# DOCUMENTAZIONE

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# ALESIS
# MidiVerb 4


# Reference Manual

# Introduction

Thank you for purchasing the Alesis MidiVerb 4 Multi Effects Processor. To take full advantage of the MidiVerb 4's functions, and to enjoy long and trouble-free use, please read this user's manual carefully.

# How To Use This Manual

This manual is divided into the following sections describing the various modes of the MidiVerb 4. Though we recommend you take time to read through the entire manual once carefully, those having general knowledge about effects devices should use the table of contents to reference specific functions.

**Chapter 1: Your First Session with the MidiVerb 4.** A basic introduction to getting the unit up and running, auditioning the factory Programs, adjusting levels, comparing and storing edited Programs.

**Chapter 2: Connections.** Deals with the necessary preparation before using, including connections to other components, such as instruments, mixing consoles, patchbays, and multitrack recorders.

**Chapter 3: Overview of Effects.** A detailed look at the signal processing capabilities of the MidiVerb 4 and the concept of multi-effect programming.

**Chapter 4: Editing Programs.** A guided tour for programming typical single and multi-effect applications.

**Chapter 5: Description of Controls.** A "dictionary" of all buttons, connectors, and parameters. Use this chapter as a quick reference guide when searching for specific information.

**Chapter 6: MIDI Applications.** This chapter discusses the various MIDI functions, such as recalling Programs, realtime modulation of parameters, and Sysex data transfer.

**Chapter 7: Trouble-Shooting.** Contains the Trouble-shooting Index, maintenance and service information, and MIDI implementation chart.

**Appendices.** MIDI basics, trouble-shooting, maintenance and service information, MIDI Implementation Chart and an Index.

## Conventions

The buttons, knobs, and rear panel connectors are referred to in this manual just as their names appear on the MidiVerb 4, using all capital letters and in brackets (*Example:* [PROG] button, [VALUE] Knob, etc.). When text in the MidiVerb 4's display is quoted, it is indicated using special typeface (*Example:* 00 to127, DELAY}REVERB, etc.).

✪ *When something important appears in the manual, an icon (like the one on the left) will appear in the left margin. This symbol indicates that this information is vital when operating the MidiVerb 4.*

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CHAPTER 1

# YOUR FIRST SESSION WITH THE MIDIVERB 4

## Unpacking and Inspection

Your MidiVerb 4 was packed carefully at the factory, and the shipping carton was designed to protect the unit during shipping. Please retain this container in the highly unlikely event that you need to return the MidiVerb 4 for servicing.

The shipping carton should contain the following items:

- This instruction manual
- Alesis MidiVerb 4 with the same serial number as shown on shipping carton
- AC Power Supply Adapter
- Alesis warranty card

★ *It is important to register your purchase; if you have not already filled out your warranty card and mailed it back to Alesis, please take the time to do so now.*

## Basic Connections

The MidiVerb 4 is designed to accommodate a number of applications, whether you are connecting an instrument directly into it, or connecting it with a mixing console. Briefly described here are the basic connections to get you up and running quickly. For more information on connections, please refer to Chapter 2.

- **Mono In, Mono or Stereo Out.** Connect a mono cord to the [LEFT/CH.1] INPUT of the MidiVerb 4 from a mono source (*Note:* the  [LEFT/CH.1] INPUT is normalled to the [RIGHT/CH.2] INPUT). Connect another mono cord from the [LEFT/CH.1] OUTPUT of the MidiVerb 4 to an amplification system or mixer input. Additionally, you could connect a second mono cord to the [RIGHT/CH.2] OUTPUT for use with a stereo amplification system, or two mixer inputs.

- **Stereo.** Connect two mono cords to the [LEFT/CH.1] & [RIGHT/CH.2] INPUTS of the MidiVerb 4 from a stereo source , and two mono cords from the OUTPUTS of the MidiVerb 4 to a stereo amplification system or two mixer inputs.
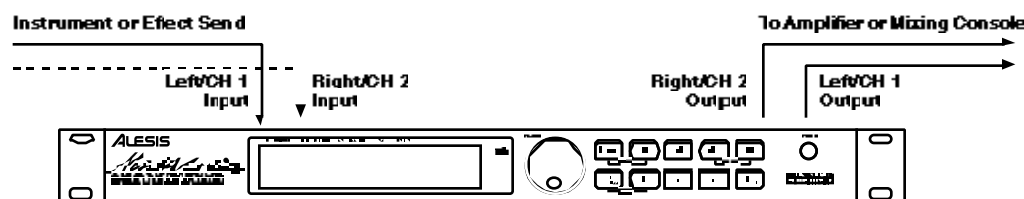


If connecting to a mixing console's aux sends/returns, you will want to adjust the output mix of each Program so that the MidiVerb 4 outputs only wet (effected) signal. This can be done globally for all Programs simultaneously (see page 11).

## Powering Up

After making your connections, turn on the system's power using this procedure:

① Before turning on the MidiVerb 4's power, check the following items:

   • Have all connections been made correctly?
   • Are the volume controls of the amplifier or mixer turned down?

② Turn on the [POWER] switch on the front panel of the MidiVerb 4.
*Upon power-up, the display will briefly read "ALESIS MIDIVERB 4", and will then display the last selected Program Number (00–127, PRESET or USER Bank), and the* [PROG] *button's LED will be lit.*

③ Turn on the power of the amplifier/mixer, and adjust the volume.

# Setting Levels

Proper setting of the input and output levels is crucial in order to achieve the maximum signal-to-noise ratio. As a good rule of thumb, it is always best to set both input and output level controls at 3/4 or 75% of full. This will decrease the possibility of overload distortion and keep the amount of background noise to a minimum.

## Automatic Input Level Settings

The MidiVerb 4 has the unique ability to automatically select the proper levels for the inputs based on the signal you are routing to it. In other words, you tell the it to auto-adjust levels, and then feed it a signal (play your guitar or keyboard, or playback tape); the MidiVerb 4 does the rest.

To auto-adjust the input levels:

① Connect your audio source to the MidiVerb's input(s), as described in Chapter 2.

② Simultaneously press both [INPUT] and [OUTPUT] buttons.
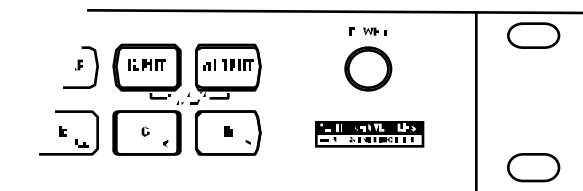


③ Feed signal to the MidiVerb 4's input(s).
*The Auto Input function will "listen" to the signal at its input(s) for about 5 seconds, and adjust the input levels for both channels.*

*Note:* If five seconds of "listening" isn't long enough, you can extend this time indefinitely by using a footswitch. You can use any momentary footswitch connected to the [FOOTSWITCH] jack on the rear panel. Simply hold down the footswitch once the Auto Input function has been activated. For more information, see Chapter 2.

# What's in the Display?

When the MidiVerb 4 is first turned on, the display will look something like this:



The MidiVerb 4's display is divided into 5 sections:

① __Program Number__.  MidiVerb 4 Programs are numbered from 00 to 127.  In this example the Program selected is number 01.

② __Bank__.  The MidiVerb 4 has two Banks of 128 Programs:  the Preset Bank and User Bank.  The display will either say "PRESET" or "USER", depending on the current Bank  In this example we are in the Preset Bank.

③ __Program Name__.  Each Program has its own eight character name.  This one is called Lrg Hall.  The 128 User Programs can be renamed; the 128 Preset Programs are pre-programmed at the factory and cannot be renamed.

④ __Configuration__.  This tells us which effects are used by this Program, the order in which our input signal(s) will pass through them, and whether this is a Stereo or Dual Configuration (more about Configurations in Chapter 3).  The Configuration for this Program is called CONCERT HALL. Once a Program has been edited, the Configuration's name in this display will appear in lower case letters.

⑤ __Level Meters__.  These peak style meters monitor the signal strength of the unprocessed *inputs*, and are used in much the same way as the level meters on a standard tape recorder.  The meters shown in this example are idle, indicating that there is no input signal activity. Normally, these are labeled as "L" and "R". However, when the selected Program uses a Dual type Configuration (two mono effects), these will be labeled as "CH1" and "CH2". For more information on Dual Configurations, see Chapter 3.

# Auditioning Internal Programs

The MidiVerb 4 comes with 128 Programs in a Preset bank, plus another 128 Programs in the User bank. These Programs represent the wide range of applications for which the MidiVerb 4 is suited.

To audition the internal effect Programs:

① Press the [PROG] button.
   *The* [PROG] *button will light.*

② Turn the [VALUE] knob to scroll through the 128 Preset Programs and 128 User Programs.

## Switching Between Preset and User Banks

To instantly switch between the Preset and User banks, press the [PROG] button. Each time you press the [PROG] button, the MidiVerb 4 will toggle back and forth between the Preset and User banks. The display will indicate this by reading either "PRESET" or "USER" next to the Program number.

You can also switch between banks when scrolling through the Programs with the [VALUE] knob. When you scroll clockwise past Preset 127, the display will "roll-over" to User 00. Likewise, if you turn back the [VALUE] knob counterclockwise past User 00, the display will move to Preset 127.

However, if you turn back the [VALUE] knob counterclockwise past Preset 00, the display will not wrap around back to User 127 but instead will remain at Preset 00. This is because Preset 00 is setup as a "Bypass Program" (see below). So, if you are looking for the Bypass Program, you can scroll the [VALUE] knob counterclockwise without worrying about passing it, since the display will automatically stop when it reaches Preset 00.

## Bypass Program/Preset 00

Preset 00 is setup as a "Bypass Program", meaning that the dry, uneffected signal being sent to the MidiVerb 4's input(s) is passing through and none of the effect's output can be heard. Use this Program whenever you want to only hear the direct signal of the MidiVerb 4's inputs routed to its outputs for reference purposes. This is not to be confused with Bypass mode, explained later in this chapter.

You can select Preset 00 not only from the front panel using the [VALUE] knob, but also by using a footswitch connected to the [FOOTSWITCH] jack (if the [FOOTSWITCH] is set to the Advance function), or by sending a MIDI program change message from a device connected to the [MIDI IN]connector. For more information about the [FOOTSWITCH] jack and [MIDI IN] connector, see Chapter 2. For more information about MIDI program change messages, see Chapter 6.

# Changing Effect Settings

When you dial up a Program, its *Configuration* is shown in the display to the right of the Program's name.

| RoomVerb | REAL ROOM |
| --- | --- |

The Configuration will either be a single reverb type effect (as in the example above), or a combination of two or three effects (like Reverb+Delay, or Chorus>Delay> Reverb). Once you have identified what effects are used in the Program's Configuration, you can then find the effect parameters more easily.

To edit a Program's effect settings, you must first enter Edit mode. This is done by pressing either the [PAGE] button or any one of the [A], [B], [C] or [D] buttons, as long as the [PROG] button is lit (*Note:* Pressing these buttons in other modes performs different functions). Once in Edit mode, the display will look something like this:
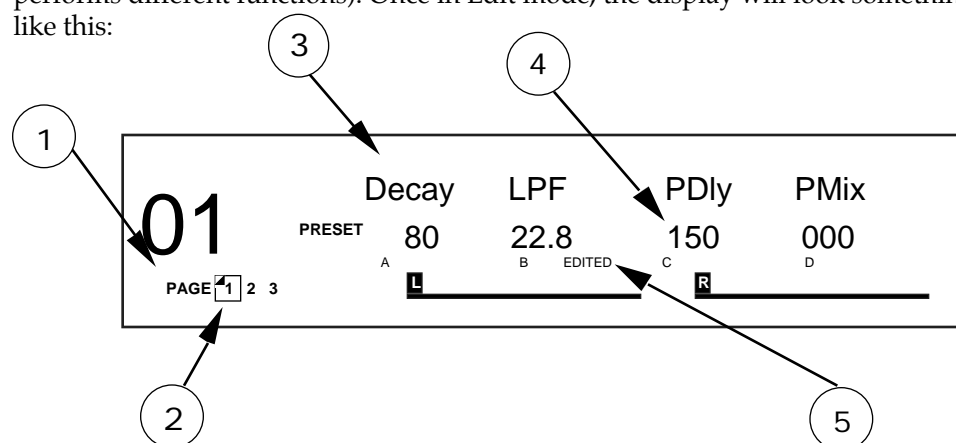


① Page Numbers . Depending on the Configuration, there will be up to four pages available in Edit mode. In this example, only three pages are available.

② Selected Page . The currently selected page will be indicated by a box around its number. In this example, page 1 is currently selected. Each time you press the [PAGE] button, the display will advance to the next page.

③ Parameter Name Strip . Each page in Edit mode contains up to four parameters. whose names will appear at the top of the display, above their value settings.

④ Parameter Values and Bar Graphs . Each parameter is shown with both a numerical value and a bargraph. As you adjust a parameter, both its numerical value and bargraph will change in relation to the [VALUE] knob's position. The type of units a parameter uses will be shown as well (dB, mSec, kHz, etc.).

⑤ A, B, C, D and EDITED Indicators. Each parameter in the selected page is designated by a letter (A, B, C or D), which indicates which button ([A], [B], [C] or [D]) should be pressed to select the desired parameter for editing. Once a parameter has been edited, the word "EDITED" will appear below it.

To edit effect parameters:

① Press the [PROG] button.
*The* [PROG] *button will light.*

② Press the [PAGE] button to enter Edit mode.
*This selects the first page of effect parameters, if you are editing the Program for the first time. There are usually two or more pages available in Edit mode, depending on the Program's Configuration. The exact number of pages available will be indicated by the numbers illuminated in the bottom-left corner of the display. Repeatedly pressing* [PAGE] *advances through the available pages. The currently selected page will have a box around its number. Each page contains up to four parameters, which are labeled with abbreviated names directly above each.*

③ Press one of the [A], [B], [C] or [D] buttons to select a parameter in the currently selected display page.
*The parameter will flash indicating it is selected for editing.*

④ Turn the [VALUE] knob to edit the selected parameter's value.
*Once you have modified a parameter's value, the word "*EDITED*" will appear directly beneath it. If you change the value back to its original setting, the word "*EDITED*" disappears.*

★ *Any changes you make are temporary, until you store those changes into memory. If the Program you are editing is in the Preset bank, you must save the changes you've made to a location in the User bank. If you recall another Program before storing, your changes will be lost. For more information , see "Storing Edited Programs", later in this chapter. For more about editing effects parameters, see Chapter 4.*

## Using Online Help

The MidiVerb 4 has built-in online help to assist you in identifying parameter functions from the display, without having to look things up in this manual. Once you have accessed Edit mode (see previous section), you can select any of the parameters shown in the display by pressing the corresponding button ([A], [B], [C] or [D]). However, by *holding* one of these buttons for more than one second, the upper display will provide a more detailed description of the selected parameter.

For example, if we were still editing Program 01 (see previous page), holding the [B] button for more then one second would reveal the name of the "B" parameter:

INPUT LOWPASS FILTER

Once the button is released, the display reverts back to normal.

Additionally, holding the [EDIT/PAGE] button while in Edit mode will display the page and/or parameter set you are looking at. For example, if the selected Program you are editing uses the Pitch:Delay Configuration, holding the [EDIT/PAGE] button while page 1 is selected will display the following message:

CH 1 PITCH PARAMETER

## Adjusting Effects Mix Levels

Whether a Program contains a single effect or two or three effects, you can adjust each effect's *mix* to obtain a desirable balance between the original, uneffected signal and each effect's output. The *Mix* parameter (or "wet/dry mix") for each effect is found along with the other effect parameters in Edit mode. To make things easier, the Mix parameter has been consistently placed at the far right of the display page (this corresponds to the [D] button), on the last page of each effect. Since each effect has a different number of edit pages, the Mix parameter will not always appear on the same page for each Program. Keep in mind that if a Program uses more than one effect, each effect will have its own Mix parameter.

① Press the [PROG] button.
*The* [PROG] *button will light.*

② Press the [PAGE] button to enter Edit mode.
*Look at the far right side of the display for the word* MIX *(or some variation that identifies a specific effect's mix parameter; i.e.* CMIX = *Chorus Mix,* RMIX = *Reverb Mix, etc.). If it doesn't appear, press the* [PAGE] *button repeatedly until you find it. To be sure the Mix parameter in the display is the one you want, use the built-in Online Help function (see previous section) by holding the* [D] *button for more than one second.*

③ Press the [D] button to select the Mix parameter.
*The parameter will flash indicating it is selected for editing.*

④ Turn the [VALUE] knob to edit the Mix parameter's value.
*The Mix parameter's range is 000-100å.*

# Dry Defeat

When connecting the MidiVerb 4 to a mixing console's aux sends and returns, it is generally desirable to remove the direct (dry) signal from the outputs of the MidiVerb 4 so that its output signal contains only the effected (wet) signal. The dry signal may then be combined at the mixing console with the returning wet signal. The MidiVerb 4's Dry Defeat function removes the direct signal globally from all Programs simultaneously.

① Press [UTIL].
*The* [UTIL] *button will  light.*

② Press [EDIT] until page 1 is selected.
*The display will read:*

| Footswitch  Dry Defeat |
| --- |

③ Press [D] to toggle the Dry Defeat parameter ON or OFF.

When Dry Defeat is enabled, the Mix parameter of each effect (described above) will read "- - -" to indicate it cannot be edited (it is fixed at 100%). *Exception:* The RealRoom->Flange Configuration will have its Reverb Mix parameter disabled (set at 100%), but the Flange effect's Mix will still be available for editing.

