ALESIS
Wedge

Reference Manual

Introduction

Thank you for purchasing the Alesis Wedge Desktop Master Reverb Processor. To take full advantage of the Wedge'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 Wedge. 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 Wedge. 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: Description of Controls. A "dictionary" of all buttons, connectors, and Utility parameters. Use this chapter as a quick reference guide when searching for specific information.

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

Chapter 5: Overview of Effects. A detailed look at the signal processing capabilities of the Wedge and the concept of reverb and effects programming. Includes descriptions of each parameter in the Wedge.

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 Wedge, using all capital letters and in brackets (*Example:* [PROG] button, [VALUE] Knob, etc.). When text in the Wedge'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 vital information when operating the Wedge.*

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(GFX: Front & Rear Panel Diagram)

CHAPTER 1

YOUR FIRST SESSION WITH THE WEDGE

Unpacking and Inspection

Your Wedge 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 Wedge for servicing.

The shipping carton should contain the following items:

- This instruction manual
- Alesis Wedge with the same serial number as shown on shipping carton
- Program Chart
- 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 Wedge is designed to accommodate a number of applications, whether you are connecting it with a mixing console or connecting an instrument directly into it. 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 1/4" phone cord to the [LEFT] INPUT of the Wedge from a mono source The [LEFT] INPUT is normalled to the [RIGHT] INPUT. This means if you just connect the [LEFT] INPUT, and leave the the [RIGHT] INPUT unplugged, the same signal will be sent to both Inputs. Connect another cable from the [LEFT] OUTPUT of the Wedge to an amplifier or mixer input. Additionally, you could connect a second cable to the [RIGHT] OUTPUT for use with a stereo amplification system, or two mixer inputs.

- **Stereo:** Connect two 1/4" phone cords to the [LEFT] & [RIGHT] INPUTS of the Wedge from a stereo source , and two 1/4" phone cords from the OUTPUTS of the Wedge to a stereo amplification system or two mixer inputs.
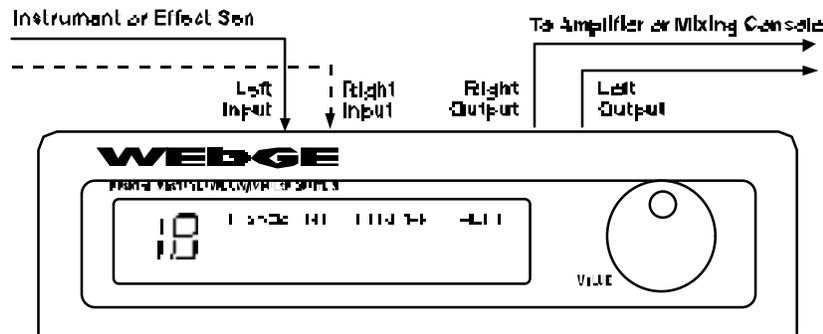
Powering Up

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

❶ Before turning on the Wedge's power, check the following items:

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

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

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

Dry Defeat

When connecting the Wedge to a mixing console's aux sends and returns, it is generally desirable to remove the direct (dry) signal from the outputs of the Wedge 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 Wedge's Dry Defeat function removes the direct signal globally from all Programs simultaneously.

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

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

> Dry Defeat

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

When Dry Defeat is On, the Mix parameter of each effect (described later) will read "-- -" to indicate it cannot be edited (it is fixed at 100%). *Exceptions:* 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. The Lezlie->Room configuration will have its Lezlie Mix disabled, but the Reverb Mix will be available for editing. For more information, see Chapter 2.

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 usually best to set both input and output level controls at 90% of full. This will decrease the possibility of overload distortion and keep the amount of background noise to a minimum.

To manually set the Input and Output levels:

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

❷ Press the [I/O] button.

❸ Feed signal to the Wedge's input(s). You can set the Left and Right Input and Output levels by moving the Value Sliders and Value Wheel. Your input signal should make the meters go as far to the right as possible without clipping.

Automatic Input Level Settings

The Wedge 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 play back the tape); the Wedge does the rest.

To auto-adjust the input levels:

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

❷ Press and hold the [I/O] button, then press [TAP/AUDITION].

❸ Feed signal to the Wedge'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. If the Wedge doesn't detect any signal level at the input, the Input Level will remain at its previous setting.

What's in the Display?

When the Wedge is first turned on, the display will look something like this:
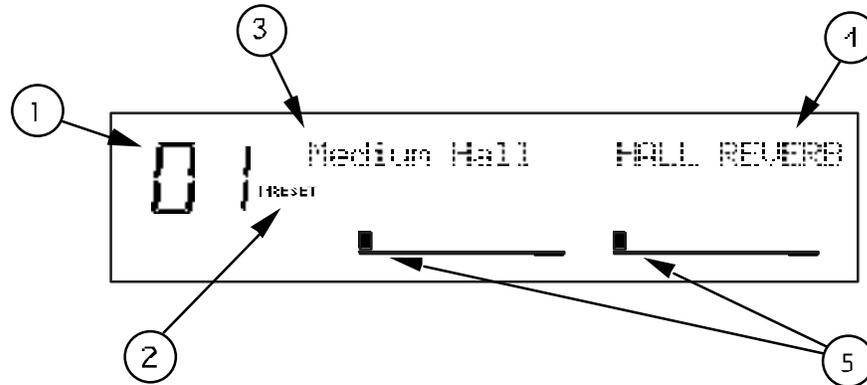
The Wedge's display is divided into 5 sections:

❶ Program Number
❷ Preset/User Bank
❸ Program Name
❹ Configuration
❺ Input Level Meters

For more about the Wedge display, see Chapter 3.

