector adjacent to each Plug-in Slot lets you assign the desired MIDI channel you would like the plug-in to respond to.

MIDI channels 1-16 and an ALL MIDI Channel option are available.

12.6.4 Plug-in Slot Edit Menu

The Plug-in Slot Edit Menu offers High and Low MIDI note range assignments per individual Plug-in Slot.

High and LOW MIDI note range settings are important as they allow you to effectively create keyboard splits and layers. Different virtual instruments can be assigned to different or similar note ranges of the keyboard.

For example – Consider loading a Bass plug-in into Plug-in Slot A on channel one, and a Piano plug-in into Plug-in Slot A on channel two. Configure the High/Low MIDI note range of each of the plug-ins using the Plug-in Slot Edit Menu making sure the ranges do not intersect. This is a simple way to create a split keyboard layout.

To layer sounds within a Preset simply set each virtual instrument plug-ins High/Low MIDI note range to overlap at the point where the layer is desired.

12.6.5 Mixer Channel, FX Send, and Main Output Selector tabs

Selector tabs offer an intuitive way to access any of the 21 Plug-in Slots. Clicking on any of the tabs will update the Plug-in Pane accordingly.

The selector tabs are clearly labelled so you know which channels Plug-in Slots of are currently displayed.

Special Note: When selecting different tabs the Parameter Pane will update to display the parameters of the plug-in residing in Plug-in Slot A of the corresponding tab.

12.7 Mixer Pane

The Mixer Pane provides a graphical user interface designed for configuration of the Mixer settings. A simple channel strip layout displays visual feedback of channel Gain, Pan, and Send values. Typical mixer functions like input select, Mute, and Solo are also accessed from the Mixer Pane.

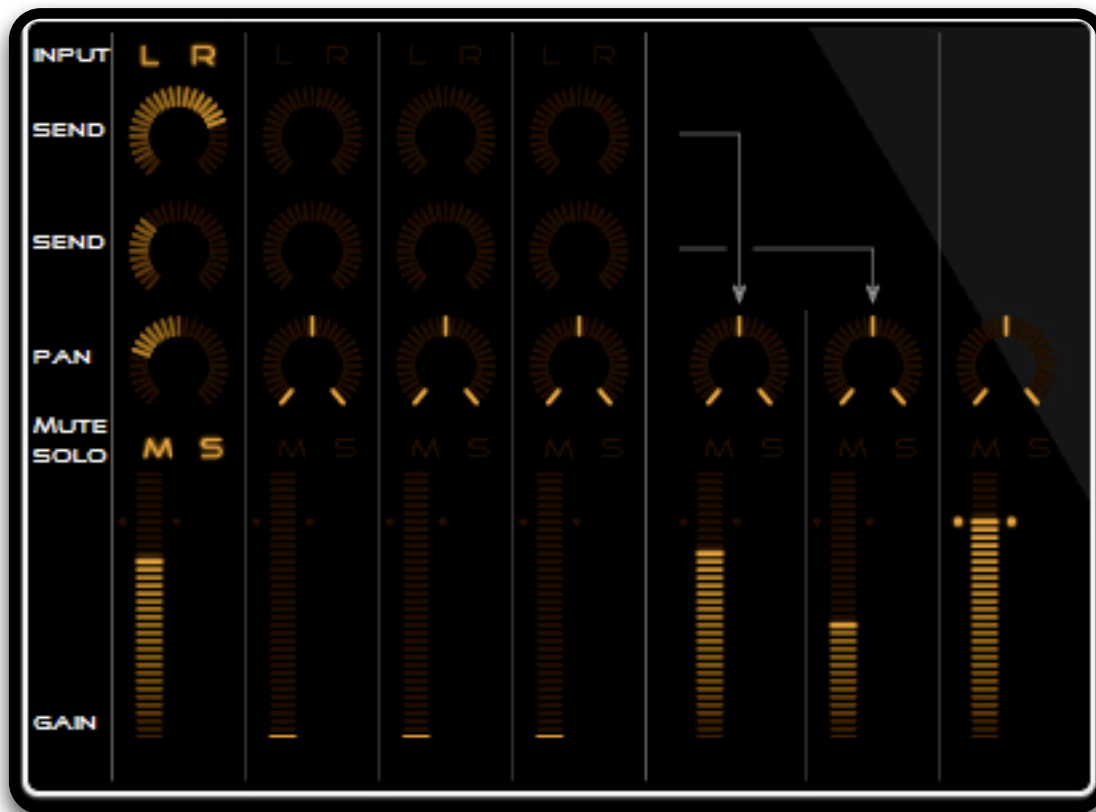


Figure 22: Mixer Pane

12.7.1 Channel Gain

Channel Gain controls are available for the four mixer channels, two (2) FX bus returns, and the stereo Master output channel.