# Comparing an Edited Program to its Original Settings

The left side of the display always indicates the currently selected Program. If the [PROG] button is pressed once, the currently selected Program's name and the Configuration being used both appear in the upper part of the display.

Once a Program has been edited, the Configuration's name will appear in lower case letters. With multi-effect Configurations (where there is more than one effect being used) and only one effect has been edited, the edited effect's name will appear in lower case letters. *Example:* If using the Configuration DELAY>REVERB and you have edited only the Delay's parameters, the display will read "delay>REVERB" if the [PROG] button is pressed. This indicates that one or more of the Delay's parameters have been altered, but the Reverb's parameters have not been changed.

By pressing both [PAGE] and [A] simultaneously, you can temporarily access the original version of the Program you are editing — that is, the last Program saved to the currently selected location number. This allows you to compare the differences created by changing parameters in the edited Program.

While you are in Compare mode, the display will flash "COMPARING EDITS". Pressing any button exits Compare mode; the display will return to its original state and the edited version of the Program will be accessed. You can go in and out of Compare mode as often as you like, as long as the display indicates that you have edited the Program in some way (i.e., if the Program hasn't been edited yet, there is nothing to compare it to, right?).

# Restoring an Edited Program to its Original Settings

If you decide to abort the changes you have made to an edited Program, this can be done in two easy steps:

① Press [PROG].
   *The display will exit Edit mode.*

② Turn the [VALUE] knob to select a different Program, then turn it back the opposite direction to re-select the original Program.
   *This recalls the stored version of the selected Program number, and the Configuration name in the display returns to all upper case letters. Consequently, any changes you had made to the Program before turning the* [VALUE] *knob would be lost. That is, unless you stored the edited Program into memory first.*

# Storing Edited Programs

Once you are satisfied with the changes you have made to an edited Program, or are creating a new Program from scratch, you will need to store your edited Program back into memory. The MidiVerb 4 will store the currently selected Program in non-volatile memory (which is backed-up when the unit is turned off). If you edit a Program, the changes you made will still be there the next time you switch on the unit, even if you hadn't stored the edited Program into memory yet. However, if you select another Program from memory **before** storing the edited Program, your changes will be lost forever.

★   *Although the MidiVerb 4 has two banks (Preset and User), you can only store Programs in the User bank.*

To store an edited Program:

① Press [STORE].
*The* [STORE] *button will flash, and the display will read:*

| Store as <u>XXX</u> (nnnnnnnn)? |
|---|

*…whereas XXX is a Program location number from 00—127 in the User bank, and nnnnnnnn is the Program's name.*

② Use the [VALUE] knob to select which location (00—127) you wish to store the selected Program into.
*You can only store Programs into the User bank. If you select a Program from the Preset bank and store it, you will automatically be taken into the User bank.*

③ If desired, change the Program's name by pressing [A/NAME].
*This moves the cursor from the location number field to the first character in the Program's name. Turn the* [VALUE] *knob to scroll through the list of available characters. Use the* [C/<] *and* [D/>] *buttons to move the cursor's position left and right, respectively. If you need to move the cursor back to the Program number field to select a different location to store to, press* [B/ESC].

*Note:* To abort this operation — and thereby not store the edited Program — simply press any other button except [STORE].

④ Press [STORE] again.
*The* [STORE] *button's LED will momentarily flash quickly, while the display reads:*

| Program nnnnnnnn Stored! |
|---|

*…whereby nnnnnnnn is the Program's name. The* [STORE] *button will turn off and the display will revert to wherever it was before* [STORE] *was pressed for the first time.*

# Bypassing Effects

At any time you can bypass the effects, thereby allowing the direct signal to pass through the MidiVerb 4 unchanged. This can be done in two ways:

- by simultaneously pressing both the [PROG] and [UTIL] buttons on the front panel; or,

- by connecting a footswitch to the [FOOTSWITCH] jack and pressing the footswitch. This requires that the [FOOTSWITCH] jack be set to trigger the Bypass function, which is located among the UTILity functions.

Each time the [PROG] and [UTIL] buttons are pressed, or the footswitch connected to the [FOOTSWITCH] jack is pressed, Bypass mode is toggled on and off again. When Bypass mode is turned on, the [BYPASS] LED will be lit.

To set the [FOOTSWITCH] jack to the Bypass function:

① Press [UTIL].
*The* [UTIL] *button will light.*

② Press [EDIT/PAGE] until page 1 is selected.
*The display will read:*

```
Footswitch  Dry Defeat
```

③ Press [B] to select the Footswitch parameter.

④ Turn the [VALUE] knob to set the Footswitch parameter to Bypass mode (bYP).

# CONNECTIONS

## AC Power Hookup

The MidiVerb 4 comes with a power adapter suitable for the voltage of the country it is shipped to (either 110 or 220V, 50 or 60 Hz).

With the MidiVerb 4 off, plug the small end of the power adapter cord into MidiVerb 4's [POWER] socket and the male (plug) end into a source of AC power. It's good practice to not turn the MidiVerb 4 on until all other cables are hooked up.

✪ *Alesis cannot be responsible for problems caused by using the MidiVerb 4 or any associated equipment with improper AC wiring.*

### Line Conditioners and Protectors

Although the MidiVerb 4 is designed to tolerate typical voltage variations, in today's world the voltage coming from the AC line may contain spikes or transients that can possibly stress your gear and, over time, cause a failure. There are three main ways to protect against this, listed in ascending order of cost and complexity:

- Line spike/surge protectors. Relatively inexpensive, these are designed to protect against strong surges and spikes, acting somewhat like fuses in that they need to be replaced if they've been hit by an extremely strong spike.

- Line filters. These generally combine spike/surge protection with filters that remove some line noise (dimmer hash, transients from other appliances, etc.).

- Uninterruptible power supply (UPS). This is the most sophisticated option. A UPS provides power even if the AC power line fails completely. Intended for computer applications, a UPS allows you to complete an orderly shutdown of a computer system in the event of a power outage, and the isolation it provides from the power line minimizes all forms of interference—spikes, noise, etc.

## Audio Connections

The connections between the MidiVerb 4 and your studio are your music's lifeline, so use only high quality cables. These should be low-capacitance shielded cables with a stranded (not solid) internal conductor and a low-resistance shield. Although quality cables cost more, they do make a difference. Route cables to the MidiVerb 4 correctly by observing the following precautions:

- Do not bundle audio cables with AC power cords.

- Avoid running audio cables near sources of electromagnetic interference such as transformers, monitors, computers, etc.

- Never unplug a cable by pulling on the wire itself. Always unplug by firmly grasping the body of the plug and pulling directly outward.

- Do not place cables where they can be stepped on. Stepping on a cable may not cause immediate damage, but it can compress the insulation between the center conductor and shield (degrading performance), or reduce the cable's reliability.

- Avoid twisting the cable or having it make sharp, right angle turns.

- Although Alesis does not endorse any specific product, chemicals such as Tweek and Cramolin, when applied to electrical connectors, are claimed to improve the electrical contact between connectors.

## Typical Applications

The analog audio inputs and outputs are typically used in one of three ways:

- from one or two effect/aux send outputs of a mixer, and out to the effect return inputs of the mixer; or,

- from a line-level instrument (like a guitar or keyboard with either a mono or stereo output), and out to an amplifier or mixer input; or,

- from the stereo buss outputs of a mixer to a mix-down tape machine or amplifier.

When used with a mono source, the MidiVerb 4 is placed between the source and the mixer/amplifier. Although the source may be mono, both the [LEFT/CH.1] and [RIGHT/CH.2] outputs can be connected to the inputs of a mixer/amplifier if stereo processing effects are desired.

Alternatively, you could use the *inserts* on your mixer to "patch in" only the left or right channel of the MidiVerb 4. If using the effect sends of a mixer, you have the advantage of sending any of the mixer's input channels to the MidiVerb 4's input(s), and have control over the level of each channel being sent.

These applications are outlined and illustrated in detail on the following pages.

## Input Jack Wiring

The MidiVerb 4's [LEFT/CH.1] INPUT jack is normalled to the [RIGHT/CH.2] INPUT. This means that if you only connect a single mono cable to the [LEFT/CH.1] INPUT jack, it will also be routed to the [RIGHT/CH.2] INPUT. However, if anything is connected to the [RIGHT/CH.2] INPUT jack, this normalized connection will be broken; therefore the [LEFT/CH.1] INPUT jack feeds only the [LEFT/CH.1] INPUT, and the [RIGHT/CH.2] INPUT jack feeds only the [RIGHT/CH.2] INPUT. Also, the [RIGHT/CH.2] INPUT jack is **NOT** normalled to the [LEFT/CH.1] INPUT.
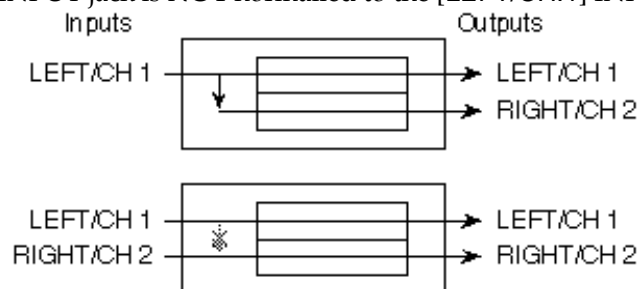


## Interfacing Directly with Instruments

⭐ *When connecting audio cables and/or turning power on and off, make sure that all devices in your system are turned off and the volume controls are turned down.*

The MidiVerb 4 has two 1/4" unbalanced inputs and two 1/4" unbalanced outputs. These provide three different (analog) audio hookup options:

•   **Mono.** Connect a mono cord to the [LEFT/CH.1] INPUT of the MidiVerb 4 from a mono source, and another mono cord from the [LEFT/CH.1] output of the MidiVerb 4 to an amplification system or mixer input.
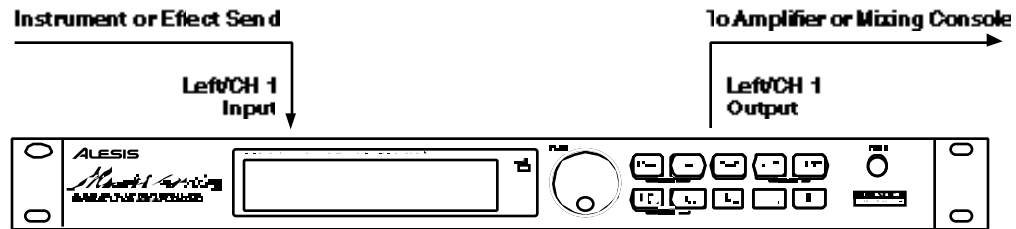


•   **Mono In, Stereo Out.** While still using a mono input, you could connect two mono cords to the [LEFT/CH.1] and [RIGHT/CH.2] outputs of the MidiVerb 4 to a stereo amplification system or two mixer inputs.
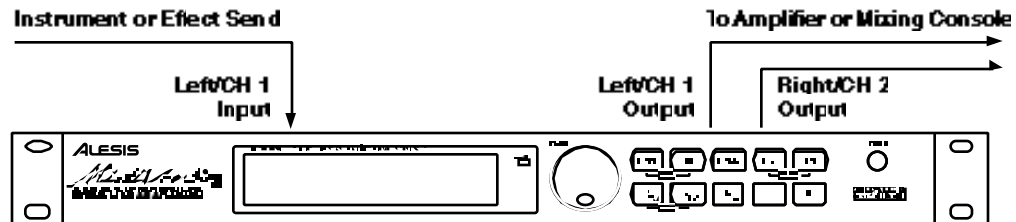


•   **Dual Mono.** Connect two mono cords to the [LEFT/CH.1] and [RIGHT/CH.2] inputs of the MidiVerb 4 from two mono sources , and two other mono cords from the [LEFT/CH.1] and [RIGHT/CH.2] outputs of the MidiVerb 4 to a stereo amplification system or two mixer inputs. This hookup allows discrete processing of the two channels, since blocks can be dedicated to a single channel.

•   **Stereo.** Connect two mono cords to the [LEFT/CH.1] and [RIGHT/CH.2] INPUTS of the MidiVerb 4 from a stereo source , and two other mono cords from the [LEFT/CH.1] and [RIGHT/CH.2] OUTPUTS of the MidiVerb 4 to a stereo amplification system or two mixer inputs.
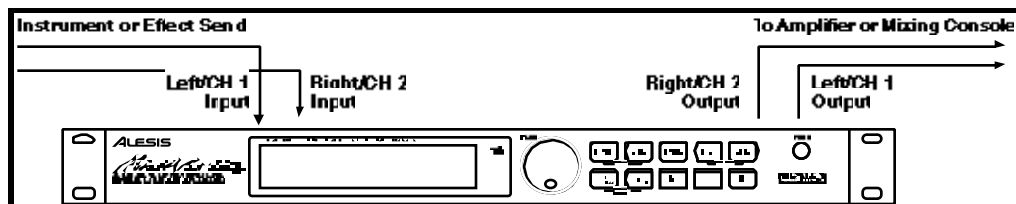
## Interfacing to a Mixing Console

The MidiVerb 4 handles mono or stereo sends at all system levels. The input circuitry of the MidiVerb 4 can easily handle +4 dBu levels (+20 dBu peaks), while having enough input and output gain to interface with the low -10 dBV signal levels of budget recording systems.

The MidiVerb 4 may be connected to a mixing console in several different ways. It can be used to effect several instruments at once by using the auxiliary send and return controls of the mixer. Another method of interfacing is to connect the unit directly to the insert send and return patch points of the channel that is to be effected. Still another way of interfacing the MidiVerb 4 to a mixer or recording console would be in-line across the output of your mixing console. This last setup would be used only if you needed to effect the entire mix.

## Using the Aux Sends

Generally, mixing consoles provide two types of auxiliary sends: pre-fader sends for creating a cue (headphone) mix, and individual, post-fader effect sends. Typically, if a mixer has more than two sends per channel (4, 6 or 8, perhaps), the first two sends are reserved for the cue sends, while the remaining sends are used to feed effects, such as the MidiVerb 4. If you are using a mixer with more than two sends, connect the MidiVerb 4 using post-fader sends.

Using a mixer's aux sends poses a distinct advantage: each channel has its own level control feeding the aux output (and eventually the MidiVerb 4 input). This allows you to make a mix of any channels you want to go to the effects by using the individual channels' aux send levels on the mixer. Most consoles also have aux master controls, which set the overall level of each aux output.
Coming back from the MidiVerb 4's outputs into the mixer, you have two options:

• connecting to dedicated return inputs, or

• connecting to channel inputs.

The former is good if your mixer provides dedicated inputs (called returns) for effect devices like the MidiVerb 4. If your mixer does not have these, or you have already used them all, consider connecting the MidiVerb 4 to channel inputs (if there are any remaining).

No matter where you connect the output of the MidiVerb 4 into the mixer, you are in control of the balance between the mixer's channel inputs (the uneffected signal being routed to the aux sends and the Mix), and the effect returns coming from the MidiVerb 4. The effect returns generally should only contain affected signal, and not have any uneffected signal mixed with it (since these two signals are blended together at the mixer). Therefore, it may be necessary to modify the *mix* of each channel in the Program you are using so that only effected signal is present at the MidiVerb 4's outputs. This can be done in two ways:

• Set each effect's Mix parameters to 100% (wet signal only)

• Turn on the Dry Defeat function.

For more information about Dry Defeat, see Chapter 1 or Chapter 5.

**Mono In - Stereo Out.** If you only want to feed the MidiVerb 4 a mono input, but wish to connect both of its outputs back to the mixer, you will need three 1/4" audio cables. Connect a mono cord from an effect send to the [LEFT/CH.1] input of the MidiVerb 4, another mono cord from the [LEFT/CH.1] output of the MidiVerb 4 to an effect return or other mixer input, and another mono cord from the [RIGHT/CH.2] output of the MidiVerb 4 to an adjacent effect return or mixer input.
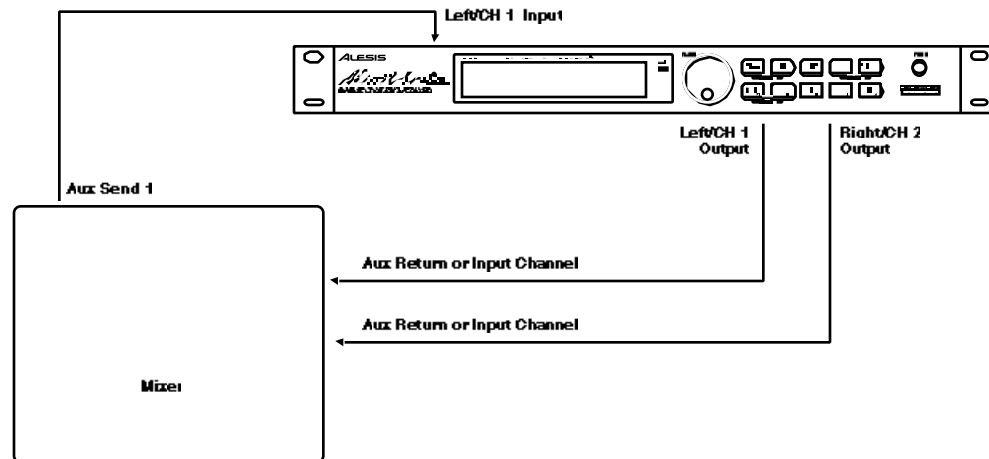


**Stereo In - Stereo Out.** This connection is similar to the one described above. However, by utilizing two sends from the mixer, we add one more cord and can now send a stereo signal to the MidiVerb 4's inputs. Example, if you connected sends 3 and 4 to the [LEFT/CH.1] and [RIGHT/CH.2] inputs, and had a stereo instrument (such as a keyboard) connected to two channel inputs of the mixer (either one panned hard left and hard right), you would send the left channel to send 3 and the right channel to send 4.
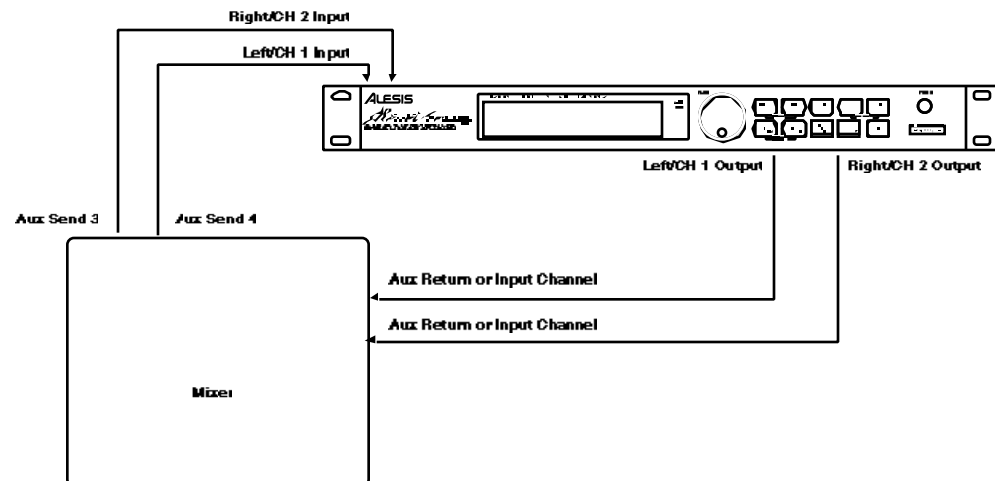


**Dual Mono.** Alternatively, you could have two discrete effect sends between the Left and Right channel, and process them separately within the MidiVerb 4 by using one of the Dual Mono Configurations (see chapter 3). Again, using 2 aux sends from the mixer, connect two mono cords to the [LEFT/CH.1] and [RIGHT/CH.2] inputs of the MidiVerb 4, and connect two other mono cords from the [LEFT/CH.1] and [RIGHT/CH.2] outputs of the MidiVerb 4 to two mixer inputs. This hookup allows discrete processing of the two channels, since separate effects are dedicated to each channel.