Auditioning Internal Programs

The Wedge 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 Wedge is suited.

To audition the internal effect Programs:

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

❷ Turn the [VALUE] knob to scroll through the 128 Preset 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 Wedge 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.

Changing Effect Settings

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

> Vocal Ballad HALL REVERB

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 [EDIT/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:
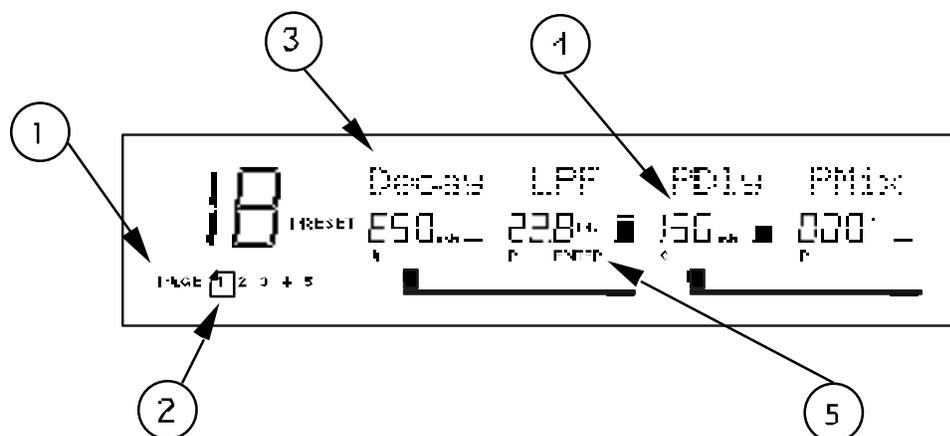
❶ Page Numbers
❷ Selected Page
❸ Parameter Name Strip
❹ Parameter Values and Bar Graphs
❺ A, B, C, D and EDITED Indicators

For more about using the Wedge Display in Edit mode, see Chapter 3.

To edit effect parameters:

❶ 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] cycles 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.

❷ Move one of the [A-D] sliders.
The parameter will flash indicating it is selected for editing. 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" will disappear.

✪ *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 Wedge 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 Preset 18 (see previous page), holding the [D] button for more then one second would reveal the name of the "D" parameter:

INPUT LOWPASS FILTER

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

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.

❶ Press the [EDIT/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.*

❷ Press the [EDIT/PAGE] button repeatedly until you reach the highest numbered page available is selected.

❸ Move the [D] slider to edit the Mix parameter.
   The parameter will flash indicating it is selected for editing. The Mix parameter's range is 000-100å.

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 while in Edit mode, 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, only the edited effect's name will appear in lower case letters. *Example:* If using the Configuration ROOM+DELAY and you have edited only the Delay's parameters, the display will read "ROOM+delay" 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 the [COMPARE] button, 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 show the previous values and the [COMPARE] button will light up. You can use the [EDIT/PAGE] button to scroll to other pages while in Compare mode. Pressing the button again or pressing [PROG]

exits Compare mode; the display will return to its original state and the edited version of the Program will be restored.

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:

❶ Press [PROG].
The display will exit Edit mode.

❷ Turn the [VALUE] knob to select a different Program, then turn it back the opposite direction to re-select the original Program. (Alternately, you can press the [PROG] button three times.)

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.)*

Bypassing Effects

At any time you can bypass the effects, allowing you to hear the direct signal without any processing. This can be done by pressing the [BYPASS] button.

✪ *If the Dry Defeat function is on (see previous section) and the BYPASS button is pressed, no audio will pass through the unit. Similarly, if the Mix on any program is set to 100% wet and Bypass is pressed, the unit will not have any audio from its outputs.*

Storing and Naming 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 Wedge 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 Wedge has two banks (Preset and User), you can only store Programs in the User bank.*

To store an edited Program:

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

Store XXX (nnnnnnnnnnnn)?

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

❷ 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.

❸ 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].

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

Prog nnnnnnnnnnnn Stored!

…whereby nnnnnnnnnnnn 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.*

CHAPTER 2
CONNECTIONS

AC Power Hookup

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

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

Line Conditioners and Protectors

Although the Wedge 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 Wedge 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 Wedge 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 audio inputs and outputs are typically used in one of three ways:

- from one or two aux send outputs of a mixer, and back 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 Wedge is placed between the source and the mixer/amplifier. Although the source may be mono, both the [LEFT] and [RIGHT] 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 Wedge. If using the effect sends of a mixer, you have the advantage of sending any of the mixer's input channels to the Wedge'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 Wedge's [LEFT] INPUT jack is normalled to the [RIGHT] INPUT. This means that if you only connect a single mono cable to the [LEFT] INPUT jack, it will also be routed to the [RIGHT] INPUT. However, if anything is connected to the [RIGHT] INPUT jack, this normalized connection will be broken; therefore the [LEFT] INPUT jack feeds only the [LEFT] INPUT, and the [RIGHT] INPUT jack feeds only the [RIGHT] INPUT.
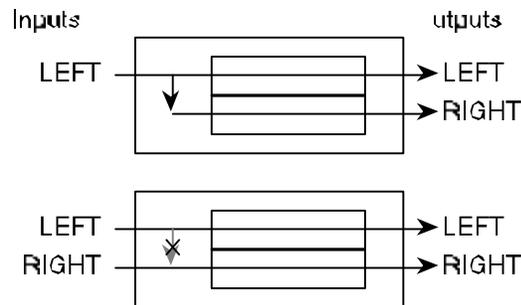
Balanced Operation