Click and hold your mouse button down over the channel Gain control area and move up or down to adjust the corresponding channel Gain value. Release your mouse button when you have made the desired adjustment.

Peak indicators will illuminate next to the Channel Gain control area during playback when a signal has overloaded (the signal has clipped).

12.7.2 Channel Pan

The channel Pan icon allows the user to place the sound source in the stereo field. Adjustments can be made from extreme left to extreme right.

Click and hold your mouse button down over the Pan icon and move up or down to adjust the Pan value from left to right. Release your mouse button when you have made the desired adjustment.

12.7.3 Channel Mute

The channel Mute icon places the corresponding mixer channel into Mute mode. The Mute mode allows you to mute to one channel at a time while you listen and adjust others.

Click your mouse on a channels Mute icon to toggle the corresponding channels Mute function ON and OFF.

12.7.4 Channel Solo

The channel Solo icon places the corresponding mixer channel into Solo mode. The Solo mode allows you to single out a sound to make refine adjustments.

Click your mouse on a channels Solo icon to toggle the corresponding channels Solo function ON and OFF.

12.7.5 FX Sends 1 & 2

The FX send 1 & 2 sends audio signal to the FX1 & FX2 effects bus Plug-in Slots that are subsequently returned to the mix via the FX1 & FX2 return channels. Each FX bus features three (3) plug-in slots just like the other mixer channels.

Click and hold your mouse button down over the FX send icons and move up or down to adjust the Send value up and down. Release your mouse button when you have made the desired adjustment.

FX sends can be configured as either Pre or Post fader. By default each send is configured as Post fader. Right clicking your mouse on the corresponding Send icon will display a Pre and Post menu option. Select either Pre or Post as desired.

A pre-fader output is independent of the channel fader. The FX send output signal stays the same level no matter how the channel gain fader is set.

A post-fader output depends on the current channel gain fader level. Turning the fader down results in a reduced FX send output signal.

Quick Tip: This is great way to share VST plug-in effects between channels and thus minimize the impact on the CPU. For example this would be beneficial if you needed a similar reverb effect across a multi channel Preset sound creation.

12.7.6 L&R audio input selector

The Left and Right audio input selectors can be enabled to feed external audio source material into mixer channels for further processing.

Click your mouse on a channels L or R audio input selector icon to toggle the corresponding channels Left or Right audio input ON or OFF.

In the case of the VFX Application the corresponding channel will receive audio signal material from the inputs of the audio interface specified in your preference settings.

After you have saved and synchronized your Preset to the V-Machine audio signal material will be received at the V-Machines rear panel audio input.

Quick Tip: Disable the audio inputs for all channels unless required.

12.7.7 FX 1&2 return channels

The FX 1&2 return channels are provided to return signal to your mixer that you had sent through the FX bus plug-in Slots.

Click and hold your mouse button down over the FX 1 or FX 2 Gain control area and move up or down to adjust the channel Gain value. Release your mouse button when you have made the desired adjustment.

Peak indicators will illuminate next to the FX 1&2 Gain control area during playback when a signal has overloaded (the signal has clipped).

12.7.8 Main stereo output channel

A Main channel Gain control is available for adjusting the master volume of the configured Preset.

The Main channel is the last stage in the audio routing structure. It is the sum of the mixed audio signal.

The Main channel features three (3) Plug-in Slots. Main plug-in slots are well suited to effects such as equalizers and limiters that can add some polish to the final sound of your Preset.

Click and hold your mouse button down over the Main channel Gain control area and move up or down to adjust the corresponding channel Gain value. Release your mouse button when you have made the desired adjustment.