## Using Inserts

By using individual channel inserts, you can dedicate the MidiVerb 4 to a specific channel (or pair of channels) on the mixer. The Insert connections on the back of the mixer provide a way of "inserting" external processing equipment into the signal path. The insert occurs after the input amplifier, and before the main fader; essentially it is the same as connecting the source (instrument or microphone) into the MidiVerb 4 before the mixer's channel input. However, some mixing console's inserts come after the EQ section, and may therefore be different from the original signal. If nothing is connected to the channel's Insert jack, the signal is not routed there.

Usually, insert connections require a special, stereo-splitting Y-cord to be connected (one stereo plug provides both send and return while two mono plugs connect separately to an input and output). These are known as TRS connectors (tip-ring-sleeve). The tip of the stereo plug carries the send or output of the insert jack, while the ring carries back the return. The sleeve represents a common ground for both signals.

**Mono.** This involves connecting a 1/4" TRS (tip-ring-sleeve) Y-cable to the Insert jack of a single channel on a mixing console. The other end of the cable (which splits into two, 1/4" mono connectors) are connected to the [LEFT/CH.1] input and [LEFT/CH.1] output, respectively. If you do not hear any audio after making these connections, swap the input and output cables at the MidiVerb 4, as these may be wired backwards. If the cable is color-coded, usually the red jack represents the send (which connects to the MidiVerb 4's input) and black is the return (which connects to the output).
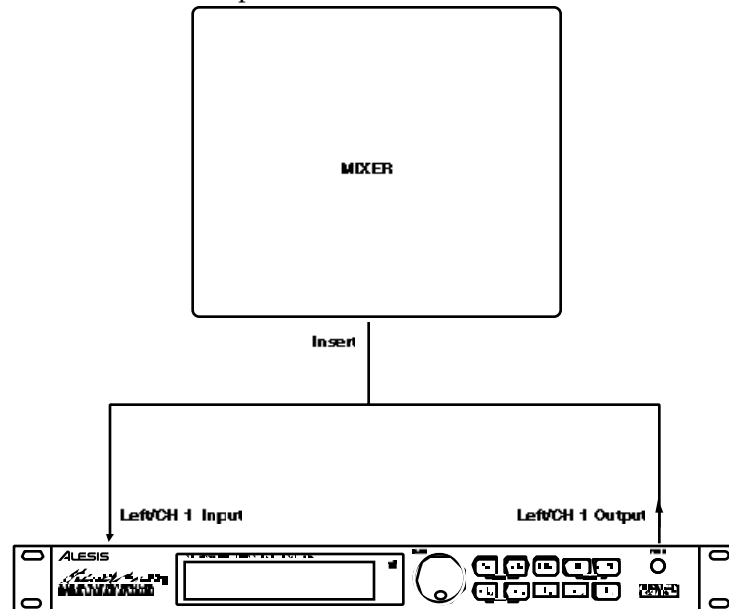


**Dual Mono.** Alternatively, you could have two channels' inserts connected to the Left and Right Inputs, and process them separately within the MidiVerb 4 by using one of the Dual Configurations (see chapter 3). Connect a 1/4" TRS Y-cable to the Insert jack of a single channel on a mixing console. Connect the other end of the cable (which splits into two, 1/4" mono connectors) to the [LEFT/CH.1] input and [LEFT/CH.1] output. Connect another 1/4" TRS Y-cable to the Insert jack of another single channel on a mixing console. Connect the other end of this cable to the [RIGHT/CH.2] input and [RIGHT/CH.2] output. This hookup allows discrete processing of the two channels, since separate effects are dedicated to each channel.

**Stereo.** In the case where a stereo instrument (such as a keyboard or sampler) is connected to two separate channels of a mixing console, you will need two 1/4" TRS cables, one for each channel. The connection is made in a similar fashion as described above.
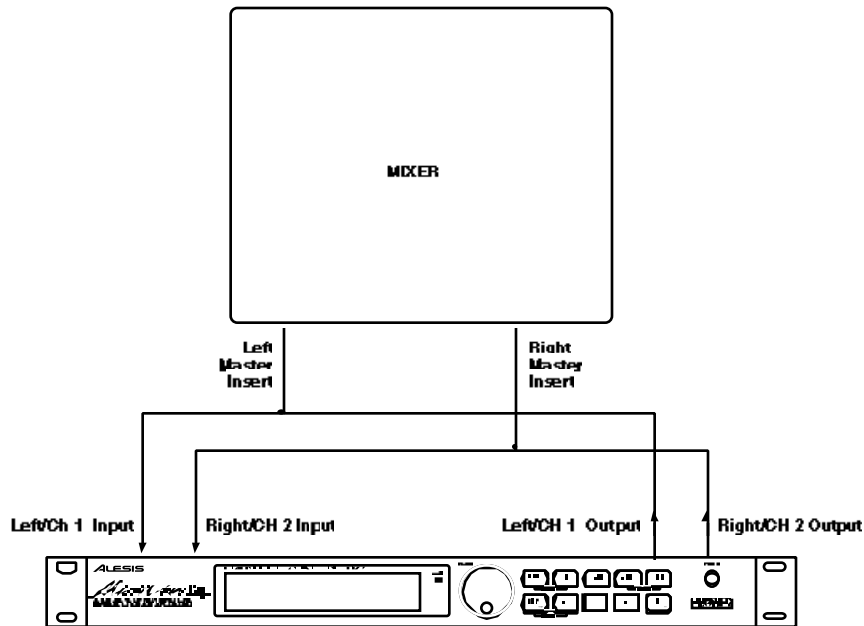


## Using Main Outputs

When you want to effect everything on the mixer, you can connect the MidiVerb 4 between the mixer's outputs and the amplifier's or tape machine's inputs. This is done by using two 1/4" mono cables to connect the Left and Right Main Outputs of the mixing console to the [LEFT/CH.1] and [RIGHT/CH.2] inputs of the MidiVerb 4. The [LEFT/CH.1] and [RIGHT/CH.2] outputs of the MidiVerb 4 are then connected to a stereo amplifier, or two input channels of another mixing console (for sub-mixing applications).
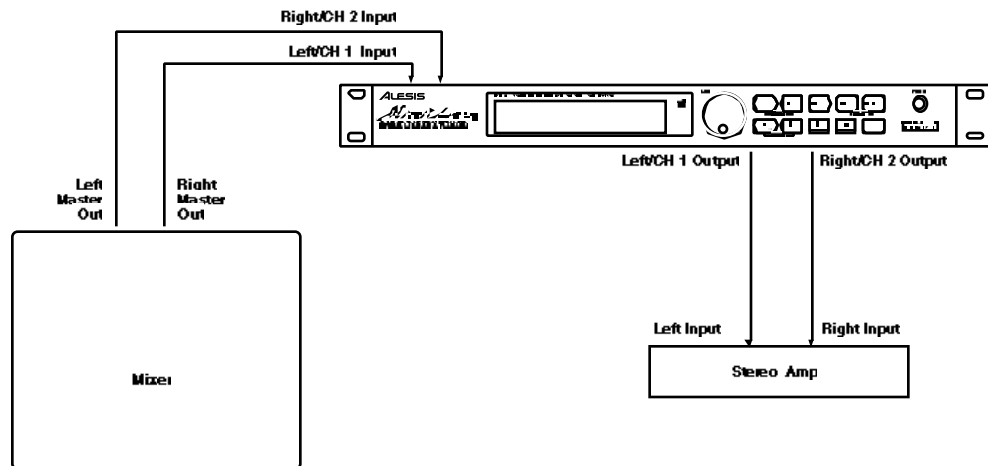
## Avoiding Ground Loops

In today's studio, where it seems every piece of equipment has its own computer chip inside, there are many opportunities for ground loop problems to occur. These show up as hums, buzzes or sometimes radio reception and can occur if a piece of equipment "sees" two or more different paths to ground. While there are methods to virtually eliminate ground loops and stray radio frequency interference, most of the professional methods are expensive and involve installing a separate power source just for the sound system. Here are some easy helpful hints that a professional studio installer might use to keep those stray hums and buzzes to a minimum.

① KEEP ALL ELECTRONICS OF THE SOUND SYSTEM ON THE SAME AC ELECTRICAL CIRCUIT. Most stray hums and buzzes happen as a result of different parts of the sound system being plugged into outlets of different AC circuits. If any noise generating devices such as air conditioners, refrigerators, neon lights, etc., are already plugged into one of these circuits, you then have a perfect condition for stray buzzes. Since most electronic devices of a sound system don't require a lot of current (except for power amplifiers), it's usually safe to run a multi-outlet box or two from a *SINGLE* wall outlet and plug in all of the components of your system there.

② KEEP AUDIO WIRING AS FAR AWAY FROM AC WIRING AS POSSIBLE. Many hums come from audio cabling being too near AC wiring. If a hum occurs, try moving the audio wiring around to see if the hum ceases or diminishes. If it's not possible to separate the audio and AC wiring in some instances, make sure that the audio wires don't run parallel to any AC wire (they should only cross at right angles, if possible).

③ TO ELIMINATE HUM IF THE ABOVE HAS FAILED:
   A) Disconnect the power from all outboard devices and tape machines except for the mixer and control room monitor power amp.
   B) Plug in each tape machine and outboard effects device one at a time. If possible, flip the polarity of the plug of each device (turn it around in the socket) until the quietest position is found.
   C) Make sure that all of the audio cables are in good working order. Cables with a detached ground wire will cause a very loud hum!!
   D) Keep all cables as short as possible, especially in unbalanced circuits.

If the basic experiments don't uncover the source of the problem, consult your dealer or technician trained in proper studio grounding techniques. In some cases, a "star grounding" scheme must be used, with the mixer at the center of the star providing the shield ground on telescoping shields, which do NOT connect to the chassis ground of other equipment in the system.

# MIDI

MIDI (Musical Instrument Digital Interface) is an internationally-accepted protocol that allows musical-related data to be conveyed from one device to another. The MIDI connections on the MidiVerb 4 provide four different functions:

• To recall Programs using MIDI program change messages

• To control (modulate) parameters inside the MidiVerb 4 in realtime via MIDI controllers (*example:* A keyboard's mod wheel, or pedals, etc.)

• To send and receive Sysex (System Exclusive) dumps of individual programs or the entire bank of programs for storage and retrieval purposes

• To pass-on MIDI information thru the MidiVerb 4 to another MIDI device.

To connect the MidiVerb 4's MIDI ports to another MIDI device:

① Connect a MIDI cable from the MidiVerb 4's MIDI [IN] connector to the other MIDI device's MIDI OUT connector.

② Connect another MIDI cable from the MidiVerb 4's MIDI [OUT/THRU] connector to the MIDI IN connector of the other MIDI device.

*Note:* It is not necessary to follow step 2 if you intend to only send information to the MidiVerb 4, and do not need to receive information back from it. *Example:* If you only want to be able to recall Programs using MIDI program change messages, there is no need to connect a cable to the MidiVerb 4's [OUT/THRU] connector.

For more information about MIDI and Modulation, refer to chapter 6.

# Footswitch

On the rear panel you will find a footswitch jack labeled [FOOTSWITCH]. This footswitch has three functions, which can be selected using the [UTIL] button:

• An program advance function (Advance)
• An effects bypass function (Bypass)
• A tap tempo control for Delay effects (Control)

To set the [FOOTSWITCH] jack's mode:

① Press [UTIL].

② Press the [EDIT/PAGE] button until page 1 is selected.
*The upper display will look like this:*

```
Footswitch  Dry Defeat
```

③ Press [B] to select the Footswitch parameter and turn the [VALUE] knob to select either Advance mode (Adv), Bypass mode (bYP) or Control mode (ctL).

Any momentary single-pole/single-throw footswitch, normally open or normally closed, will work for the three footswitch functions. This should be plugged in prior to power-up so that the MidiVerb 4 can configure itself for the type of footswitch being used.

**Advance.** When the footswitch mode is set to the Advance function, each time the footswitch is pressed the MidiVerb 4 will advance to the next Program number.

**Bypass.** When set to the Bypass function, pressing the footswitch will toggle Bypass mode on and off (when Bypass mode is activated, the [BYPASS] LED will be lit).

**Control.** When using a Delay effect, the footswitch can serve as a way of programming the delay time using a feature called "tap tempo". If the footswitch function is set to the Control function, you can program the delay time in two ways:

• Press down on the footswitch repeatedly at the desired tempo you wish the delay time to follow; or,

• Hold down the footswitch and the MidiVerb 4 will "listen" to the audio being fed to its input(s); now you can play your guitar, bang your drum, or sing some "doot doots" into your microphone (depending on what is plugged into the inputs), and the delay time will be set to a value that equals the tempo you are using.

When the Footswitch parameter is set to the Control function and the Lezlie->Room Configuration is being used, pressing down on the footswitch will toggle the Speed parameter in the Lezlie effect between its slow and fast settings.

For more information about tap tempo, see Chapter 3.

# OVERVIEW OF EFFECTS

## The Architecture of the MidiVerb 4

### What is a Configuration?

A Configuration is an arrangement of one or more effects. Each of the 256 internal Programs in the MidiVerb 4 use one Configuration. There are 32 different Configurations available, each of which fall into one of four categories. The four types of Configurations are: Single, Double, Dual Mono and Multi Chain.

### Single

A Single Configuration consists of one effect. These Configurations utilize complex, processor-intensive effect algorithms providing the best quality possible for each effect type supported. There are different kinds of Single Configurations, including:

- **Mono-in/mono-out.** These effects have a single input (both inputs summed together) and a single output (routed to both outputs).
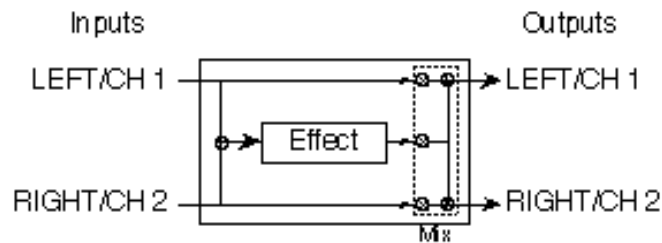


- **Mono-in/stereo-out.** These effects have a single mono input and two outputs.
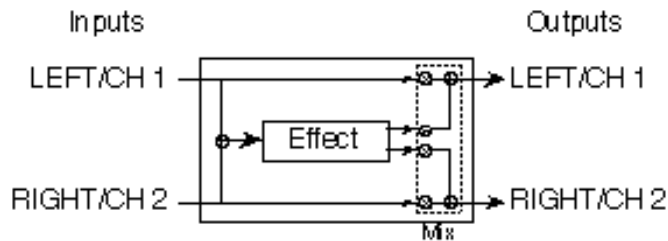


- **Stereo-in/stereo-out.** These effects have two inputs and two outputs.
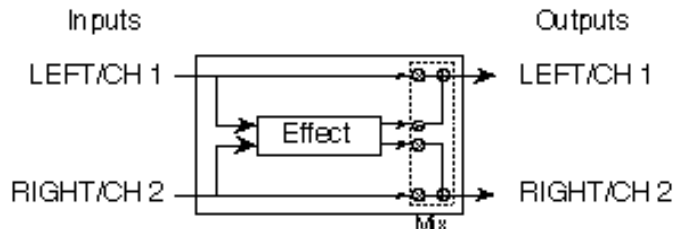


In each case, the dry, uneffected signal of both inputs are also routed to the outputs.