The Wedge features balanced TRS inputs and outputs. This allows it to be used with professional consoles and other balanced equipment. You may need to purchase an XLR to TRS 1/4" cable or adaptor, depending on the jacks used on the connecting equipment.
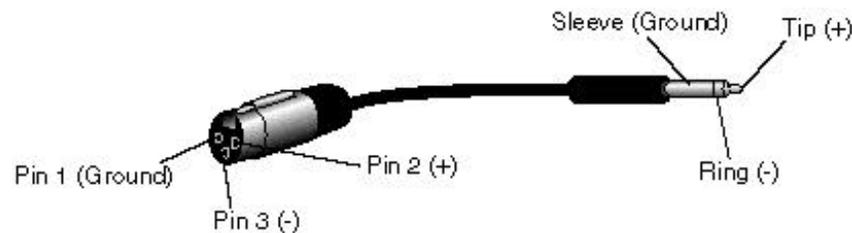
The Wedge uses Servo Balancing on its inputs. This means that you can plug in either a balanced (3-connector) or unbalanced (2-connector) signal without changing the input level setting.

Alternatively, if your console uses balanced 1/4" TRS connectors for the effects sends and returns (like the Alesis Studio 32) you should use "stereo phone cord" TRS balanced cables for connection to the Wedge.

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 Wedge has two 1/4" balanced/unbalanced inputsand two 1/4" balanced/unbalanced outputs. These provide three different audio hookup options:

• **Mono:** Connect an audio cable to the [LEFT] INPUT of the Wedge from a mono source, and another cable from the [LEFT] output of the Wedge 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] and [RIGHT] outputs of the Wedge to a stereo amplification system or two mixer inputs.

Instrument or Effect Send   To Amplifier or Mixing Console

Left Input   Left Output Right Output
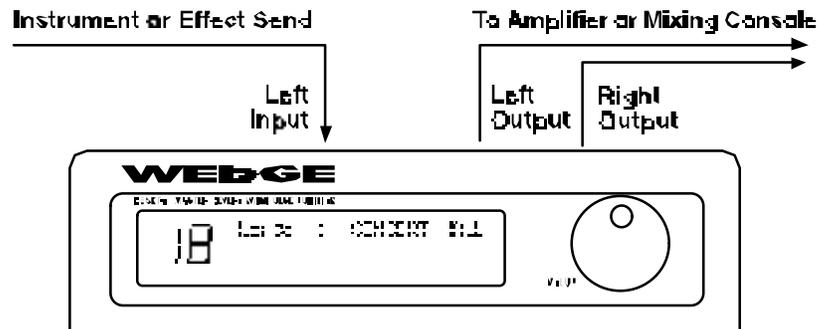
WEDGE

- **Stereo:** Connect two cables to the [LEFT] and [RIGHT] INPUTS of the Wedge from a stereo source , and two other mono cords from the [LEFT] and [RIGHT] OUTPUTS of the Wedge to a stereo amplification system or two mixer inputs.

Instrument or Effect Send   To Amplifier or Mixing Console

Left Input Right Input   Left Output Right Output
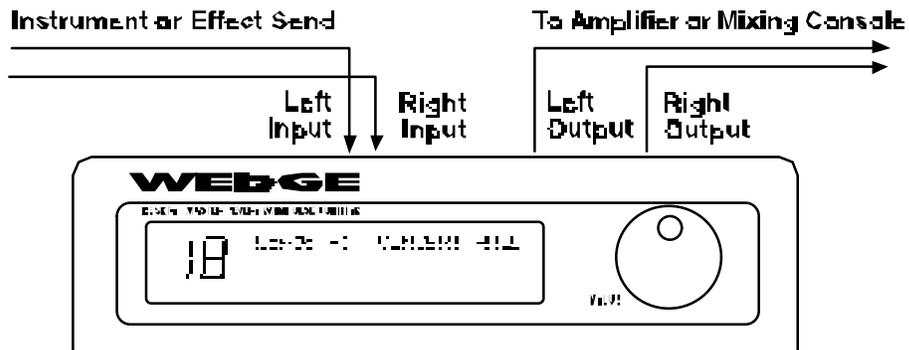
WEDGE

Interfacing to a Mixing Console

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

The Wedge 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 Wedge 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 affect the entire mix.

Using 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 Wedge. If you are using a mixer with more than two sends, connect the Wedge 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 Wedge 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 Wedge'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 Wedge. If your mixer does not have these, or you have already used them all, consider connecting the Wedge to channel inputs (if there are any remaining). This option also allows you to pan and EQ the effects, or to send them to the headphone or monitor mix.

No matter where you connect the output of the Wedge 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 Wedge. The effect returns generally should only contain effected 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 Wedge'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.

Mono In - **Stereo Out:** If you only want to feed the Wedge 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 balanced or unbalanced cable(s) from an aux send of the mixer to the [LEFT] input of the Wedge, and two other balanced or unbalanced cable(s) from the [LEFT] and [RIGHT] outputs of the Wedge to a stereo effect return or other mixer input.