Quick Tips:

1. Peak indicators will illuminate next to Main Gain control area during playback when a signal has overloaded (the signal has clipped). Clipping is to be avoided at all times. If you synchronize Presets that clip in the VFX Application, they will also overdrive the V-Machine's DAC (digital audio converter) resulting in distorted audio output.
2. It may be useful to also place a limiter plug-in in the Main channel to protect against clipping!

12.8 Parameter Pane

The Parameter Pane has two selectable view options. It is designed to display parameters relating to the currently selected plug-in.

Native VST GUI Mode – Displays the actual VST graphical user interface for the selected plug-in. All parameter adjustments are updated and displayed in the V-Machine Pane (Parameter name and Value area).

Parameter Grid Mode – Displays a grid table outlining all parameters for the selected plug-in. All parameter adjustments are updated and displayed in the V-Machine Pane (Parameter name and Value area).

To switch display modes select the drop down menu from the VFX Application Menu and select your preferred option.

Quick Tips:

1. Click on any Plug-in Slot Name area to update the Parameter Pane window.
2. Switch to Parameter grid view to access the plug-in priority check list table. Priority plug-in parameters are moved to the top of the plug-in parameter list once synchronized to the V-Machine hardware. This is useful for keeping your favourite parameters readily accessible.

12.9 VFX Application file management

Developing good file management skills will enable you to create Banks of your favourite Presets efficiently. It can be very useful to organise and archive your sounds so that you don't end up having hundreds of Banks loaded into the application at the same time.

Tip: Creating Banks specifically for certain performances can make things very easy when synchronising to the V-Machine or saving the Application status (Export V-Machine) to a USB drive/stick.

12.9.1 Bank file management

File management features for Banks in the VFX Application involve such options as:

- Create New Bank
- Import Bank
- Export Bank
- Rename Bank
- Clear Bank
- Delete Bank
- Delete All Banks

Banks can be created, imported, exported, renamed, cleared, or deleted by clicking your mouse on the Bank name displayed in the V-Machine Pane and selecting the appropriate option from the menu. You can also access the Bank file management features from the VFX Application Settings Menu (see 12.5.2)

If your selection involved importing or exporting a Bank, a file browser or dialog box will appear allowing you to select the desired location of your choosing.

12.9.2 Preset file management

File management features for Presets in the VFX Application involve such options as:

- Create Preset
- Import Preset
- Export Preset
- Clone Preset
- Rename Preset
- Clear Preset

Exporting a Preset saves the current individual Preset configuration. It's a useful mechanism to store your individual Preset sounds prior to loading into another Bank, or even sharing configuration files with other users who use the same plug-ins.

Presets can be created, imported, exported, cloned, renamed, or cleared by clicking your mouse on the Preset name displayed in the V-Machine Pane and selecting the appropriate option from the menu. You can also access the Preset file management features from the VFX Application Settings Menu (see 12.5.2)

If your selection involved importing or exporting a Preset, a file browser or dialog box will appear allowing you to select the desired location of your choosing.

12.9.2.1 Create New Preset

New Presets are created automatically when browsing past the last Preset in the currently selected Bank. A new Preset will be made available and numbered in sequential order. Example, Preset 1, Preset 2, etc.

Once you have created a New Preset you can configure as desired, Rename and Save.

12.9.2.2 Cloning Presets

Cloning Presets can be a great way to quickly configure new Presets. Cloning duplicates all settings of another Preset including Plug-in selection, assignments, and mixer settings.

You can clone a Preset by clicking your mouse on the Preset name displayed in the V-Machine Pane and selecting the “Clone Preset From” option from the menu. You can also access the “Clone Preset From” option in the Preset file management features from the VFX Application Settings Menu.

Special Note: Preset files are stored in the .VFX file format. If you are interested, you can open a Preset file in a text editor like WordPad to see how the Preset file is put together. Understanding the Preset file format can be very useful in situations whereby you do not have access to a computer with the VFX Application installed, but wish to edit a Preset manually. Many features

12.10 Synchronization of data to the V-Machine for playback

Synchronization is the process where Banks, Presets, and Plug-ins prepared in the VFX Application (on your PC) are transferred to a USB memory device or directly to the V-Machine’s internal flash memory for playback.

There are two methods available to synchronize data from the VFX Application to the V-Machine hardware. Both methods will perform a similar task, however the ‘Export Machine’ may be preferable as it is both faster and also allows for synchronization and use of data on the V-Machine that is greater than 1GB in size.