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## Double

Double Configurations consist of two "side-by-side" mono-in/stereo-out effects. These Configurations are identified by the presence of a "+" in their name. In each case, the Left/Ch. 1 input is routed to one effect, while the Right/Ch. 2 input is routed to the other. The stereo outputs of both effects are then summed together to the outputs. The dry, uneffected signal of both inputs are also routed to the outputs.
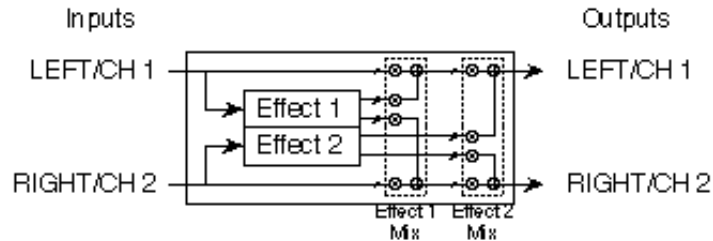
## Dual Mono

Dual Mono Configurations provide two mono-in/mono-out effects, one for each channel. These Configurations are identified by the presence of a ":" in their name (Delay:Delay). The Left/Ch. 1 input is routed to the first effect, whose output is routed to the Left/Ch. 1 output. Likewise, the Right/Ch. 2 input is routed to the second effect, whose output is routed to the Right/Ch. 2 output.
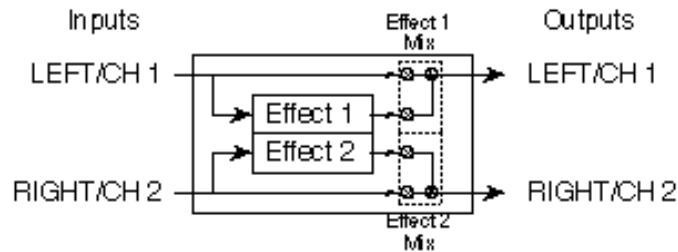
These effects can be chained using a special feature called Cascade mode. Cascade mode only affects Dual Mono Configurations, and routes the output of the channel 1 effect into the input of the channel 2 effect. The Cascade function can be turned on and off from page 2 in Utility mode (see Chapter 5). In this case, the Left/Ch. 1 output provides only the channel 1 effect's output, while the Right/Ch. 2 output provides the output of channel 1's effect routed through channel 2's effect.
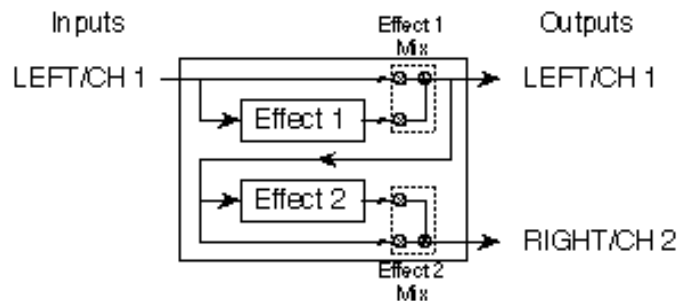
*Note:* If Cascade mode is turned on, the [RIGHT/CH. 2] input will be disabled for all Dual Mono Configurations. This is because the channel 2 effect is being fed the output of the channel 1 effect.

## Multi Chain

The Multi Chain Configurations provide two or three stereo effects, which are connected in series; i.e. one feeding the next in the chain. These Configurations are identified by the presence of one or two "->" symbols in their name (*Example:* "Chorus->Real Room"). These individual effect types provide excellent sound quality but are less processor-intensive than their Single Configuration equivalents, since the Digital Signal Processor is accommodating more than one effect at a time. In other words, the reverb effect in the "Delay->Realroom" Configuration is not as "dense" as the Single Configuration called "Realroom".
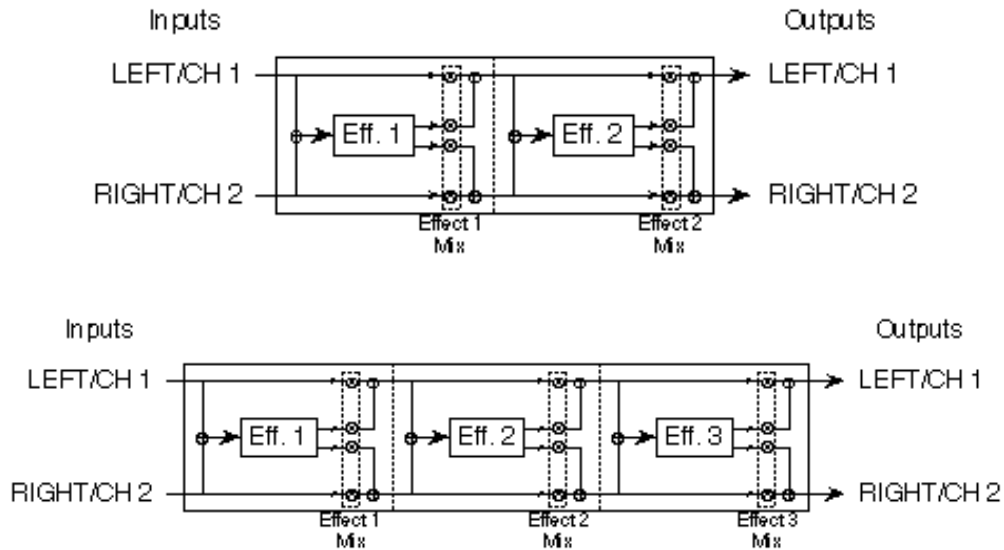




In the case of Multi Chain Configurations, the "Mix" parameter of each effect determines what the following effect receives at its input(s). *Example:* It is possible to use the "Delay->Room" Configuration (where effect 1 is a mono delay and effect 2 is a reverb), and have only the dry, uneffected signal going to the second effect; this is done by setting the first effect's Mix parameter to 000% (this means none of its output can be heard nor is sent to the second effect in the chain).

# Reverb Effects

Reverb is made up of a large number of distinct echoes, called reflections. In a natural acoustic space, each reflection's amplitude and brightness decays over time. This decaying action is influenced by the room size, the location of the sound source in the room, the hardness of the walls, and other factors. The MidiVerb 4 offers the following types of reverberation:

## Concert Hall

This is a simulation of a large concert hall. Halls tend to be large rooms with lots of reflective surfaces, where sounds can swim around, changing timbre over time. This is a classic reverb which sounds good on just about anything. Try it on vocals, drums, acoustic, electric,  or orchestral instruments.

## Real Room

This algorithm gives you the sound of a medium size studio room. This algorithm uses a lot of processing power for a rich sound and smooth decay. It compares favorably to high end studio reverbs for its rich sound. The attack is also more reflective. It sounds good on drums, keyboards and guitars.

## Realroom & Room

These are less processor intensive versions of the Real Room effect, used in Multi Chain and Dual Mono Configurations.

## Ambience

This algorithm simulates a very small room. It can be used when just a slight amount of ambient character is needed to augment a sound. For example, if playing a solid body guitar, use the Ambience effect to simulate the sound of an acoustic guitar's hollow body.

## Plate Reverb

This is a simulation of a classic echo plate, a 4' by 8' suspended sheet of metal with transducers at either end used to produce reverb. Popular in the 1970's, it still prized for its transparent sound, particularly on vocals and guitars. This algorithm uses the most processing available for a truly realistic reverb plate simulation. It works well for a lush lead vocal, piano, or guitar, especially when looking for a classic rock and roll sound.

## Nonlinear

This reverb effect's direction can be set either forwards or backwards. Selecting the forward direction provides a classic "Gated" digital reverb sound. Selecting the reverse direction gives you a backwards reverb sound. A popular trick in the 80's was to record the reverb with the tape flipped over, so it would play backwards in the mix. The reverse reverb is a useful effect for drums and other percussive sounds – — adding space without washing out the instrument.

# Reverb Parameters

Most of the reverb effects in the MidiVerb 4 operate under the same set of control parameters, which are listed and described in this section. However, reverbs which use more processing power (i.e. the Single Configuration reverbs) provide more parameters which take advantage of their extra processing power; parameters which are not found in the other, smaller reverb algorithms. For example, Reverberation Swirl is a parameter found only in the Single Configuration reverb types. Here are the reverb parameters:

## Decay

The Reverb Decay determines how long the Reverb will sound before it dies away. When using the Reverse Reverb effect type, the Reverb Decay parameter controls the Reverse Time.

## Low Pass Filter

The lowpass filter that can be set between 059 Hz and 36.2 kHz, and attenuates all frequencies above this value by 6dB per octave. The lower the setting, the less high frequencies of the input are allowed to pass thru to the reverb effect.

## Pre-delay

All the reverb effects have pre-delay parameters. Pre-delay slightly delays the reverb itself up to 175 ms, so that the dry signal more easily stands out from the reverb. A bit of pre-delay can make certain instruments (such as snare drums) sound bigger.

## Pre-delay Mix

This allows you to balance the amount of Pre-delay to Direct Signal as a percentage of each. This gives you the ability to hear a bit of the Reverb before the loudest part of the Reverb (the Pre-Delayed Reverb) sounds, and makes for a bigger, smoother sounding Reverb.

## Density

Density controls how the first reflection of the reverb effect will appear. When set to 0, the first reflection is heard alone without any other reflections. When set to 99, the first reflection appears to "fade-in" and then "fade-out". This is because a number of reflections will occur just before and just after the first reflection, in addition to the remaining reflections heard after the first reflection. Thus, the reverb sounds more "dense".

## Diffusion

Diffusion determines the "thickness" of the reverb sound by adding more reflections to the reverb's decay. With lower diffusion settings, you may be able to actually hear the individual echoes that make up the overall reverb sound. With higher diffusion settings, the echoes increase in number and blend together, washing out the reverb's decay. Greater diffusion works better with percussive sounds, whereas less amounts of diffusion work well with vocals and other sustained sounds.

DFRBON DF0        DFRBON DF99

Fewer reflections        More reflections
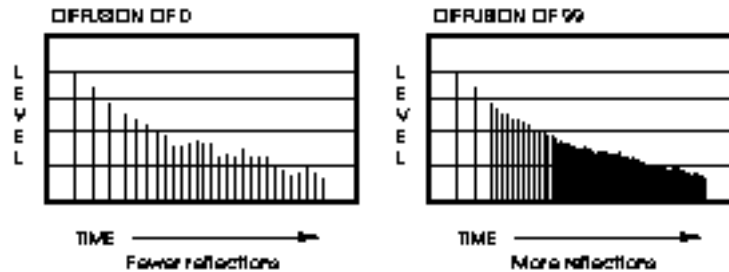
*Note:* The illustration above reflects a Density setting of 0.

## Frequency Damping – Low & High

These two parameters allow you to control the equalization of the reverb's decay separately for both the low and high frequencies. This means that you have control over the tonal shape of the Reverb itself, being able to cut the high frequencies if the effect is too bright, and being able to cut the lows if the effect is too boomy. These parameters allow you to simulate different surfaces of a room or hall, with softer surfaces absorbing more high frequencies and smaller rooms having less low frequencies. *Example:* If a room has lots of drapes hung, the high frequencies will decay faster than the lower frequencies.

## Reverberation Swirl

This parameter is very useful for smoothing the decay of the reverb when set at a low value. When set to a high value, it creates a more dramatic detuning effect as the reverb decays.

## Gating

Gating is the process which abruptly cuts off the reverb's decay for a more "choppy" sound. This effect is very popular on drums because it makes them sound HUGE. It is achieved by dropping the level of the signal very rapidly after the initial attack making a short, sharp sound.

In all the Single Configuration reverb effect types and most of the Double and Multi Chain Configurations which use the Realroom effect type, there are three gating parameters available. These include: Gate, Hold Time, and Release Time. The Gate controls the level of the reverb signal after the gate closes, and can be set between 001 and 100%. In other words, if Gate is set to 100%, then no reverb will sound after the gate turns it off. If Gate is set to 50%, then some reverb signal will still be present even after the gate turns off the main reverb signal. Alternatively, the Gate parameter can be set to "OFF" when you do not wish to use the gating effect. The Hold Time determines how long the gate will be held open before it begins to turn off; this can be set from 0 to 500 ms. The rate at which the gate closes is determined by the Release Time, which can be set from 0 to 500 ms.

In the case of the Chorus->Room, Flange->Room and Room->Flange Configurations, only one parameter is available: Gate. This can be set between 10 and 500 ms, and controls both the hold and release times of the gate effect. Alternatively, the Gate parameter can be set to "OFF" when you do not wish to use the gating effect.

# Delay Effects

Delay provides a discrete repetition of a signal. By adding feedback within the effect, the delayed signal can repeat many times, with each successive decay softer than its predecessor. Each of the Delay types allow you to adjust their delay time in milliseconds, however, the BPM Delay effect will display the equivalent musical tempo in BPM (beats per minute). MidiVerb 4 offers the following types of delay:

## Mono Delay

This Single Configuration provides delay of signal up to 1299 ms. The delay time can be adjusted separately by 100ths, 10ths and 1 ms increments. Feedback is also available to increase the complexity of the signal. You also have high and low frequency cutting, which gives you the ability to equalize the effect's decay. This can help emulate an old tape-style echo where each succesive echo is darker than the previous one.

## Stereo Delay

This Single Configuration provides two separate delays which can be individually adjusted for delay time, feedback and high and low cutting. The delay time can be adjusted separately by 100ths, 10ths and 1 ms increments.

## Ping Pong Delay

So called because the output bounces from left to right in stereo with the speed determined by the delay time. Again, low and high frequency cut is available. The delay time can be adjusted separately by 100ths, 10ths and 1 ms increments.

## MultiTap Delay

This is like having three delays at once. Each of the 3 "taps" have individual delay, level, panning and feedback controls. By adjusting the delay time of each tap, you can create sophisticated rhythms.

## BPM Mono Delay

This is a mono delay which can have its delay time parameter set to a specific tempo or BPM (beats per minute) value. This allows you to reference the delay time to the tempo of the music you are playing, rather than searching for the correct delay time in milliseconds.

An additional parameter, called Note, is used to determine what beat value your tempo represents. For example, if you set the note to 4, then you can set the tempo using quarter-note beats to establish delay time. If instead you set the Note to 4t, the same delay tempo setting will play faster because it is simulating quarter-note triplets in relation to the selected tempo. You can also choose dotted-note values, such as 4d or 8d for different rhythms relative to the selected tempo.

### Synchronizing to MIDI Clock

It is possible to control the delay time of the BPM Mono Delay effect from an external MIDI clock source, such as a MIDI sequencer or drum machine. Any device which can output MIDI clock can be used to control this Configuration's delay time.

If the "Tempo" parameter is turned all the way down, below 000, the value in the display will read "EcL", which means "external clock". The delay time will now be controlled by the MIDI clock signal received at the [MIDI IN] port coming from an external source. If the MIDI clock's tempo changes, the MidiVerb 4 will chase it. If the MIDI clock signal is discontinued, the delay time will remain set to the last tempo which the MIDI clock had been running at.

The Note parameter determines what note value the MidiVerb 4 should synchronize to. For example, if you set the Note value to 4, then you can synchronize to the quarter-note beats of the incoming MIDI clock. If instead you set the Note value to 8t, you can synchronize to eighth-note triplets relative to the incoming MIDI clock signal. You can also set the Not value to a dotted-note variation, such as *, which lets you synchronize to the dotted-eighth-note beats relative to the incoming MIDI clock signal. For more information about using MIDI with the MidiVerb 4, see Chapter 6.

## Delay & DLY

These effects are mono, less processor-intensive versions of the Stereo Delay effect, used in the Multi Chain Configurations Delay->Realroom, Chorus->Dly->Room and Flange->Dly->Room; the Double Configuration Realroom+Delay; and the Dual Mono Configurations Delay:Delay, Chorus:Delay and Flange:Delay. They provide only high frequency cutting ability with no control over the low frequencies.

## Setting Delay Time Using Tap Tempo

You can adjust the delay time using a technique called "tap tempo". By tapping the button which corresponds to the Tap parameter, you can have the MidiVerb 4 follow your tapping and adjust its delay time to match the tempo you are using. If the Footswitch parameter (UTILity mode) is set to *Control*, you can tap your delay time by repeatedly pressing down on the footswitch.

You can also adjust the delay time using tap tempo from the audio source being routed to the MidiVerb 4's input(s). This can be done in two ways:

• Hold the button which corresponds to the Tap parameter; or

• Hold down the footswitch (if the Footswitch parameter is set to the Control function).

While using either of these methods, feed signal to the MidiVerb 4. This could be done by hitting a drum, plucking notes on a guitar or keyboard, or by singing some "doot doots" into a microphone (depending on what is connected). *Note:* When the Footswitch parameter is set to the Control function, you can control tap tempo as described above while in either Program mode ([PROG] button lit) or Edit mode ([EDIT/PAGE] button lit), unlike when using the front panel for tap tempo which requires that you be in Edit mode. For more information on connecting a footswitch and selecting the Footswitch parameter's function, see Chapter 2.