For most of its programs, especially reverb programs, the Wedge synthesizes a stereo image from a single input, emulating the effect of a single source reflecting off the left and right sides of a room. This Mono In hookup allows you to get the benefit of these stereo effects, while using only one effect send. But other dual/parallel programs are best used with a stereo input, described below. ***Use this Mono In*** - ***Stereo Out hookup only if you don't***

***have enough Aux sends from your mixer to use the Stereo In hookup described
below.***
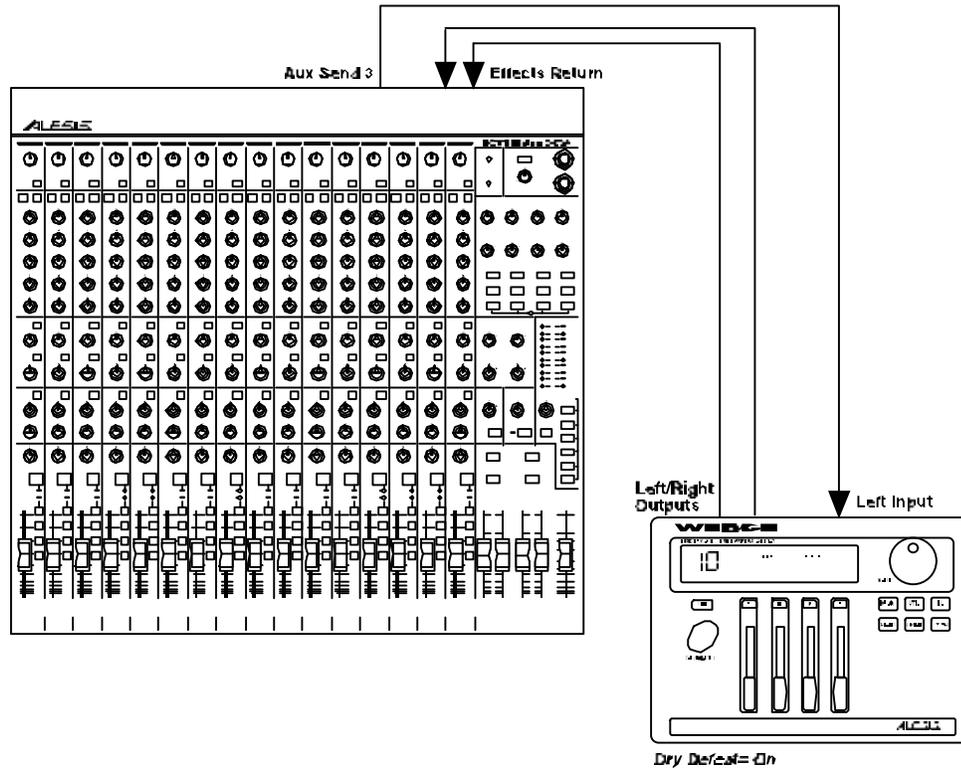
Stereo In - **Stereo Out:** This connection is similar to the one described above.
However, by utilizing two sends from the mixer, we add one more cable from a
different aux send to the [RIGHT] input of the Wedge and can now send a stereo

signal to the Wedge's inputs.

Aux Sends 3/4   Effects Return

Left/Right Outputs   Left/Right Inputs

Dry Defeat= On
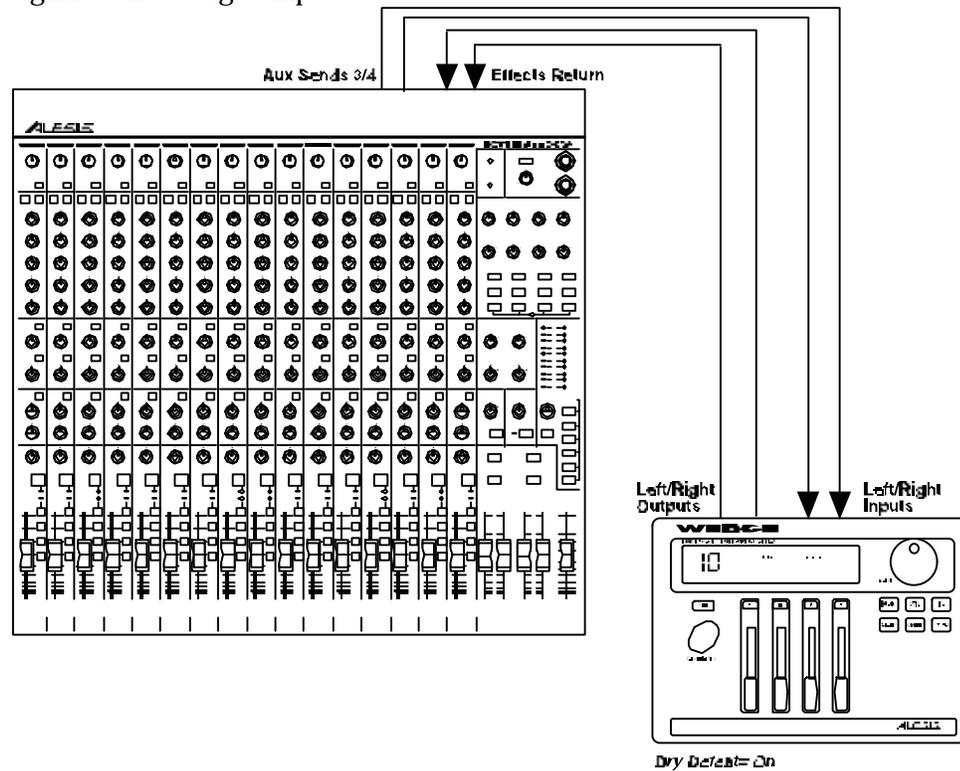
*Certain Wedge programs allow you to use the left and right inputs separately, creating a separate effect for each input. The DELAY:DELAY, CHORUS:CHORUS, ROOM+HALL, ROOM+PLATE configurations are examples of this kind of multieffect that, essentially, allow you to use the Wedge as two independent mono or stereo effect units. For this reason, **we recommend using the Stereo In - Stereo Out hookup whenever possible** to get the most out of the Wedge.*

Using Inserts

By using individual channel inserts, you can dedicate the Wedge 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 Wedge 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). Stereo Plugs 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 brings back the return. The sleeve represents a common ground for both signals.