Special Notes:

- The Export Machine method allows you to keep memory devices ready for “hot-swapping”. It can be useful in a live situation to keep ready made archives of specially prepared Banks and Presets on different Flash drives for hot-swapping!
- The V-Machine’s internal Flash memory is 1GB in size. As a small portion of the memory is dedicated to the hardware firmware and operating system, the full 1GB is not available for data synchronization.

12.10.1 Export Machine synchronization method

The Export V-Machine synchronization method involves connecting a compatible USB memory device (Flash/HD) into an available USB connector slot on your computer. Once the device has mounted successfully you can select the ‘Export Machine’ from the VFX Application Settings Menu.

Selecting the “Export Machine’ function will open a file browser where you can navigate to the mounted USB memory device (Flash/HD). Once selected, the VFX Application will ask you if

you really want to erase the existing V-Machine configuration on the memory device location and replace it with what you have running on the PC. If you confirm the VFX Application will proceed to save the full configuration to the selected device.

You can connect your memory device to the V-Machine at any time after the V-Machine has completed its boot process. All Banks, Presets, and plug-ins on your memory device will be available for playback. See 12.11 for more information.

Quick Tip: After Exporting to an external device you can browse the device from your computer to see the contents of the Banks and Presets. This can be useful if you wish to analyse the size of a particular Bank, Preset, or Plug-in. This kind of information can assist with your decision to either keep files on the memory device or transfer to the internal flash of the V-Machine as per section 12.11.1

12.10.2 USB synchronization method

Synchronization to a V-Machine hardware unit connected via USB is outlined in section 12.5.7 Sync icon.

Recommendations/Notes:

- Keep in mind that when using the USB synchronization method that you are limited to approximately 1GB of memory space as per the V-Machine's flash memory.
- The USB synchronization method is most useful for synchronizing individual Presets or small Banks that use Plug-ins that already reside on the V-Machines internal flash memory.
- The USB synchronization method is considerably slower than the Export Machine method. This is especially true with a large amount of data (eg. Plug-in sample libraries)

12.11 Using an external USB memory device with the V-Machine

Using USB memory devices (Flash/HD) with the V-Machine can increase the amount of Banks, Presets, and plug-ins accessible at any one time. They offer additional storage beyond the V-Machines internal memory capacity.

USB memory devices can be hot-swapped to the V-Machines USB ports at any time after the V-Machine has successfully completed its boot process. USB power enables use with small portable USB 2 HD's (tested up to 250GB).

Once the device has automatically mounted on the V-Machine, any Banks, Presets, and Plug-ins will be made available for playback. Scroll through the Banks on the V-Machine as usual to discover the newly available Banks.

All Banks accessed from external memory devices will be displayed on the V-Machine's LCD Panel embraced with brackets. For example – a Bank named 'Pianos' will be displayed as '(Pianos)' on the LCD.

12.11.1 Importing a Bank from a USB memory device to the Internal Flash

It is possible to import Banks from connected USB memory devices to the V-Machines internal Flash memory. This is useful if you have some favourite Presets that you would like to be available at all times in the V-Machine after boot up.

To import a Bank from a connected USB memory device:

- Enter the 'Global System Settings Menu' by pressing the to Menu buttons together (see section 10.3.1)
- Use the Bank Next/Previous buttons to scroll to the 'Menu: Import' option
- The dialog will prompt for confirmation to Import, or to decline and return to normal operation
- Make the selection as desired

If you have chosen to import the Bank, all Presets and associated Plug-ins will be transferred to the V-Machine's internal flash memory.

Special Note: If you do not have enough memory available on the internal Flash memory to import the selected Bank the import will not continue. It can be beneficial to check the amount of internal memory you have available using the Global System settings Menu 'Menu: System Info' option as per section 10.3.1.1 prior to attempting import.

12.12 Formatting and recovering a V-Machine

If for any reason you wish to delete all data from the V-Machine completely you can use the Format V-Machine function. This saves you having to delete all Banks and Plug-ins individually.

There are two ways to Format the V-Machine:

1. From the VFX Application – Go to the VFX Application Settings Menu and select V-Machine -> Format V-Machine.
2. From the V-Machine hardware – Enter the 'Global System Settings Menu' and browse to the 'Menu: Clear' option. Browse through the Clear options until you see 'Clear C-Machine'. Confirm.