# Pitch Effects

The Pitch effects alter the pitch of a signal in various ways to produce "layered" timbres that are more complex than the original signal. Although some of these effects can sound similar to one another depending on the parameter settings, each is achieved differently and can be quite dramatic under the right circumstances. Pitch effects are achieved by splitting the signal into at least two parts, effecting the pitch of one of the parts, then mixing them back together. This eventual mixing is essential since the overall sound of the effect is achieved by the actual difference between the dry, uneffected signal and the effects signal. The various types of Pitch change are:

## Stereo Chorus

The Chorus effect is achieved by splitting the signal into three parts with a dry signal and a separate Detuning section for both left and right channels. When the left channel is detuned sharp, the right is detuned flat, and vice versa. The detuning is further effected by being modulated by an LFO (low frequency oscillator) which causes the detuning to vary. Many variables are available in this scheme: the Predelay can be varied, the LFO depth can be varied, the LFO speed can be varied, and a portion of the detuned signal can be fed back to the input to increase the effect. Finally, the waveform shape of the LFO can be changed from a smooth sinewave, to a more abrupt squarewave to make the pitch detuning more pronounced.
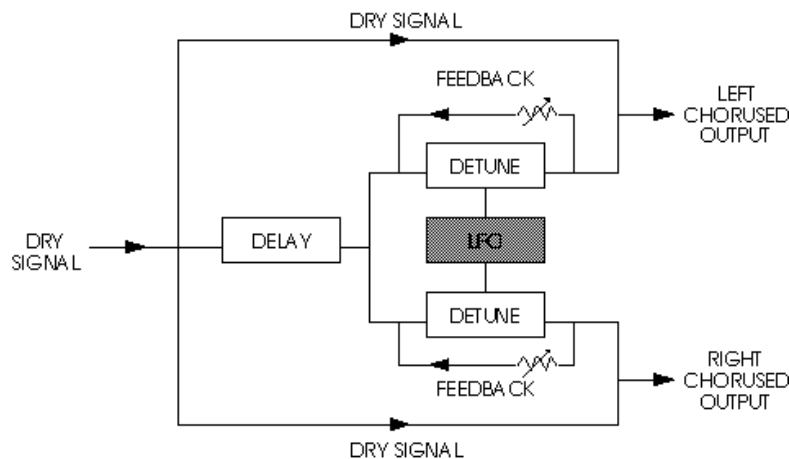


## Quad Chorus

Quad Chorus modulates four delayed signals, each with its phase offset by 90°. Each of the four signals has a separate Predelay variable, allowing you to change the "rhythm" of the phasing.

## Chorus

This is a mono, less processor-intensive version of the Stereo Chorus effect, used in the Multi Chain Configurations Chorus->Realroom and  Chorus->Dly->Room, the Double Configuration Realroom+Chorus, and the Dual Mono Configurations Chorus:Chorus and Chorus:Delay.

## Stereo Flange

First used in the 1960s, "flanging" was achieved by the use of two tape recorders that would record and play back the same program in synchronization. By slowing down one tape machine, and then letting it catch up with the other, different phase cancellations would occur at different frequencies. Since the slowing down of the tape machines was done by hand pressure against the flanges of the tape supply reels, the term "flanging" came into being.

Flanging is similar to chorusing , but modulates the delayed signal over a much shorter delay range (typically 0-12 ms). This produces a "jet airplane"-like sound. The flange modulation sweep can be triggered by the audio input (either the left or right input, or both), in order to sync up with the rhythm of your playing. You can adjust the attack and release threshold of this audio triggering function.

In the case of the Stereo Flange, the signal is split into three parts with a dry signal and a separate Delay section for both left and right channels with one channel flanging up while the other channel flanges down. Once again, this causes the effect to become more pronounced and dramatic.
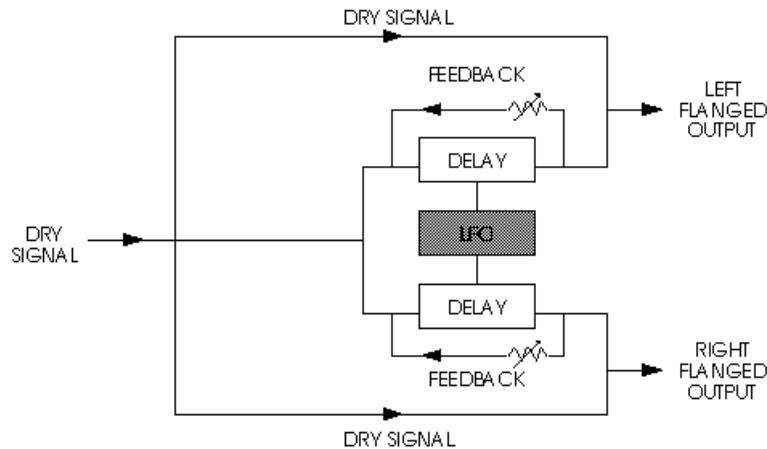


When flanging was done using two tape machines, it was possible for one to be behind the other, catch up and then go past the other. This is called passing "through zero". The "zero" point is when both signals were in perfect synchronization. Since the MidiVerb 4 is digitally simulating the flanging effect, it normally cannot provide the through zero effect. Instead, it delays the effected signal to a point, then brings it back to the zero point, and repeats this over and over. The "Thru0" parameter found in the MidiVerb 4's flanging effects lets you create the appearance of the effected signal passing through the zero point. It does this by actually delaying the uneffected signal by as mush as 12 milliseconds (an amount virtually undetectable to the human ear). This allows the wet signal to move "behind" the dry signal as it cycles.

## Flange

This is a mono, less processor intensive version of the Stereo Flange, used in the Multi Chain Configurations Flange->Realroom, Realroom->Flange and Flange->Dly->Room; the Double Configuration Realroom+Flange; and the Dual Mono Configurations Flange:Flange and Flange:Delay. The effect of mono flanging is achieved by splitting and slightly delaying one part of the signal, then varying the time delay, with an LFO. The delayed signal is then mixed back with the original sound to produce the "swishing" or "tunneling" sound.
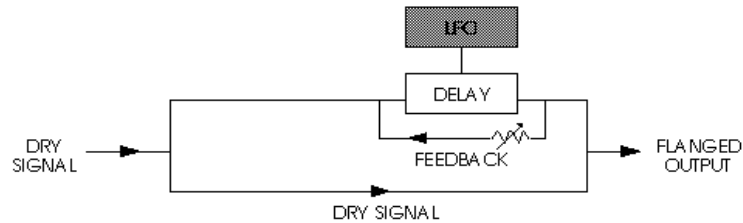


## Lezlie

With the Lezlie effect (found in the Lezlie->Room Configuration), the pitch change block becomes a rotating speaker simulator. This effect was extremely popular during the 1960's and was achieved by mechanically rotating the speakers to produce complex timbral changes. The Lezlie speaker system is most often used with rock organs, but is occasionally used for guitar amplification as well. Parameters include: Motor on/off, Speed, which can be slow or fast; and High Rotor Level, which lets you attenuate the volume of the high frequencies. When switching the Lezlie effect on and off, or when changing the speed between fast and slow, the effect will ramp rather than change abruptly, just as a true Lezlie speaker system would do. By raising the High Rotor Level, you can really make this effect scream. *Tip:* Try modulating the Motor or Speed with aftertouch.

## Stereo Pitch Shifter

The Pitch Shifter effect transposes the pitch of the incoming signal by a fixed amount. It is useful for creating parallel harmonies, detuning, chorusing, and special effects. The Semi parameter shifts the pitch in increments of one half step, with a range of up or down one octave. The Fine parameter detunes the signal in very fine increments, with a range of up or down one half step. Also available are Delay and Feedback parameters. The Delay parameter delays the shifted signal up to 250 ms, or can be used with the Feedback parameter to produce decaying arpeggio effects. There are also Low Cut and High Cut filters in the feedback loop which can be used to alter the timbre of the sound as it repeats. The Stereo Pitch Shift configuration provides two discrete pitch shifters, each with their own Pan and Level control.

## Pitch

This is a less processor-intensive version of the Pitch Shifter effect, used in the Multi Chain Configuration Pitch:Delay, and the Dual Mono Configuration Pitch:Pitch.

## Auto Pan

The Auto Pan effect alternates the loudness of the signal in opposite channels at a definable rate. Low and high frequency cutting is available, and (like the flange effects) can be triggered by the input signal (either the left or right input, or both).

---

The Direction parameter determines which direction the panning will start in when triggered (this has no effect if the Trigger parameter is turned off). You can adjust the attack threshold of this audio triggering function, and adjust the hold time (how long the Auto Pan will wait before it can be retriggered). The Direction parameter can be set to alternate; that is, the Auto Pan will change its start direction with each succesive trigger.

CHAPTER 4

# EDITING PROGRAMS

## Selecting A Configuration

A Configuration is made up of one or more effects. Each of the internal Programs of the MidiVerb 4 use one Configuration. When you want to create your own Program, the first thing you must decide is which Configuration you wish to use. Then you need to locate a Program that already uses this Configuration. For example, if you want to create a new Program using the Chorus->Delay Configuration, first locate an existing Program that already uses the Chorus->Delay Configuration. Then store this Program into a location in the User bank. Once this is done, you can freely edit the new Program, storing changes as you like, without affecting the original Program you selected.

*Note:* The last 32 Programs in the Preset bank (096-127) each use one of the 32 Configurations. This makes it easy for you to locate the Configuration you are looking for. Also, the last 17 Programs in the User bank (111-127) have been left blank so you have some place to store your new Programs into.

To select a Configuration:

① Press [PROG]. Use the [VALUE] knob to select a Program which uses the Configuration you want to use.
   *The display will show each Program's name and Configuration*

   | ChrsVerb  CHORUS}REALROOM |
   | --- |

② Press [STORE].
   *The [STORE] button will flash.*

③ Turn the [VALUE] knob to select a Program location in the User bank to store (copy) this Program into.
   *This will overwrite whatever Program was previously stored in the Program location you have selected.*

④ Press [STORE] again.
   *The [STORE] button's LED will briefly flash quickly, while the display reads:*

   | Program nnnnnnnn Stored! |
   | --- |

   *…whereby nnnnnnnn is the Program's name. The [STORE] button will turn off and the display will revert to Program mode ([PROG] button lit).*

   *If the Program you select is in the Preset bank, the above would result in storing the Program in the User bank, using the same number location. Example: If you selected Preset 24 and stored it, the Program would be stored into User 24. This is because the Preset Programs cannot be permanently changed.*

Now you can start editing the Program's parameters, and having some *real* fun!

# Editing Effect Parameters

Editing Programs is only possible while in Program mode. This means that the [PROG] button must be lit. If the [PROG] button is not lit, press it now. From Program mode, you can edit the currently selected Program by pressing either [EDIT/PAGE] or any of the [A], [B], [C] or [D] buttons. Upon entering Edit mode, the display will change to show you up to four parameters associated with the selected Program.
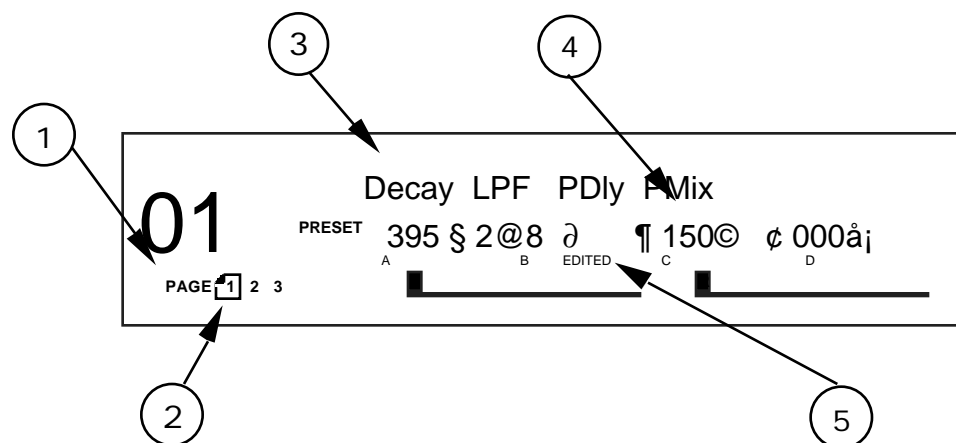
① **Page Numbers**. Depending on the Configuration, there will be up to four pages available in Edit mode. In this example, only three pages are available.

② **Selected Page**. The currently selected page will be indicated by a box around its number. In this example, page 1 is currently selected. Each time you press the [EDIT/PAGE] button, the display will advance to the next page.

③ **Parameter Name Strip**. Each page in Edit mode contains up to four parameters. whose names will appear at the top of the display, above their value settings.

④ **Parameter Values and Bar Graphs**. Each parameter in the selected page is shown with both a numerical value and a bargraph. When a parameter is selected for editing, its value will flash in the display. As you adjust a parameter, both its numerical value and bargraph will change in relation to the [VALUE] knob's position. The type of units a parameter uses will be shown as well (dB, kHz, etc.).

⑤ A, B, C, D and EDITED Indicators. Each parameter in the selected page is designated by a letter (A, B, C or D), which indicates which button ([A], [B], [C] or [D]) should be pressed to select the desired parameter for editing. Once a parameter has been edited, the word "EDITED" will appear below it.

## Moving Through Pages

Once in Edit mode, there will usually be multiple pages available. The total number of pages depends on the Configuration that the selected Program uses, and will be indicated by the numbers appearing in the lower left corner of the display.

The [EDIT/PAGE] button is used to advance through the available pages of effect parameters. The currently selected page will have a box around it in the display.

## Using the A/B/C/D Buttons

The [A], [B], [C] and [D] buttons are used to select parameters in the display for editing. There are never more than four parameters in the display at any time. Each parameter corresponds to one of the [A], [B], [C] or [D] buttons. To select a parameter, press the button associated with its position in the display. Once pressed, the selected parameter will flash in the display. This indicates that the selected parameter may now be edited using the [VALUE] knob.

When a parameter appears which has only two settings (*example:* on or off, sine or triangle wave), the associated [A], [B], [C] or [D] button will act as a toggle button, immediately turning that function either on or off.

## Using Online Help

The MidiVerb 4 has built-in online help to assist you in identifying parameter functions from the display, without having to look things up in this manual. Once you have accessed Edit mode (see previous section), you can select any of the parameters shown in the display by pressing the corresponding button ([A], [B], [C] or [D]). However, by *holding* one of these buttons for more than one second, the upper display will provide a more detailed description of the selected parameter.

## Special Cases

Most of the time, a single parameter is represented by a single value in the display. However, in the case of the Delay Time parameter, where the range is quite wide, it is helpful to be able to edit different parts of the overall value. In other words, think how long it takes to scroll from 1 to 1299 ms using 1 millisecond increments.

Except for the "smaller" delays used in the Multi Chain and Dual Mono Configurations, the Delay Time value is broken down into three parameters: 100ms, 10ms and 1ms. This allows you to adjust the hundredths, tenths and individual milliseconds individually. *Example:* In the case of the Mono Delay Configuration, the Edit mode page 1 display will look like this:
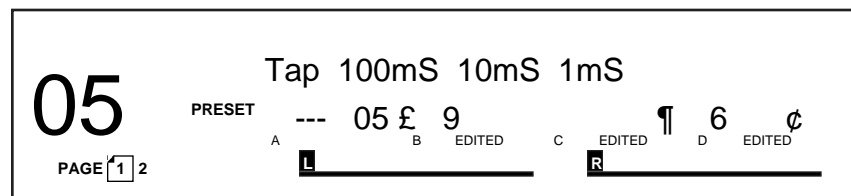


The actual delay time can be derived by adding these three parameters together. For example, in the display above, the Delay Time value equals 596 ms.

# Naming A Program

The process of naming a Program is integrated into the Store function. Whenever you store a Program, you have the opportunity to change its name. This is done by using the [A], [B], [C] and [D] buttons while in Store mode.

To change a Program's name:

① Press [STORE].
*The* [STORE] *button will flash, and the display will read:*

> Store as XXX (nnnnnnnn)?

*…whereas XXX is a Program location number from 00—127 in the User bank, and nnnnnnnn is the Program's name.*

② Press the [A/NAME] button.
*The cursor will move to the first character of the Program's name.*

③ Use the [C/<] and [D/>] buttons to move the cursor left and right, respectively, through the 8 character fields in the Program's name.

④ Use the [VALUE] knob to change the selected character field.

⑤ If you wish to select a different Program location to store to, press [B/ESC] to move the cursor back under the Program location number field in the display, then use [VALUE] to select the Program location you want to store to.

⑥ Press [STORE] again.
*The* [STORE] *button's LED will momentarily flash quickly, while the display reads:*

> Program nnnnnnnn Stored!

*…whereby nnnnnnnn is the Program's name. The* [STORE] *button will turn off and the display will revert to wherever it was before* [STORE] *was pressed for the first time.*

Here is a chart of available characters:

| | ! | " | # | $ | % | & | ' | ( | ) | * | + | , | - | . | / | 0 | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 5 | 6 | 7 | 8 | 9 | : | ; | < | = | > | ? | @ | A | B | C | D | E | F | G |
| H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | [ |
| ¥ | ] | ^ | _ | ` | a | b | c | d | e | f | g | h | i | j | k | l | m | n | o |
| p | q | r | s | t | u | v | w | x | y | z | { | | | } | } | { | | | | |

If you decide you want to select a different Program, you can always get back to Program mode by pressing [PROG] again. However, if you select another Program after making changes and without storing the Program back into memory, the changes you have made will be lost.

To make your changes to the Program permanent, you must store the Program somewhere in the User bank. If the Program is already in the Preset bank and you store it, you will automatically be taken into the User bank.

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# CHAPTER 5

# DESCRIPTION OF CONTROLS

## Front Panel

### LCD Display

When the MidiVerb 4 is first turned on, the display will look something like this:



The MidiVerb 4's display is divided into 5 sections:

① __Program Number__.  MidiVerb 4 Programs are numbered from 00 to 127.  In this example the Program selected is number 01.

② __Bank__.  The MidiVerb 4 has two Banks of 128 Programs:  the Preset Bank and User Bank.  The display will either say "PRESET" or "USER", depending on the current Bank.  In this example we are in the Preset Bank.

③ __Program Name__.  Each Program has its own eight character name.  This one is called Lrg Hall.  The 128 User Programs can be renamed; the 128 Preset Programs are pre-programmed at the factory and cannot be renamed.