Mono: Connect a 1/4" TRS (tip-ring-sleeve) 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] input and [LEFT] output, respectively. If

you do not hear any audio after making these connections, swap the input and output cables at the Wedge, as these may be wired backwards. If the cable is color-coded, usually the red jack represents the send (which connects to the Wedge's input) and black is the return (which connects to the output).

Stereo. If a stereo instrument (such as a keyboard or sampler) is con-nected 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. This hookup is especially useful for adding ambience with the Stereo Room configuration.

Using Main Outputs

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

Remember to turn off Dry Defeat. In the Insert and Main Output hookups described above, the entire signal passes through the Wedge, with no alternate path for the dry signal. If you use these methods, remember to turn the global Dry Defeat feature (UTIL menu p. 1, [D] control) OFF. If it is ON, you will hear too much effect and no direct signal at all.
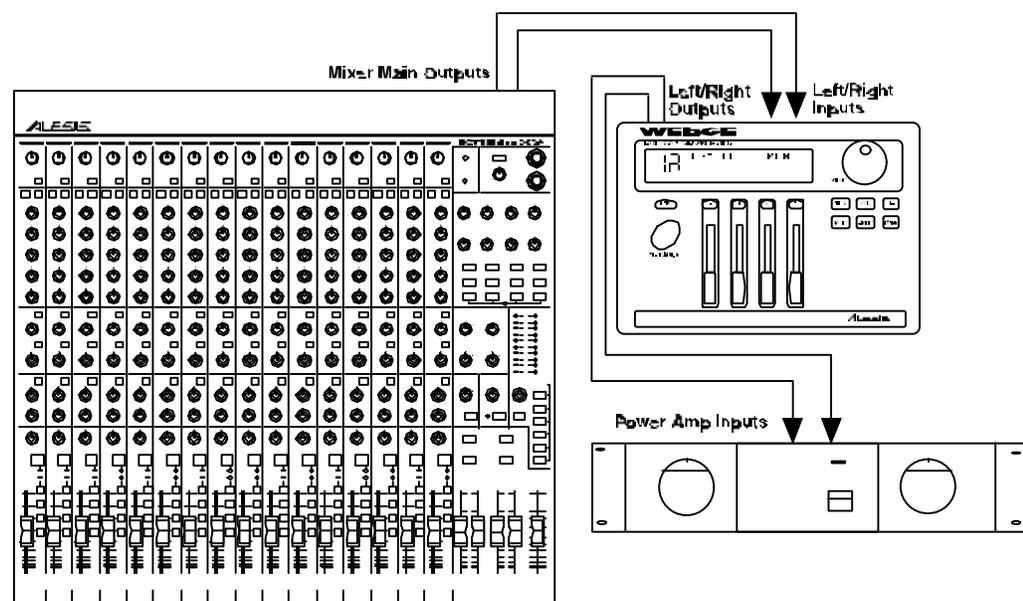
Avoiding Ground Loops

In today's studio 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.

❶ 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.

❷ 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).

❸ 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 Connections

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 Wedge provide four different functions:

• To recall Programs using MIDI program change messages

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

• To record and play back edits from the Wedge front panel into a sequencer for playback during a track

• 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 Wedge to another MIDI device.

To connect the Wedge's MIDI ports to another MIDI device:

❶ Connect a MIDI cable from the Wedge's MIDI [IN] connector to the other MIDI device's MIDI OUT connector.

❷   Connect another MIDI cable from the Wedge'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 Wedge, 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 Wedge's [OUT/THRU] connector.

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

DESCRIPTION OF CONTROLS

Front Panel

LCD Display

When the Wedge is first turned on, the display will look something like this:
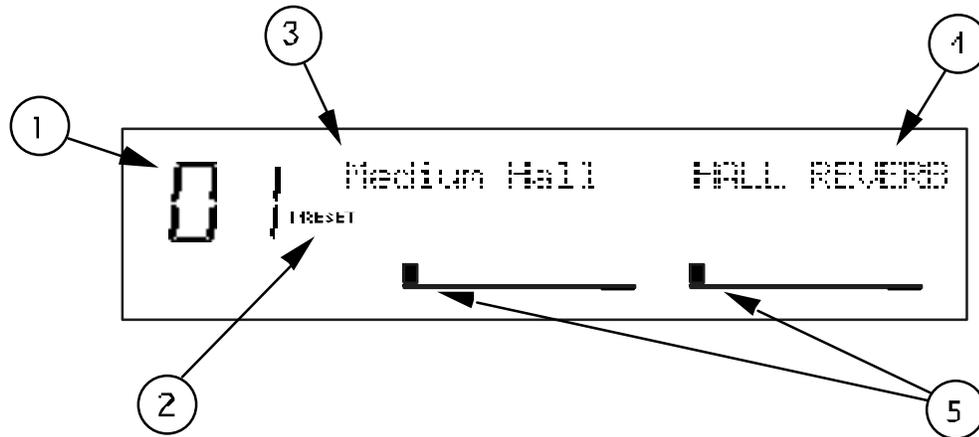
The Wedge's display is divided into 5 sections:

❶ <u>Program Number</u>. Wedge Programs are numbered from 00 to 127. In this example the Program selected is number 01.