Once the V-Machine has been cleared completely (formatted) you can then proceed to re-import or synchronise your Banks, Presets and Plug-ins of choice.

12.13 Uninstalling the VFX Application

To uninstall the VFX Application simply run the Windows add/remove program application from the control panel.

13 Walk through usage example – V-Machine Hardware

The following use cases describe interactions between the V-Machine and a user.

User: A Musician who has had no prior experience using and setting up a V-Machine.

Scenario: A Musician new to the V-Machine that has a few plug-ins previously installed.

1. The Musician connects a USB MIDI Keyboard, a pair of Headphones and the DC Adapter.
2. The Musician presses the power button.
3. The V-Machine displays a progress bar during initialisation.
4. When initialisation is complete, the V-Machine displays the name of default selected Bank, Preset, Parameter and Parameter Value.
5. The Musician plays some notes on the USB MIDI Keyboard and hears the resulting sound in Headphones.
6. The Musician explores the bundled Banks and Presets by pressing the corresponding next/previous buttons on the front panel. The displayed selected Bank and selected

Preset are updated accordingly and the resulting change in sound can be heard in the Headphones.

7. The Musician settles on a Preset but decides to experiment with some of the plug-in parameters. Using the select Previous Parameter and select Next Parameter keypads the Musician finds a parameter (eg cutoff) and presses Parameter Value Up until he is satisfied with the changed sound. The V-Machine updates the selected Parameter Value display accordingly.
8. The Musician decides they would like to be able to vary the “Cutoff” parameter during a performance by using one of the MIDI knobs on the USB MIDI Controller.
9. The Musician selects “Cutoff” as the Selected Parameter, presses MIDI Learn then adjusts a MIDI knob on the USB MIDI controller.
10. The V-Machine displays “Learn...” and waits until a MIDI CC message is received from the MIDI knob. The V-Machine then “learns” that this MIDI knob should control the “Cutoff” parameter.
11. From this point on, when the Musician adjusts the MIDI knob the V-Machine adjusts the “Cutoff” parameter updates the selected Parameter Value display accordingly.

14 V-Machine hardware - firmware updates

The V-Machine offers the ability to receive user initiated in-field firmware updates.

14.1 What is firmware?

Firmware is the computer program that is embedded into a hardware device. It includes all the instructions required for the V-Machine to operate successfully.

SM Pro Audio plans on offering regular firmware update releases to keep the V-Machine up to date with new features and to fix known operational bugs brought to our attention.

14.2 How to update the V-Machine firmware

There are two methods available to update the V-Machine’s firmware. Both methods involve downloading software from the SM Pro Audio website.

14.2.1 Direct computer firmware update utility method

The VFX Application software can update the firmware of your V-Machine directly over USB.

Each new version of the VFX Application software contains the most recent V-Machine hardware firmware. When a V-Machine is connected to the computer via USB the VFX Application will advise if a newer firmware is available for your hardware.

You have the option to update your hardware or not. If you choose to update at another time select ‘Update Firmware’ from the VFX Application Menu.

If you choose to update the firmware when advised of an update, you will be presented with a dialog box advising how to complete the firmware update.

Dialog box – To update the V-Machine firmware:

1. Power on the V-Machine while holding down both “Learn” buttons.
2. Wait until the V-Machine displays “V-Machine Update”.
3. Follow the prompt to update in the VFX Application.

The utility will update the firmware on the V-Machine and advise when complete.

14.2.2 USB Memory Stick firmware update utility method

This method requires a USB Memory Device (Flash/HD) and is available on request via the SM Pro Audio support site.

This method is for users who may need to recover their V-Machine completely including providing the original contents of the shipping unit (Banks, Presets, and Plug-ins included).

15 VFX Application - software updates

15.1 VFX Application updates

SM Pro Audio plans on offering regular updates to the VFX Application to incorporate new features, hardware firmware, and fix known operational bugs that are brought to our attention. VFX Application updates will be made available for download on the SM Pro Audio website.