④ __Configuration__.  This tells us which effects are used by this Program, the order in which our input signal(s) will pass through them, and whether this is a Stereo or Dual Configuration (more about Configurations in Chapter 3).  The Configuration for this Program is called CONCERT HALL.

⑤ __Level Meters__.  These peak style meters monitor the signal strength of the unprocessed *inputs*, and are used in much the same

way as the level meters on a standard tape recorder.  The meters shown in this example are idle, indicating that there is no input signal activity. Normally, these are labeled as "L" and "R". However, when the selected Program uses a Dual type Configuration (two mono effects), these will be labeled as "CH1" and "CH2". For more information on Dual Configurations, see Chapter 3.

When editing a Program, the display changes slightly to indicate additional information. Once in Edit mode, the display will look something like this:



① __Page Numbers__.  Depending on the Configuration, there will be up to four pages available in Edit mode. In this example, only three pages are available.

② __Selected Page__.  The currently selected page will be indicated by a box around its number. In this example, page 1 is currently selected. Each time you press the [EDIT/PAGE] button, the display will advance to the next page.

③ __Parameter Name Strip__.  Each page in Edit mode contains up to four parameters. whose names will appear at the top of the display, above their value settings.

④ __Parameter Values and Bar Graphs__.  Each parameter in the selected page is shown with both a numerical value and a bargraph. As you adjust a parameter, both its numerical value and bargraph will change in relation to the [VALUE] knob's position. The type of units a parameter uses will be shown as well (dB, mSec, kHz, etc.).

⑤ __A, B, C, D and EDITED Indicators__.  Each parameter in the selected page is designated by a letter (A, B, C or D), which indicates which button ([A], [B], [C] or [D]) should be pressed to select the desired parameter for editing. Once a parameter has been edited, the word "EDITED" will appear below it.

## BYPASS LED Indicator

The [BYPASS] LED will be lit whenever Bypass mode is enabled. Bypass mode can be toggled on and off by simultaneously pressing the [PROG] and [UTIL] buttons, or by pressing a footswitch connected to the [FOOTSWITCH] jack (if the footswitch is switched to act as a "Bypass" function; see "UTILity Button", next page).

## VALUE Knob

The [VALUE] knob is used to raise or lower the selected value in the display by turning either clockwise or counterclockwise. If the [PROG] button is lit, turning the [VALUE] knob lets you scroll through the internal Programs. When an effect parameter is selected (flashing in the display), turning the [VALUE] knob will alter its value.

## PROGram Button

The [PROG] button is used to select Program mode.  When Program mode is selected, the [PROG] button will be lit. The [VALUE] knob may then be used to scroll through programs. The [PROG] button is also used to toggle between the Preset and User  banks. The display  will show either "PRESET" or "USER" indicating the currently selected bank.

The [PROG] button is also used in conjunction with the [UTIL] button to toggle between "BYPASS" ON and "BYPASS" OFF.

## EDIT/PAGE Button

The [EDIT/PAGE] button is used in either Program or Utility mode to advance through the available pages. When [EDIT/PAGE] is pressed in Program mode, the Program's parameters will be displayed for editing. When the [EDIT/PAGE] button is pressed in the Utility mode it advances through the various pages of Utility functions. The total number of pages will appear in the lower left corner of the display, and the currently selected page will have a box around it. Each time [EDIT/PAGE] is pressed  it  will advance to the next page; when the last page is reached  it  cycles back to the first page.

## A/B/C/D (NAME/ESC/</>) Buttons

The [A], [B], [C] and [D] buttons are used in Program mode to select the parameters to be edited within each of the available page. When in Program mode, pressing any of the [A], [B], [C] and [D] buttons will select the corresponding parameter  (A, B, C, or D) in the display, and the selected parameter  will flash.

When selecting a parameter, if the corresponding [A], [B], [C] or [D] button is held for longer than one second, a brief description of that parameter will appear in the display. This is the MidiVerb 4's built-in online help system. If there is no corresponding parameter for one or more of the [A], [B], [C] and [D] buttons in a particular page, it will be indicated in the display when the button is pushed. For example, if you were editing an effect in page one which did not have an "A" parameter displayed and the [A] button was pressed, the message "NO "A" PARAM ON PAGE 1" would briefly appear.

The [A], [B], [C] and [D] buttons also serve another function. When in Store mode ([STORE] button flashing), the [A], [B], [C] and [D] buttons are used to change the Program's name. Pressing [A/NAME] moves the cursor in the display to the first

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character of the Program's name. The [C/<] and [D/>] buttons move the cursor left and right, respectively, through the eight character fields of the Program's name. To move the cursor back to the Program location number, press [B/ESC].

## UTILity Button

When the [UTIL] button is pressed, it will light and the display will be showing the last selected page. There are a total of 6 Utility pages, as indicated by the numbers 1 through 6 appearing in the lower-left corner of the display. You can advance through each page by pressing the [EDIT/PAGE] button. The currently selected page number will have a box around it. The Utility pages provide various functions which are not stored with the Effects Programs. These include:

**Page 1: Footswitch and Dry Defeat.** The Footswitch parameter selects the rear-panel [FOOTSWITCH] jack's mode. This can be set to one of three functions: to advance the Program number, to toggle Bypass mode on and off, or to control the delay time of a Delay effect using a technique called "tap tempo". Press the [B] button select the Footswitch parameter, and turn the [VALUE] knob to choose between Adv (Advance mode), bYP (Bypass mode) or ctL (Control mode). When set to Control mode, the footswitch can be used with tap tempo in two ways: 1) you can repeatedly press the footswitch down using a tempo you wish the delay time to match; or 2) you can hold down the footswitch and use the audio connected to the MidiVerb 4's input(s) to trigger the tap tempo function. Also, when Control mode is selected and the Lezlie effect is used, the footswitch toggles the Speed parameter between slow and fast. For more about tap tempo, see Chapter 3. For more about using a footswitch, see Chapter 2.

The Dry Defeat function, when enabled,  removes the direct (dry) signal globally from all Programs simultaneously, so that only effected (wet) signal is routed to the outputs. Use the [D] button to toggle the Dry Defeat function on and off.

```
Foostwitch  Dry Defeat
```

**Page 2: Cascade Mode.** This applies only to Programs with Dual Configurations. Use [D] to toggle Cascade mode on and off. When Cascade mode is turned on, the output of channel 1's effect is routed internally to the input of channel 2's effect.

```
Dual Programs:   Cascade
```

**Page 3: MIDI.** Three functions are available in Utility page 3, all dealing with MIDI. The first is MIDI Channel (Chan), which can be selected by pressing [B] and using the [VALUE] knob to select a channel from 1 to 16, or to 00 for Omni mode (all 16 channels simultaneously). The next function, MIDI-Thru (Thru), can be toggled on and off by pressing [C]. When turned on, the MidiVerb 4 allows the MIDI data received at the [MIDI IN] port to be passed through to the [MIDI OUT/THRU] port. The third functionis Program Change Enable (PChg). This can be set by pressing [D] and using the [VALUE] knob to either Off, On or Table. When set to off, the MidiVerb 4 ignores program change messages. When set to on, incoming MIDI program change messages received on the same channel the MidiVerb 4 is set to will recall the same numbered User Program. When set to table, the MidiVerb 4 will use the Program Change Table (see below) to remap incoming program change messages.

```
MIDI:   Chan  Thru  PChg
```

**Page 4: Modulators.** This is where you select the two MIDI modulation sources which will be used for all Programs to control their parameters. The parameters these control depend on the selected Program's Configuration. For example, in all Reverb Configurations, Modulator X controls the Reverb Decay Time, while Modulator Y controls the Wet/Dry Mix. Either Modulator can be assigned to: Pitch Bend, Aftertouch, Note Number, Velocity or a Controller from 000–119. Each Modulator's amplitude can be set between -99 and +99. The default settings are: Mod#X = 001 (modulation wheel), Mod#Y = 007 (volume), Amp X and Y = 000. For more information and a list of the modulated parameters in each Configuration, see Chapter 6.

```
Mod#X  AmpX  Mod#Y  AmpY
```

**Page 5: Program Table.** The Program Table allows you to intercept incoming program change messages and have them recall specific Programs (in either the Preset or User bank) which may not be the same number as the program change message received. There are 128 different possible MIDI program change messages (000 – 127). However, the MidiVerb 4 has 256 Programs to choose from. Therefore, the Program Table allows us to choose which of the 256 Programs will be recalled when certain program change numbers are received. The first value in the display indicates the MIDI program change you wish to remap (000—127). The second value indicates the Program you wish to be recalled (00—127 Preset (Pset) and 00—127 User). You can remap each of the 128 program change numbers, if so desired.

```
Program Tbl:  MIDI  User
```

If the D parameter is lowered below User 000, the display will change from User to Pset to indicate that you are now assigning an incoming program change number to a Program in the Preset bank.

```
Program Tbl:  MIDI  Pset
```

**Page 6: Sends Sysex.** This page lets you dump out all 128 User Programs or the current Program being used/edited, or the Program Change Table (see above). The data is sent as Sysex information. This can be sent to a MIDI storage device, or to another MidiVerb 4. Select either All or Buffer (the currently selected Program which is in the edit buffer), or Table. When this page is selected, the [UTIL] button will flash to indicate that pressing the [UTIL] button starts the MIDI dump. The display will read "Transmitting Sysex..." and the [UTIL] button will flash quickly, indicating that all 128 User Programs are being sent out the [MIDI OUT] connector. See Chapter 6 for more information regarding MIDI applications.

```
Send MIDI Sysex: All
```

## STORE Button

The [STORE] button is used to permanently keep changes you make to a Program, or to copy a Program to a different location. When pressed for the first time, the [STORE] button will flash, to indicate that it is prepared to store the current Program. At this point, you can choose to alter the Program's name, and/or choose a different location to store the Program into. When you're ready to store, press the [STORE] button a second time.

To store an edited Program:

① Press [STORE].
   *The* [STORE] *button will flash, and the display will read:*

   ┌─────────────────────────────────────────┐
   │ Store as XXX (nnnnnnnn)?                 │
   └─────────────────────────────────────────┘

   *…whereas XXX is a Program location number from 00—127 in the User bank, and*
   *nnnnnnnn is the Program's name.*

② Use the [VALUE] knob to select which location (00—127) you wish to store the
   selected Program into.
   *You can only store Programs into the User bank. If you select a Program from the Preset*
   *bank and store it, you will automatically be taken into the User bank.*

③ If desired, change the Program's name.
   *See the section on the "A/B/C/D Buttons", earlier in this chapter.*

④ Press [STORE] again.
   *The* [STORE] *button's LED will momentarily flash quickly, while the display reads:*

   ┌─────────────────────────────────────────┐
   │ Program nnnnnnnn Stored!                 │
   └─────────────────────────────────────────┘

   *…whereby nnnnnnnn is the Program's name. The* [STORE] *button will turn off and the*
   *display will revert to wherever it was before* [STORE] *was pressed for the first time.*

## INPUT and OUTPUT Buttons

The [INPUT] Button is used to view and adjust the input levels. The [OUTPUT]
Button is used to view and adjust the output levels. When either button is pressed by
itself, the display will show either the current input or output settings, depending on
which button was pressed. The [VALUE] knob can then be used to adjust the level
setting.

• If the currently selected Program uses a Stereo Configuration, you will be able to
  adjust both channels simultaneously , as indicated by the fact that only one
  parameter ( STEREO) appears in the display.

• If the currently selected Program uses a Dual Configuration, the Ch. 1 and Ch. 2
  levels can be adjusted separately, as indicated by the fact that two parameters (Ch
  1 and Ch 2) appear in the display. The currently selected channel's value will
  flash in the display. To select Ch. 1, press the [C] button. To select Ch. 2, press the
  [D] button.

## Auto Level

When both  [INPUT] and [OUTPUT] buttons are pressed simultaneously, the Auto
Level function is activated. This function "listens" to the signal present at the input
jacks and sets the input level to an appropriate value. The Auto Level function listens
for a period of five seconds. During this time, you should feed signal to the MidiVerb
4's inputs (i.e. play your guitar or keyboard, or playback tape).
• To cancel the Auto Level function once it has been engaged, press any button on
  the front panel.

• To extend the Auto Level's listening time beyond the normal five second period,
  hold down the footswitch pedal (connected to the [FOOTSWITCH] jack)  during
  the listening process. The Auto Level function will continue listening until the
  footswitch pedal is released.

# Rear Panel

## Power

This is a plug for connecting the +9VAC power supply (supplied). The power supply is then connected to an AC outlet delivering a nominal 120VAC. The correct power supply  must be used AT ALL TIMES. Any other power supply might create a fire risk and/or permanently damage your unit. This damage would NOT be covered under your warranty.

## Bypass/Advance Footswitch

This is a 1/4" phone jack which connects to a footswitch, either normally-open or normally-closed. This footswitch can perform either one of two functions: Bypass or Advance. The function is selected from the UTILity mode.

• When set to the Bypass function and the footswitch is pressed, the signal will bypass the effects chain allowing an instant comparison between the dry and wet signal. The red [BYPASS] LED on the front panel will illuminate.

• When set to the Advance function and the footswitch is pressed, the currently selected program number is advanced by one. When 127 is reached it will roll-over to 00.

*Note:* The footswitch can also be used in conjunction with the Auto Level feature to extend the input level sensing time. Normally the input sensing discontinues five seconds after it has been activated. However,  if the footswitch is held down anytime during input level sensing process, the Auto Level function will continue sensing the inputs indefinitely until the footswitch is released. When this is done the footswitch will not perform its normal function, whether set to Bypass or Advance mode. Once the footswitch is released and level sensing ceases, the footswitch returns to its assigned function.

For more information about the Auto Level function see "INPUT and OUTPUT Buttons", earlier in this chapter.

## MIDI In

This is a 5 pin DIN standard MIDI plug which connects to any MIDI compatible equipment such as a MIDI sequencer that will send program changes and controller information to the unit.

## MIDI Out/Thru

This is a 5 pin DIN standard MIDI plug which connects to any MIDI compatible equipment such as a keyboard or another effects device. Provided for sending MIDI program change commands as well as sending system exclusive commands for storing programs. It also relays all messages received on the [MIDI IN] if MIDI THRU is enabled. The MIDI THRU function is found in the UTILity mode (see "UTILity Button", earlier in this chapter).

## Input (Left/Ch.1 & Right/Ch.2)

These are 1/4" phone jacks which connect to sources such as the effects sends of mixing consoles. They may be used with nominal input levels from -10dBV (guitar level) to +4dBu. For mono applications, use the [LEFT/CH.1] input.

The [LEFT/CH.1] input jack is normalled to the [RIGHT/CH.2] jack. This means that when nothing is plugged into the [RIGHT/CH.2] input jack, the signal present at the [LEFT/CH.1] input is routed to the [RIGHT/CH.2] as well.

## Output (Left/Ch.1 & Right/Ch.2)

These are 1/4" phone jacks which connect to devices such as the effects returns on a mixing console. For mono applications, use the [LEFT/CH.1] output.