❷ <u>Bank</u>. The Wedge 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.

❸ <u>Program Name</u>. Each Program has its own eight character name. This one is called Medium Hall. The 128 User Programs can be renamed; the 128 Preset Programs are pre-programmed at the factory and cannot be renamed.

❹ <u>Configuration</u>. This tells us what type of effect this Program is. It can also tell you the order that the input signal(s) will pass through multieffects and whether this is a Stereo or Dual Configuration (more about Configurations in Chapter 5). The Configuration for this Program is called HALL REVERB.

❺ <u>Input Level Meters</u>. 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 5.

When editing a Program, the display changes slightly to indicate additional information. Once in Edit mode, the display will look something like this:
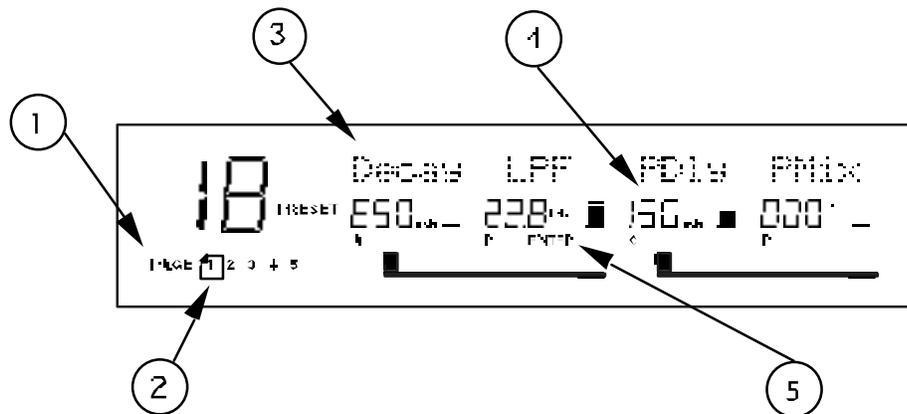
❶ Page Numbers. Depending on the Configuration, there will be up to six pages available in Edit mode. In this example, only five pages are available.

❷ 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.

❸ 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.

❹ 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 Slider's position. The type of units will be shown as well (dB, mSec, kHz, etc.).

❺ 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 slider ([A], [B], [C] or [D]) should be moved to edit the desired parameter. Once a parameter has been edited, the word "EDITED" will appear below it.

VALUE Knob

The [VALUE] knob may be 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. Using the [VALUE] knob instead of the sliders can be useful if you're trying to enter a specific value.

EDIT/PAGE Button

The [EDIT/PAGE] button is used in Program mode to advance through the available Edit pages. When [EDIT/PAGE] is pressed in Program mode, the Program's parameters will be displayed for editing. 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.

TAP/AUDITION Button

The [TAP/AUDITION] button has three functions:

* When in Program mode, this button activates the Impulse Audition™, a single sample impulse, through the effect. The Impulse is a scientifically-designed sound that produces every frequency in the audio spectrum for one sample (1⁄48,000 of a second). This allows you to hear subtle differences when moving reverb parameters and to reveal problems in a program before they end up on your mix.

* When editing a delay program, the [TAP/AUDITION] button acts as a tap tempo control. Press the button twice in the tempo of the song and your delay time will change to follow the tempo. You can even hold the button down to use the input signal as a tap tempo source.

* When you hold the [I/O] button and press [TAP/AUDITION], the unit will go into Auto Level Sensing mode (see page 9, "Automatic Input Level Settings").

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

The [A], [B], [C] and [D] buttons can be used in Program mode to select parameters for editing with the [VALUE] wheel on the current 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. On parameters with only two possible values (On/Off, Fast/Slow), pressing the [A], [B], [C] and [D] buttons will toggle the parameter value.

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 Wedge'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 allow you to name Programs. When in Store mode ([STORE] button flashing), the [A], [B], [C] and [D] buttons can be used to enter the Program's name. Pressing [A/NAME] moves the cursor in the display to the first 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].

A/B/C/D Sliders

The [A], [B], [C] and [D] Sliders are used to edit parameters in Edit mode. The quickest way to edit a program on the Wedge is to press Edit and start moving the sliders. You don't have to select a parameter before moving the slider, just grab it and the parameter will jump to the new value. The Sliders can also be used in the Utility and Input/Output pages.

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.

Tip: To select programs that are far apart more quickly, it may be faster to press [PROG] to switch between the Preset and User banks. For example, to go from PRESET 00 to USER 127:

❶ Press [PROG].
The program will switch to USER 00.

❷ Turn the [VALUE] knob back one click.
The program will switch to PRESET 127.

❸ Press [PROG] again.
USER 127 will be selected.

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 5 Utility pages, as indicated by the numbers 1 through 5 which appear 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: Dry Defeat. 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. This function is perfect for connecting the Wedge to a mixing console's aux sends and returns. Use the [D] button to toggle the Dry Defeat function on and off.