16 Limitations

- The V-Machine is based on a custom operating system. VST plug-ins are intended to run on Microsoft's Windows operating system. Some VST plug-ins may not function correctly or at all on the V-Machine.
- Performance of the V-Machine and the VFX Application may be limited by the amount of RAM, non volatile memory, and CPU performance
- Display of VST custom GUIs may be limited in the VFX Application.
- Not all VST Plug-ins can be loaded onto the V-Machine by simply copying the .DLL files to a USB stick. Some VST plug-ins demand complex installation procedures. The V-Machine works best when VST plug-ins are packaged as per the VFX API. Support for plug-ins utilizing custom installation procedures may be limited or only supported in future updates of the VFX Application installation wizard.
- The USB-MIDI protocol used for communication between the V-Machine and the VFX Application has inherent throughput limitations due to the maximum packet size imposed by the standard. Copying large amounts of data from the VFX Application to the V-Machine may take some time. In such cases using the USB Stick to transfer plug-ins may be faster.

17 Safety and Care of your V-Machine

17.1 Safety instructions

- Retain all safety and operating instructions for future reference.
- Follow all installation and operating instructions.
- Unplug the V-Machine from the AC power outlet before cleaning.
- Use only a soft cloth for cleaning the exterior of the V-Machine.
- Do not expose the V-Machine to it water or moisture.
- Do not place the V-Machine on an unstable surface.
- Do not obstruct the air ventilation slots on the side of the V-Machine.
- Never place the V-Machine near or over a radiated heat source.

- Do not place the V-Machine in an enclosure without proper ventilation.
- Do not stack the V-Machine below other electronic devices.
- Only use the included plug-pack
- Never insert objects of any kind into the V-Machine through the ventilation slots

17.2 Temperature operation

The V-Machine operates at temperatures between 0° and 40°C.

18 Specifications

Specification are available on the SM Pro Audio website.

19 Warranty

The SM Pro Audio warranty covers all defects in material and workmanship for a period of 12 months from the date of original purchase. This warranty does not cover defects due to abuse, faulty connections or operation under other than specified conditions. Warranty coverage is voided if the device is repaired by unauthorized persons or tampered with in any way. SM Pro Audio reserves the right to refuse all warranty claims if the product was not sold from an Authorised Dealer to the respective end customer.

This warranty is limited to replacement or repair of the product. It does not limit the customers' rights according to the current product liability regulations of the country where the product was purchased.

The warranty is only valid if the customer has registered the product via a valid SM Pro Audio registration method as outlined below.

Electronic registration – Register the product purchase online at <http://www.smproaudio.com>

Postal registration – Print the PDF product warranty registration card included on the “Getting Stated CD” and post to your closest SM Pro Audio distributor as listed below.

SM Pro Audio	Kaysound Imports	tt audio GmbH
W25, 26-28 Roberna St	2165 46th Ave	Alfred Krupp Str. 5
Moorabbin 3189	Lachine, Quebec	48291 Telgte
Melbourne, Victoria	Canada H8T 2P1	Germany
Australia		

The product warranty registration form will request such purchase details including serial no., date of sale, Dealer name, as well as name and address of the customer.

If a defect occurs during the warranty period, contact the point of purchase or write an email to warranty@smproaudio.com.

The V-Machine can only be returned once approval has been sought and the following conditions are met:

1. The unit is returned in its original package.
2. A detailed description of the defect and a copy of the purchase receipt are included.

All shipping costs are the responsibility of the end user.

20 Trademarks

V-Machine and Powered by VFX are trademarks of VFX Systems Pty Ltd, Australia.

ASIO and VST are trademarks of Steinberg Soft- und Hardware GmbH.

Windows is a registered trademark of Microsoft Corporation in the United States and other countries.

Mac, Mac OS and Macintosh are trademarks of Apple.

The Kensington lock is a registered trademark of Kensington.

Other company and product names may be trademarks of their respective owners.

21 FCC and CE Regulation

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution: Any changes or modifications in construction of this device with are not expressly approved by the party responsible for compliance, could void the user's authority to operate equipment.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. If necessary, consult an experienced radio/television technician for additional suggestions.

Special Note: In the presence of electromagnetic interference, the V-Machine may cease to function. Cycle the power off and on to resume operation.

22 Correspondence

For technical support, warranty claims, and all other enquiries, please contact your local SM Pro Audio distributor.

Contact details of all SM Pro Audio distributors list can be found online at <http://www.smproaudio.com>