✪ *When Cascade mode is on (routing the output of Ch. 1 to the input of Ch. 2 of Dual Configurations only), the* [LEFT/CH.1] *output will only supply the signal coming from the effect on channel 1. However, the* [RIGHT/CH.2] *output will provide the cascaded output signal of the effect on channel 1 passing through the effect on channel 2. This means when you are using a mono connection (*[LEFT/CH.1] *input and output only), you must connect to the* [RIGHT/CH.2] *output to hear both effects of channels 1 and 2. in Cascade mode.*

# Effect Parameters

The following chart lists the parameters found on each page of each Configuration. Use this as a road map to locate a specific parameter you want to edit.

| Configuration | Pg | A | B | C | D |
|---|---|---|---|---|---|
| CONCERT HALL | 1 | Decay<br>!97-135˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-175© | PMix<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | LDamp<br>OFF, 059ƒ-3^2∂ | HDamp<br>059ƒ-3^2∂, OFF |
| | 3 | | Gate<br>OFF, 001-100å | Hold<br>000-500© | Rel<br>000-500© |
| | 4 | | Swirl<br>00-99 | | Mix<br>000-100å |
| REAL ROOM | 1 | Decay<br>!00-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMix<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | LDamp<br>OFF, 059ƒ-3^2∂ | HDamp<br>059ƒ-3^2∂, OFF |
| | 3 | | Gate<br>OFF, 001-100å | Hold<br>000-500© | Rel<br>000-500© |
| | 4 | | Swirl<br>00-99 | | Mix<br>000-100å |
| AMBIENCE | 1 | Decay<br>650©-2!2˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMx<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | LDamp<br>OFF, 059ƒ-3^2∂ | HDamp<br>059ƒ-3^2∂, OFF |
| | 3 | | Gate<br>OFF, 001-100å | Hold<br>000-500© | Rel<br>000-500© |
| | 4 | | Swirl<br>00-99 | | Mix<br>000-100å |

| | | | | | |
|---|---|---|---|---|---|
| PLATE REVERB | 1 | Decay<br>!59-6!2˙ | LPF<br>059*ƒ*-3^2∂, OFF | PDly<br>000-75© | PMx<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | LDamp<br>OFF, 059*ƒ*-3^2∂ | HDamp<br>059*ƒ*-3^2∂, OFF |
| | 3 | | Gate<br>OFF, 001-100å | Hold<br>000-500© | Rel<br>000-500© |
| | 4 | | Swirl<br>00-99 | | Mix<br>000-100å |
| NONLINEAR | 1 | Time<br>100-600© | LPF<br>059*ƒ*-3^2∂, OFF | PDly<br>000-250© | PMx<br>000-100å |
| | 2 | Dir<br>For, rEv | Dens<br>000-100å | Diff<br>000-100å | Mix<br>000-100å |
| MONO DELAY | 1 | Tap<br>--- | 100ms<br>0-12 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 2 | Fdbk<br>00-99å | LoCut<br>OFF, 059*ƒ*-3^2∂ | HiCut<br>059*ƒ*-3^2∂, OFF | Mix<br>000-100å |
| STEREO DELAY | 1 | L: Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 2 | R: Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 3 | | LFdbk<br>00-99å | | RFdbk<br>00-99å |
| | 4 | | LoCut<br>OFF, 059*ƒ*-3^2∂ | HiCut<br>059*ƒ*-3^2∂, OFF | Mix<br>000-100å |
| PING PONG DELAY | 1 | Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 2 | Fdbk<br>00-99å | LoCut<br>OFF, 059*ƒ*-3^2∂ | HiCut<br>059*ƒ*-3^2∂, OFF | Mix<br>000-100å |

| | | | | | |
|---|---|---|---|---|---|
| MULTI TAP DELAY | 1 | Time 1 Ⓒ 000-250 | Lvl 1 00-99 | Pan 1 -50-50 | Fdbk 1 00-99å |
| | 2 | Time 2 Ⓒ 000-250 | Lvl 2 00-99 | Pan 2 -50-50 | Fdbk 2 00-99å |
| | 3 | Time 3 Ⓒ 000-250 | Lvl 3 00-99 | Pan 3 -50-50 | Fdbk 3 00-99å |
| | 4 | MFdbk 000-100å | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| BPM MONO DELAY | 1 | | Tempo EcL, 050-250 | Note 4-32 | Fdbk 00-99å |
| | 2 | | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| DELAY:DELAY | 1 | Tap --- | 100ms 0-5 | 10ms 0-9 | 1ms 0-9 |
| | 2 | Fdbk 00-99å | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| | 3 | Tap --- | 100ms 0-5 | 10ms 0-9 | 1ms 0-9 |
| | 4 | Fdbk 00-99å | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| STEREO CHORUS | 1 | | Rate )0ƒ-(9ƒ | Depth 000-255 | Fdbk 00-99å |
| | 2 | | LPDly 000-255© | RPDly 000-255© | Mix 000-100å |
| QUAD CHORUS | 1 | | Rate )0ƒ-(9ƒ | Depth 000-255 | Fdbk 00-99å |
| | 2 | PDly 1 000-255© | PDly 2 000-255© | PDly 3 000-255© | PDly 4 000-255© |
| | 3 | | | | Mix 000-100å |
| CHORUS: CHORUS | 1 | Rate )0ƒ-(9ƒ | Depth 000-255 | Fdbk 00-99å | PDly 000-255© |
| | 2 | | Wave Sin, tri | | Mix 000-100å |
| | 3 | Rate )0ƒ-(9ƒ | Depth 000-255 | Fdbk 00-99å | PDly 000-255© |
| | 4 | | Wave Sin, tri | | Mix 000-100å |

| STEREO FLANGE | 1 | Rate )0ƒ-(9ƒ | Depth 000-250 | Fdbk -99-99å | Thru0 OFF, On |
|---|---|---|---|---|---|
| | 2 | Trig 0ffffffffFF, L, r, Lr | Attck 000-255 | Rel 000-255 | Mix 000-100å |
| FLANGE: FLANGE | 1 | Rate )0ƒ-(9ƒ | Depth 000-250 | Fdbk -99-99å | Wave Sin, tri |
| | 2 | Trig 0ffffffffFF, L, r, Lr | Attck 000-255 | Thru0 OFF, On | Mix 000-100å |
| | 3 | Rate )0ƒ-(9ƒ | Depth 000-250 | Fdbk -99-99å | Wave Sin, tri |
| | 4 | Trig 0ffffffffFF, L, r, Lr | Attck 000-255 | Thru0 OFF, On | Mix 000-100å |
| LEZLIE}ROOM | 1 | Motor OFF, On | Speed SLo, FSt | HiRot 000-250 | Mix 000-100å |
| | 2 | Decay 946©-4#4˙ | LPF 059ƒ-3^2∂, OFF | Dens 000-100å | Diff 000-100å |
| | 3 | Gate OFF, 001-100å | Hold 000-500© | Rel 000-500© | RMix 000-100å |
| STEREOPITCHSHFT | 1 | SemiL -12-12 | FineL -50-50 | SemiR -12-12 | FineR -50-50 |
| | 2 | PDlyL 000-250© | FdbkL 00-99å | PDlyR 000-250© | FdbkR 00-99å |
| | 3 | LvlL 00-99 | PanL -50-50 | LvlR 00-99 | PanR -50-50 |
| | 4 | | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| PITCH:PITCH | 1 | Semi -12-12 | Fine -50-50 | PDly 000-250© | Fdbk 00-99å |
| | 2 | | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| | 3 | Semi -12-12 | Fine -50-50 | PDly 000-250© | Fdbk 00-99å |
| | 4 | | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF | Mix 000-100å |
| AUTO PAN | 1 | Rate )0ƒ-2%5ƒ | Dir Lr,rL,ALt | LoCut OFF, 059ƒ-3^2∂ | HiCut 059ƒ-3^2∂, OFF |
| | 2 | Trig 0ffffffffFF, L, r, Lr | Attck 0-255 | Hold 0-990© | Mix 000-100å |

| DELAY}<br>REALROOM | 1 | Tap<br>--- | 100ms<br>0-7 | 10ms<br>0-9 | 1ms<br>0-9 |
|---|---|---|---|---|---|
| | 2 | | Fdbk<br>00-99å | HiCut<br>059ƒ-3^2∂, OFF | DMix<br>000-100å |
| | 3 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | Dens<br>000-100å | Diff<br>000-100å |
| | 4 | Gate<br>OFF, 001-100å | Hold<br>000-500© | Rel<br>000-500© | RMix<br>000-100å |
| CHORUS}<br>REALROOM | 1 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-255 | Fdbk<br>00-99å | CDly<br>000-255© |
| | 2 | | Wave<br>Sin, tri | | CMix<br>000-100å |
| | 3 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMix<br>000-100å |
| | 4 | Dens<br>000-100å | Diff<br>000-100å | Gate<br>OFF, 010-500© | RMix<br>000-100å |
| FLANGE}<br>REALROOM | 1 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-250 | Fdbk<br>-99-99å | Wave<br>Sin, tri |
| | 2 | Trig<br>0ffffffffFF, L, r,<br>Lr | Attck<br>000-255 | Rel<br>000-255 | FMix<br>000-100å |
| | 3 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMix<br>000-100å |
| | 4 | Dens<br>000-100å | Diff<br>000-100å | Gate<br>OFF, 010-500© | RMix<br>000-100å |
| REALROOM}<br>FLANGE | 1 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMix<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | Gate<br>OFF, 010-500© | RMix<br>000-100å |
| | 3 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-250 | Fdbk<br>-99-99å | Wave<br>Sin, tri |
| | 4 | Trig<br>0ffffffffFF, L, r,<br>Lr | Attck<br>000-255 | Rel<br>000-255 | FMix<br>000-100å |

| CHORUS}DLY}<br>ROOM | 1 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-255 | Fdbk<br>00-99å | CMix<br>000-100å |
|---|---|---|---|---|---|
| | 2 | Time<br>000-500 Ⓒ | Fdbk<br>00-99å | HiCut<br>059ƒ-3^2∂, OFF | DMix<br>000-100å |
| | 3 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | Dens<br>000-100å | Diff<br>000-100å |
| | 4 | Gate<br>OFF, 001-100å | Hold<br>000-500Ⓒ | Rel<br>000-500Ⓒ | RMix<br>000-100 |
| FLANGE}DLY}<br>ROOM | 1 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-250 | Fdbk<br>-99-99å | FMix<br>000-100å |
| | 2 | Tap<br>000-500 Ⓒ | Fdbk<br>00-99å | HiCut<br>059ƒ-3^2∂, OFF | DMix<br>000-100å |
| | 3 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | Dens<br>000-100å | Diff<br>000-100å |
| | 4 | Gate<br>OFF, 001-100å | Hold<br>000-500Ⓒ | Rel<br>000-500Ⓒ | RMix<br>000-100 |
| REALROOM+<br>DELAY | 1 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | Dens<br>000-100å | Diff<br>000-100å |
| | 2 | Gate<br>OFF, 001-100å | Hold<br>000-500Ⓒ | Rel<br>000-500Ⓒ | RMix<br>000-100 |
| | 3 | Tap<br>--- | 100ms<br>0-7 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 4 | Fdbk<br>00-99å | HiCut<br>059ƒ-3^2∂, OFF | | DMix<br>000-100å |
| REALROOM+<br>CHORUS | 1 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250Ⓒ | PMix<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | Gate<br>OFF, 000-500Ⓒ | RMix<br>000-100å |
| | 3 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-255 | Fdbk<br>00-99å | CMix<br>000-100å |
| | 4 | | Wave<br>Sin, tri | | CMix<br>000-100å |

| | | | | | |
|---|---|---|---|---|---|
| REALROOM+ FLANGE | 1 | Decay<br>!0-7%8˙ | LPF<br>059ƒ-3^2∂, OFF | PDly<br>000-250© | PMix<br>000-100å |
| | 2 | Dens<br>000-100å | Diff<br>000-100å | Gate<br>OFF, 000-500© | RMix<br>000-100å |
| | 3 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-250 | Fdbk<br>-99-99å | Wave<br>Sin, tri |
| | 4 | Trig<br>0ffffffffFF, L, r, Lr | Attck<br>000-255 | Rel<br>000-255 | FMix<br>000-100å |
| CHORUS: DELAY | 1 | Rate<br>)0ƒ-(9ƒ | Depth<br>000-255 | Fdbk<br>00-99å | PDly<br>000-250© |
| | 2 | | Wave<br>Sin, tri | | Mix<br>000-100å |
| | 3 | Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 4 | Fdbk<br>00-99å | LoCut<br>OFF, 059ƒ-3^2∂ | HiCut<br>059ƒ-3^2∂, OFF | Mix<br>000-100å |
| FLANGE: DELAY | 1 | | Rate<br>)0ƒ-(9ƒ | Depth<br>000-250 | Fdbk<br>-99-99å |
| | 2 | | Wave<br>Sin, tri | | Mix<br>000-100å |
| | 3 | Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 4 | Fdbk<br>00-99å | LoCut<br>OFF, 059ƒ-3^2∂ | HiCut<br>059ƒ-3^2∂, OFF | Mix<br>000-100å |
| PITCH: DELAY | 1 | Semi<br>-12-12 | Fine<br>-50-50 | PDly<br>000-250© | Fdbk<br>00-99å |
| | 2 | | LoCut<br>OFF, 059ƒ-3^2∂ | HiCut<br>059ƒ-3^2∂, OFF | Mix<br>000-100å |
| | 3 | Tap<br>--- | 100ms<br>0-5 | 10ms<br>0-9 | 1ms<br>0-9 |
| | 4 | Fdbk<br>00-99å | LoCut<br>OFF, 059ƒ-3^2∂ | HiCut<br>059ƒ-3^2∂, OFF | Mix<br>000-100å |

# MIDI APPLICATIONS

## MIDI Functions

The MidiVerb 4 provides many MIDI functions, including being able to respond to program changes, sending and receiving Program information via Sysex (System Exclusive) dumps, and realtime control over effect parameters via MIDI controllers. For more information about basic MIDI connections, see Chapter 2.

### MIDI Channel

The MIDI Channel is used to receive program change messages, as well as other MIDI events for use with the realtime modulation capabilities in the MidiVerb 4.

To set the MidiVerb 4's MIDI channel:

① Press [UTIL].
   *The* [UTIL] *button will light.*

② Press the [EDIT/PAGE] button until page 3 is selected.
   *The display will look like this:*

```
 ┌─────────────────────────────────────────────────────────┐
 │            MIDI:  Chan  Thru  PChg                        │
 │  01   PRESET        01   ¡  0FF   •  0n      ¢            │
 │                        B        C        D                │
 │  PAGE  1  2 3  4  5  6   L▬▬▬▬▬▬▬     R▬▬▬▬▬▬▬▬▬▬          │
 └─────────────────────────────────────────────────────────┘
```
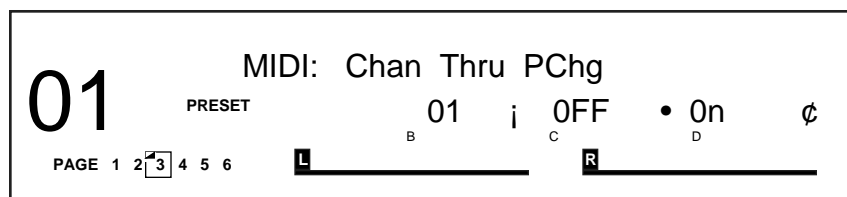
③ Press [B] to select the MIDI Channel parameter.
   *The current MIDI Channel value will be flashing to indicate it is now selected for editing. In the example above, the MIDI channel is set to 01.*

④ Turn the [VALUE] knob to set the MIDI Channel to either 01 through 16, or 00 for Omni mode (receives on all 16 channels simultaneously).

### MIDI Thru

In order to pass on MIDI information from a control device thru the MidiVerb 4 to another MIDI device:

① Connect the control device's MIDI OUT to the MidiVerb 4's [MIDI IN]. Then connect the MidiVerb 4's [MIDI OUT] to the MIDI IN of the other device you wish to control.

② Press [UTIL], then press the [EDIT/PAGE] button until page 3 is selected.

③ Press the [D] button to turn MIDI Thru On.

## Receiving Program Changes

In order to recall programs on the MidiVerb 4 from a MIDI control device (keyboard, drum pad, guitar or bass controller, sequencer, etc.):

① Connect the control device's MIDI OUT to the MidiVerb 4's [MIDI IN].

② Press [UTIL], then press the [EDIT/PAGE] button until page 3 is selected.

③ Press the [D] button to select the MIDI Program Change field.

④ Use the [VALUE] knob to select either OFF, On or tbL.

   • When OFF, the MidiVerb 4 ignores incoming program change messages.

   • When On, program changes received on the MIDI channel the MidiVerb 4 is set to will recall the same numbered Program in the currently selected bank

   • When set to tbL, you can use the Program Change Table to remap incoming program change messages in order to select any MidiVerb 4 Program in either the Preset or User bank (see next section).

*Note:* It is possible to select either the Preset or User bank via MIDI by sending a Controller 0 message immediately followed by a program change message. A Controller 0 with a value of 0 will select the Preset bank, while a value of 1 or higher (up to 127) will select the User bank.

## Program Change Table

The Program Change Table re-maps incoming program change messages so that they recall MidiVerb 4 Programs of a different number. This is especially useful since MIDI program changes only allow for 128 different programs to be recalled (0–127). Using the Program Table, you can have any incoming MIDI program change message recall any of the 256 Programs in the MidiVerb 4. *Example:* If you programmed the Table so that program message 101 was mapped to Preset 33, sending a MIDI program change message of 101 to the MidiVerb 4 would recall Program Preset 33.

To modify the Program Change Table:

① Press [UTIL], then press the [EDIT/PAGE] button until page 5 is selected.
*The display will look like this:*

```
                    Program Tbl:   MIDI   User
  01 PRESET                      000 ¡  000 ¡
                                C       D
  PAGE 1 2 3 4 5 6    L_____  R_____
```
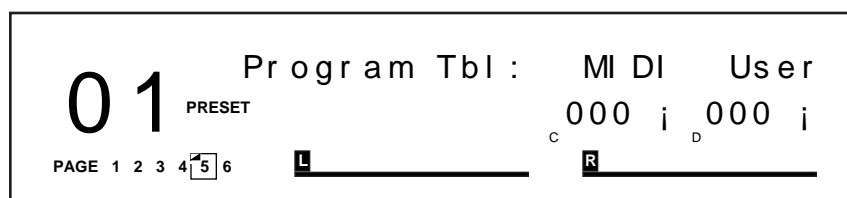
② Press the [C] button to select the MIDI Program Number field.
*The MIDI Program Number field will flash to indicate it is selected for editing.*

③ Turn the [VALUE] knob to select a MIDI program change number from 000–127 to be remapped.

④ Press the [D] button to select the Program field.
*The Program field will flash to indicate it is selected for editing.*

⑤ Turn the [VALUE] knob to select a MidiVerb 4 Program for the selected MIDI program change message to be re-mapped to (User 000–127 or Preset 000–127).
*If the* [VALUE] *knob is turned counterclockwise so that the value goes below User 000, the upper display will change to* Pset *indicating you are selecting a Program in the Preset bank.*

## Sysex Storage

In order to send and receive Program information via Sysex (System Exclusive) dumps using a computer, or some other Sysex storage device, or another MidiVerb 4:

① Connect the other device's MIDI OUT to the MidiVerb 4's [MIDI IN]. Connect the MidiVerb 4's [MIDI OUT] to the other device's MIDI IN.
*This provides two-way communication between the devices.*

② Press [UTIL], then press [EDIT/PAGE] button until page 6 is selected.
*The* [UTIL] *button will now be flashing, and the display will read:*

```
Send MIDI Sysex: All
```

③ Use the [VALUE] knob to select All User Programs (All), or the currently selected Program (Buffer), or the Program Change Table (Table).

④ Set the receiving MIDI device to receive or record the MIDI information about to be sent from the MidiVerb 4.