Dry Defeat
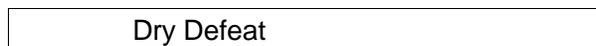
Page 2: MIDI. Three functions are available in Utility page 2, all dealing with MIDI. The first is MIDI Channel (Chan), which can be edited by moving the [B] slider to select a channel from 1 to 16, or to 00 for Omni mode (all 16 channels simultaneously). The next function, MIDI-Thru (Thru), can be toggled on and off by pressing [C] or moving the [C] slider. When turned on, the Wedge allows the MIDI data received at the [MIDI IN] port to be passed through to the [MIDI OUT/THRU] port. The third function is Program Change Enable (PChg). This can be set by moving the [D] slider to either Off, On or Table. When set to off, the Wedge ignores program change messages. When set to on, incoming MIDI program change and bank select messages received on the same channel the Wedge is set to will recall the same numbered Program. When set to table, the Wedge will use the Program Change Table (see below) to remap incoming program change messages.

```
MIDI:  Chan  Thru  PChg
```

Page 3: 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 page 69.

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

Page 4: 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 Wedge 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. [Note: you can also use Bank Select messages to select Preset or User Programs, see Chapter 6 for more information.] 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 5: Send 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 Wedge. Select either All or Buffer (the currently selected Program which is in the edit buffer), or Table using the [VALUE] wheel or any of the sliders. When this page is selected, the [STORE] button will flash to indicate that pressing the [STORE] button starts the MIDI dump. The display will read "Transmitting Sys Ex..." and the [STORE] 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
```

I/O Button

The [I/O] Button is used to view and adjust the input and output levels. When this button is pressed, the display will show both the current input and output settings. The [A], [B], [C] and [D] sliders can then be used to adjust the level settings.

```
InL   InR   OutL  OutR
```

In the range from a setting of 040 to 100, each number has a value of approximately 0.3 dB, so each jump of ten will change the input or output level by slightly over 3 decibels. Below 040, the taper increases to approximately 6 dB per ten.

Auto Level

When both the [I/O] and [TAP/AUDITION] 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 Wedge'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.

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:

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

```
Save XXX (nnnnnnnnnnn)?
```

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

❷ 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.

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

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

```
Prog nnnnnnnnnnnn Stored!
```

…whereby nnnnnnnnnnnn 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.*

COMPARE Button

The [COMPARE] button allows you to review what the Program sounded like before you made any edits. This allows you to page through a program's parameters and see the previous values of any of your edits. You exit Compare mode by pressing the [COMPARE] or [PROGRAM] button. Any edited parameters will have the word "EDITED" next to the new value.

BYPASS Button

The [BYPASS] button switches the Wedge into Bypass mode. This mode allows you to hear the "dry" signal without effects. If Dry Defeat (see UTIL mode, above) is turned off and the Wedge is in Bypass mode, the input signal will be passed through without effects. If Dry Defeat is turned on and Bypass is on, no signal will pass through the unit.

Rear Panel

POWER Switch

The [POWER] switch turns the AC power to the unit ON (in) or OFF (out).

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.

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. It is provided for 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 & Right)

These are balanced 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] input. The [LEFT] input jack is normalled to the [RIGHT] jack. This means that when nothing is plugged into the [RIGHT] input jack, the signal present at the [LEFT] input will be routed to the [RIGHT] as well.

Output (Left & Right)

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

CHAPTER 4

EDITING PROGRAMS

Selecting A Configuration

A Configuration is made up of one or more effects. Each of the internal Programs of the Wedge 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 Hall Reverb Configuration, first locate an existing Program that already uses the Hall Reverb 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 28 Programs in the Preset bank (100-127) each use one of the 28 Configurations. This makes it easy for you to locate the Configuration you are looking for. Also, the last 28 Programs in the User bank (100-127) have been left blank so you have some place to store your new Programs into.

To select a Configuration:

❶ Press [PROG]. Use the [VALUE] knob to select a Program which uses the Configuration you want to use.
The display shows each Program's name on the left and Configuration type on the right:

Medium Hall   HALL REVERB

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

❸ 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 that Program location.*

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

Prog nnnnnnnnnnnn Stored!

…whereby nnnnnnnnnnnn 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.
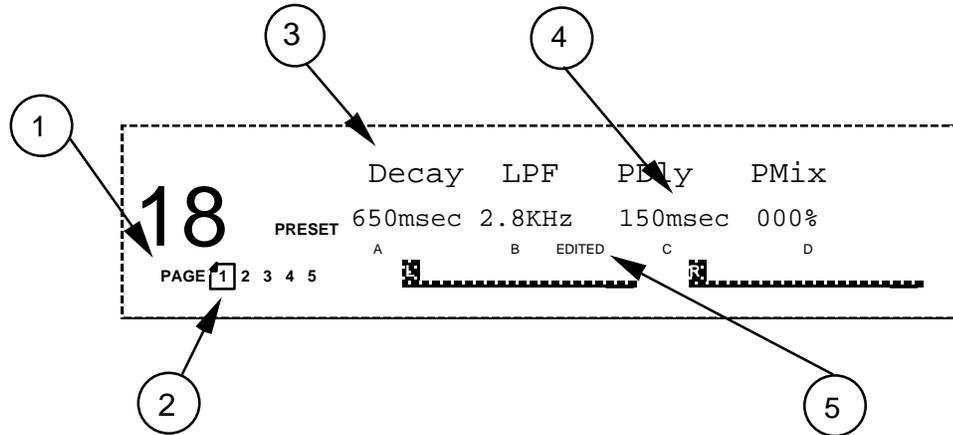
❶ Page Numbers. Depending on the Configuration, there will be up to six pages available in Edit mode. In this example, only five pages are available.

❷ 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.

❸ 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.

❹ 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 slider's position. For finer control, you can also adjust the parameter using the [VALUE] wheel when a parameter is selected. The type of units a parameter uses will be shown as well (dB, kHz, etc.).

❺ A, B, C, D and EDITED Indicators. Each parameter in the selected page is designated by a letter (A, B, C or D). Once a parameter has been edited, the word "EDITED" will appear below it.

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.

Moving Through Pages

Once in Edit mode, there will be multiple pages available. The total number of pages depends on which Configuration the 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 or move its fader. Once pressed, the selected parameter will flash in the display. There are three ways to edit parameters on the Wedge:

- Move one of the [A], [B], [C] or [D] sliders
- Press one of the [A], [B], [C] or [D] buttons, then turn the [VALUE] wheel
- On parameters where you are switching between two possible values (i.e. Lezlie Speed Slow/Fast) simply pressing one of the [A], [B], [C] or [D] buttons will switch the value.

Using Online Help

The Wedge 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 5499 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 1696 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:

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

Save XXX (nnnnnnnnnnnn)?

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

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

❸ Use the [C/<] and [D/>] buttons to move the cursor left and right, respectively, through the 12 character fields in the Program's name.

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

❺ 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.

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

Prog nnnnnnnnnnnn Stored!

…whereby nnnnnnnnnnnn 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	{	|	}	}	{				

Tutorial

The best way to learn a new piece of gear is to start using it in your studio. This section is designed to teach you how to edit your own programs using normal day-to-day examples. Remember that programs are subjective and these are just guidelines. If the program sounds weird when you're all done, change it - that's what the sliders are for!

When you're writing a Program from scratch, it's usually good to have a source that's easy to get to. This can be a synth, a guitar, or even an ADAT track or dry CD track on a loop. Don't forget to use the Impulse function on reverbs, it can really help you fine tune your room sound. (See the next Chapter for detailed explanations of each of these parameters. For now, just move the sliders up and down and listen to what they do to the room sound.)

Gothic Hall

The program we'll work on is the Gothic Hall program. This will be a typical large, warm hall program, with a lot of space for strings, pianos, etc. to swim around.

Let's start with one of the default programs, so that all of the parameters are "zeroed out". Preset 101 is the default Hall Reverb Program, so this is a perfect starting point. Press [EDIT/PAGE] and select page 1.

The quickest way to change the sound of any reverb program is to change the Decay and LPF parameters. The Decay time (A Slider) dictates the size of the room, and the LPF emulates the wall surfaces. To simulate a large castle chamber with a few tapestries and other soft surfaces, we'll set the decay fairly long and the LPF (D Slider) relatively low. Don't worry if the decay time seems long, we can do other things to trim it down later.