⑤ Press the flashing [UTIL] button to transmit.
*The* [UTIL] *button will briefly flash rapidly and the display will read:*

```
Transmitting Sysex...
```

⑥ When you send a Sysex dump back to the MidiVerb 4, it will automatically go into receive mode (you do not have to do anything special). When this occurs, the display will momentarily read:

```
RECEIVING MIDI DATA...
```

*Note:* If an error occurs while receiving Sysex data back into the MidiVerb 4, the display will briefly indicate:

```
!!! SYSEX DATA ERROR !!!
```

If this occurs, try sending the data again. If the problem persists, it may indicate a bad MIDI cable connection or a problem with the data itself.

# Realtime Modulation Functions

You can use various MIDI messages (such as note number, velocity, aftertouch, or pitch-bend, etc.) to simultaneously control up to two parameters in the MidiVerb 4, such as delay time, room size, etc. Modulation functions are "hard-wired" in each Configuration, and therefore cannot be changed. However, you can select which two types of MIDI messages will act as the modulation sources, and you can adjust how much they will affect the MidiVerb 4's parameters by either a positive or negative amount.

The two parameters in each Configuration which can be modulated via MIDI have been chosen very carefully to provide the most-desired modulation combinations. The two modulation sources are designated as Modulator X and Modulator Y. In the Utility mode, you can select the type of MIDI message which will be designated as each Modulator. The parameters that Modulators X and Y control are determined by the selected Program's Configuration. *Example:* If using any of the Stereo Reverb Configurations, Modulator X controls the Reverb's decay time, while Modulator Y controls the Reverb's wet/dry mix.

Keep in mind that both Modulator X and Y can be assigned to the same MIDI message. Therefore, a single MIDI source can modulate two different parameters simultaneously.

## Defining the Modulation Sources

To select which type of MIDI messages will be used as Modulators X and Y:

① Press [UTIL].
*The* [UTIL] *button will light .*

② Press the [EDIT/PAGE] button until page 4 is selected.
*The display will look like this:*
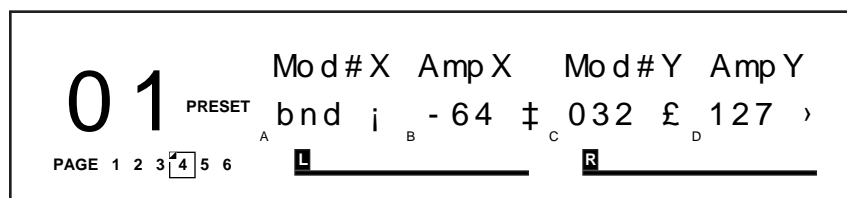


③ Press the [A] button to select the Modulator X field, and turn the [VALUE] knob to select the type of MIDI message that will be used by Modulator X.
*You can choose from: pitch-bend (*bnd*), aftertouch (*AFt*), note number (*not*), velocity (*UEL*), or a controller number from 000–119.*

④ Press the [B] button to select the Amplitude X field, and turn the [VALUE] knob to set the amount of control Modulator X will have over the parameters it controls.
*This can be set anywhere from -99 to +99.*

⑤ Repeat steps ③ and ④, substituting buttons [A] and [B] with buttons [C] and [D] to select the type of MIDI message for Modulator Y and adjust its amplitude.

## Modulation Parameters Index

The following is a chart describing which parameters of each Configuration are controlled by Modulators X and Y. Use this chart to determine what control possibilities exist for each Program.

| Configuration | Mod X | Mod Y |
|---|---|---|
| CONCERT HALL | Decay | Wet/Dry Mix |
| REAL ROOM | Decay | Wet/Dry Mix |
| AMBIENCE | Decay | Wet/Dry Mix |
| PLATE REVERB | Decay | Wet/Dry Mix |
| NONLINEAR | Decay | Wet/Dry Mix |
| MONO DELAY | Feedback | Wet/Dry Mix |
| STEREO DELAY | Feedback | Wet/Dry Mix |
| PING PONG DELAY | Feedback | Wet/Dry Mix |
| MULTI TAP DELAY | Master Feedback | Wet/Dry Mix |
| BPM MONO DELAY | Feedback | Wet/Dry Mix |
| DELAY:DELAY | Delay 1 Feedback | Delay 2 Feedback |
| STEREO CHORUS | Wet/Dry Mix | Depth* |
| QUAD CHORUS | Wet/Dry Mix | Depth* |
| CHORUS:CHORUS | Chorus 1 Wet/Dry Mix | Chorus 2 Wet/Dry Mix |
| STEREO FLANGE | Wet/Dry Mix | Depth* |
| FLANGE:FLANGE | Flange 1 Wet/Dry Mix | Flange 2 Wet/Dry Mix |
| LEZLIE->ROOM | Speed (slow/fast) | Motor (on/off) |
| STEREOPITCHSHFT | (none) | (none) |
| PITCH:PITCH | (none) | (none) |
| AUTO PAN | (none) | (none) |
| DELAY->REALROOM | Delay Feedback | Reverb Decay |
| CHORUS->REALROOM | Chorus Wet/Dry Mix | Reverb Decay |
| FLANGE->REALROOM | Flange Wet/Dry Mix | Reverb Decay |
| REALROOM->FLANGE | Reverb Decay | Flange Wet/Dry Mix |
| CHORUS->DLY->ROOM | Chorus Wet/Dry Mix | Reverb Decay |
| FLANGE->DLY->ROOM | Flange Wet/Dry Mix | Reverb Decay |
| REALROOM+DELAY | Reverb Decay | Delay Feedback |
| REALROOM+CHORUS | Reverb Decay | Chorus Depth |
| REALROOM+FLANGE | Reverb Decay | Flange Depth |
| CHORUS:DELAY | Chorus Wet/Dry Mix | Delay Feedback |
| FLANGE:DELAY | Flange Wet/Dry Mix | Delay Feedback |
| PITCH:DELAY | (none) | Delay Feedback |

\* *Note:* If audio is going through a chorus effect and the depth parameter is changed, you will notice audible "clicks". This is due to the fact that the processor is making significant changes in the effect's algorithm. We recommend that you change the setting of this parameter only while no audio is running through the effect.

## Setting Modulation Amplitude

Once you have selected which MIDI messages are to be designated as Modulators X and Y, you may then indicate their strength (or how much control they will have over the effect parameters) and in which direction (positive or negative). The amplitude range for both Modulators is -99 to +99. If you chose an amplitude of +99, the Modulator will have full positive control over the parameter it is modulating. But what does this mean to you? Let's take a look at some examples.

Let's say you want your keyboard's modulation wheel (controller #1) to control how much reverb is heard. Since Mod Y is wired to the Wet/Dry Mix, you would first assign Mod Y to be 001. Next, you set the amplitude for how much of the Mix parameter's range you wish to be able to control from the mod wheel. For full control, set the AmpX to 99. At this point you may not hear any effect. This is probably because the effect's Mix parameter is set to 100%; the mod wheel is adding to the parameter's value, but it has nowhere to go. If you bring the Mix parameter all the way down to 0%, the mod wheel will have total control (move the mod wheel all the way up and down to move the Mix parameter from dry only to wet only).

If you are using an effect whose modulated parameters are of the either/or kind (like the Lezlie's Speed parameter; it is either slow or fast), the Modulator will have no effect if the parameter is set to its "second" setting and the Modulator's amplitude is set to a positive value. Once again, this parameter is already at its maximum setting and cannot go any further. Likewise, you will not hear any effect if the parameter is at its first or minimum setting, and the Modulator's amplitude is set to a negative value.

Here's another example. Let's say an effect parameter (which is controlled by Modulator X) is set to 75% of its maximum setting. If Modulator X has an amplitude of 100% and the controller designated as Modulator X is at 100%, the effect parameter will be at its maximum setting. If Modulator X's amplitude is 50%, the parameter will be halfway between its programmed setting of 75% and its maximum setting of 100%. If, on the other hand, Modulator X's amplitude is -99, the parameter will be at its minimum or 0% setting.

## Controlling Delay Time via MIDI Clock

When using the BPM Mono Delay Configuration, it is possible to control the delay time from an external MIDI clock source, such as a MIDI sequencer or drum machine. Any device which can output MIDI clock can be used to control this Configuration's delay time.

First, select a Program on the MidiVerb 4 which uses the BPM Mono Delay Configuration. Then turn the "Tempo" parameter all the way down until the value in the display reads EcL, which means "external clock". The delay time will now be controlled by the MIDI clock signal received at the [MIDI IN] port coming from an external source. If the MIDI clock's tempo changes, the MidiVerb 4 will chase it. If the MIDI clock signal is discontinued, the delay time will remain set to the last tempo which the MIDI clock had been running at.

An additional parameter, called Note, is used to determine what note value the MidiVerb 4 should synchronize to. *Example:* If you set the Note value to 4, then you can synchronize to the quarter-note beats of the incoming MIDI clock. If instead you set the Note value to 8t, you can synchronize to eighth-note triplets relative to the incoming MIDI clock signal. You can also set the Note value to a dotted-note variation, such as *, which lets you synchronize to the dotted-eighth-note beats relative to the incoming MIDI clock signal.

CHAPTER 7

# TROUBLESHOOTING

## Trouble-Shooting Index

If you are experience problems while operating the MidiVerb 4, please use the following table to locate possible causes and solutions before contacting Alesis customer service for assistance.

| Symptom | Cause | Solution |
|---------|-------|----------|
| The display does not light when the ON/OFF switch is turned on. | No power. | Check that the power cable is plugged in properly. |
| Cannot adjust input level of Ch. 2. | Cascade mode is turned on. | Go to UTILity page 2 and press [D] to turn it off. |
| Does not respond to MIDI program changes or modulation control. | MIDI channel is set to a different number than the controlling device. | Go to UTILity page 3 and turn the [VALUE] knob to adjust the MIDI channel. |
| No audio is heard. | Bypass function is on with Dry Defeat on. | Press [UTIL], then press [EDIT] until Page 1 is selected, then press [D] to turn off Dry Defeat. |
| | Bypass function is on with effect's MIX parameter set to 0%. | Use [EDIT] to locate the effect's MIX parameter and set it to 100% (if more than one effect is used in Configuration, adjust each effects' MIX. |
| Cannot adjust an effect's MIX parameter (displays "- - -" instead of a number from 0-100%). | Dry Defeat is turned on. | Press [UTIL], then press [EDIT] until Page 1 is selected, then press [D] to turn off Dry Defeat. |
| Unit does not respond to front panel controls. | Unknown software conflict, cosmic rays, or static electricity. | Disconnect MIDI input. Power down and power up again. If this doesn't work, try reinitialization. |

## Re-initializing

To re-initialize the MidiVerb 4, hold down both [PROG] and [D] while turning on the power. This will reset all Utility parameters to their default settings, and will recall Preset 01.

✪ *Important: The Programs in the User bank are erased when re-initializing the unit this way. Be sure you have stored these Programs into some sort of data storage device via MIDI System Exclusive <u>before</u> performing a re-initialization (see Chapter 6).*

## Checking the Software Version

The current software version may be determined by holding [PROG] and pressing [EDIT]. The display will briefly indicate the currently installed software version.

# Maintenance/Service

## Cleaning

Disconnect the AC cord, then use a damp cloth to clean the MidiVerb 4's metal and plastic surfaces. For heavy dirt, use a non-abrasive household cleaner such as Formula 409 or Fantastik. DO NOT SPRAY THE CLEANER DIRECTLY ONTO THE FRONT OF THE UNIT AS IT MAY DESTROY THE LUBRICANTS USED IN THE SWITCHES AND CONTROLS! Spray onto a cloth, then use cloth to clean the unit.

## Refer All Servicing to Alesis

We believe that the MidiVerb 4 is one of the most reliable multi-effects processors that can be made using current technology, and should provide years of trouble-free use. However, should problems occur, DO NOT attempt to service the unit yourself. High voltage/high current DC voltages are present at several points within the chassis. Service on this product should be performed only by qualified technicians. NO USER-SERVICEABLE PARTS INSIDE.

## Obtaining Repair Service

Before contacting Alesis, check over all your connections, and make sure you've read the manual.

**Customers in the USA:** If the problem persists, call Alesis USA at 1-800-5-ALESIS and request the Product Support department. Talk the problem over with one of our technicians; if necessary, you will be given a return authorization (RA) number and instructions on how to return the unit. All units must be shipped prepaid and COD shipments will not be accepted.

For prompt service, indicate the RA number on the shipping label. If you do not have the original packing, ship the MidiVerb 4 in a sturdy carton, with shock-absorbing materials such as styrofoam pellets (the kind without CFCs) or "bubble-pack" surrounding the unit. Shipping damage caused by inadequate packing is not covered by the Alesis warranty.

Tape a note to the top of the unit describing the problem, include your name and a phone number where Alesis can contact you if necessary, as well as instructions on where you want the product returned. Alesis will pay for standard one-way shipping back to you on any repair covered under the terms of this warranty. Next day service is available for a surcharge.

Field repairs are not normally authorized during the warranty period, and repair attempts by unqualified personnel may invalidate the warranty.

Service address for customers in the USA:

Alesis Product Support
3630 Holdrege Avenue

Los Angeles, CA  90016

**Customers outside the USA:** Contact your local Alesis dealer for warranty assistance. Do not return products to the factory unless you have been given specific instructions to do so. Note that the warranty is valid only in the country of origin.

# MIDI IMPLEMENTATION CHART

| Function | | Transmitted | Recognized | Remarks |
|---|---|---|---|---|
| Basic Channel | Default Changed | X<br>* * * * * * * * | 1 — 16 | |
| Mode | Default Messages Altered | X<br>X<br>* * * * * * * * | Mode 3<br>X | |
| Note Number | True Voice | 0 — 127<br>* * * * * * * * | 0 — 127<br>0 — 127 | |
| Velocity | Note On Note Off | X<br>X | O<br>O | |
| After Touch | Key's Ch's | X<br>X | X<br>O | |
| Pitch Bender | | X | O | |
| Control Change | 0 — 119 | X | O | |
| Prog Change | True # | X<br>* * * * * * * * | O 0 — 99<br>0 — 99 | |
| System Exclusive | | O | O | |
| System Common | Song Pos Song Sel Tune | X<br>X<br>X | X<br>X<br>X | |
| System Realtime | Clock Commands | O<br>X | O<br>X | |
| Aux Messages | Local On/Off All Notes Off Active Sense Reset | X<br>X<br>X<br>X | X<br>X<br>X<br>X | |
| Notes | | | | |

Mode 1: OMNI ON, POLY   Mode 3: OMNI OFF, POLY   O : Yes
Mode 2: OMNI ON, MONO   Mode 4: OMNI OFF, MONO   X : No

# SPECIFICATIONS

## Electrical

| | |
|---|---|
| Frequency Response: | ±1dB from 20Hz to 20 kHz |
| Dynamic Range: | >90dB "A" wtg., 20 Hz-22kHz |
| Distortion: | <0.009% @ 1kHz, nominal level (-12 dBfs) |
| | <0.005% @ peak level |
| Crosstalk: | <90dB below full scale |

## Input

| | |
|---|---|
| Number of Channels: | 2 |
| Format: | 1/4" unbalanced |
| Nominal Level: | -10 dBV |
| Maximum Level: | +10 dBV |
| Impedence: | 1MΩ/channel stereo, 500kΩ/channel mono |

## A/D - D/A Conversions

| | |
|---|---|
| Processor Speed: | 3 MIPs (million instructions per second) |
| Processor Memory: | 64K x 16 bits |
| A/D converter: | 18 bit Sigma-Delta, 128 times oversampling |
| D/A converter: | 18 bit Sigma-Delta, 8 times oversampling |
| Sampling Frequency: | 48 kHz |

## Output

| | |
|---|---|
| Number of Channels: | 2 |
| Format: | 1/4" unbalanced |
| Maximum Level: | +17.5dBu |
| Nominal Level | -20 dBV or +4dBu, front- panel adjustable |
| Output Impedance: | 500 ohms |

## Front Panel

| Controls | Value | |
|---|---|---|
| Buttons | PROG | EDIT/PAGE |
| | UTIL | A/NAME |
| | STORE | B/ESC |
| | INPUT | C/< |
| | OUTPUT | D/> |
| Switches | Power | |
| Indicator | Custom LCD display | |

## Rear Panel

| | |
|---|---|
| Input (Left/CH 1, Right/CH 2) | 1/4" 2-conductor |
| Output (Left/CH 1, Right/CH 2) | 1/4" 2-conductor |
| FOOTSWITCH | 1/4" (accepts normally open or normally closed momentary footswitch, such as the Alesis PD) |
| MIDI (In, Out/Thru) | 5 pin DIN |
| Power | 9 Volt Power  Transformer |

## Processing and Memory

| | |
|---|---|
| User Programs (RAM): | 128 |
| Factory Preset Programs (ROM): | 128 |
| Internal processing resolution: | 24 bit accumulator |
| Delay  memory: | 1299 milliseconds |
| Reverb effects: | Concert Hall, Real Room, Ambience, Plate Reverb, Nonlinear |
| Delay effects: | Mono Delay, Stereo Delay, Ping Pong Delay, Multi Tap Delay, BPM Mono Delay |
| Pitch effects: | Stereo Chorus, Quad Chorus, Stereo Flange, Stereo Pitch Shifter |
| Special effects: | Auto Pan |
| Multiple effect configurations: | |
|     Double: | Real Room+Delay, Real Room+Chorus, Real Room+Flange |
|     Dual Mono: | Delay:Delay, Chorus:Chorus, Flange:Flange, Pitch:Pitch, Chorus:Delay, Flange:Delay, Pitch:Delay |
|     Multi Chain: | Delay->Real Room, Chorus->Real Room, Flange->Real Room, Lezlie->Room, Real Room->Flange, Chorus->Delay->Room, Flange->Delay->Room |