```
Decay           LPF
 4.68sec         5.65kHz
```

Our next step is editing the Density and Diffusion parameters on page 2. (We'll come back to the Bass Boost parameters once the program is structured better.) These are more difficult to hear, but can make a big difference on your sound. Density (A Slider) affects how smooth the attack will be, and can approximate different surface textures. A very high density would be good for simulating a polished marble room, for example, and lower densities would simulate a rougher surface with more discrete echoes. The Impulse function can be a big help when programming Density and Diffusion; it's much easier to hear than strings or piano. Press the [TAP/AUDITION] button while moving the Density slider up and down to hear its effect on the hall. I chose a value of 74% for this room - not too rough, but not too glassy either.

The Diffusion parameter (B Slider) sets how smooth the decay will be. Used in conjunction with the Density parameter, it can be used to approximate hundreds of room textures. Again, use the [TAP/AUDITION] button to check if the room is getting too ripply or too glassy. For this program, I chose a value of 78%.

```
Dens  Diff
```

```
74%   78%
```

Predelay (C Slider) was originally used to simulate the delay before hearing reverberation in a large hall. However, in modern reverb program it is used more for effect. You can use predelay on a vocal reverb to make the word pronunciation clearer, or on a sidestick reverb, delaying in tempo to the music for those big '80s-style ballads. You can also leak some non-predelayed reverb using the Predelay Mix (D Slider) if you want. For this program, I've chosen a Predelay of 32ms with 100% mix for a splash of reverb.

```
        PDly  PMix
        032mSEC 100%
```

The High and Low Frequency Damping parameters are on page 3. The damping parameters interact with the Decay time according to frequency. In a hall with no high frequency damping, the high frequencies will "sizzle" with a long decay, especially noticable on "s" syllables and cymbals. With no low frequency damping, the low frequencies will boom with a long decay, as in a large cement parking garage. Raising the frequency of the Low damping will cut the decays below that frequency (like adding bass traps to the hall), and lowering the frequency of the High Damping will cut the decays above the frequency (like adding drapes and couches to the hall).

For this room, I'll leave Low Damping off and set my High Damping for 2.14kHz. Remember that if you set the High Damping higher than the input LPF, it will do almost nothing. Notice how the apparent decay drops off when you do this, and that the room starts to sound more natural.

Swirl (C Slider) is an effect which simulates moving walls. Set to a low value, it can add subtle movement to your reverb sound. Set high, it adds chorusing to the room. we'll leave it off in this example.

```
LDamp HDamp Swirl  Depth
 OfFF  2.14kHz 00   60%
```

Early Reflections can really add charicter to a program. A shape of 0 with a short spread can give you the sound of a small room, where a shape with more attack and a longer spread gives you the sound of a bigger space. The latter example simulates the sound of a large cave or a castle. Since that's close to the effect I want, we'll split the differance with a long spread with a quick but audible attack:

```
ER:  Spread  Shape  Level
     300mSEC  1     25
```

Page 4 deals with gating, which we won't use for this example. Just make sure the Gate parameter (A) is set to OFF and the rest of the settings don't matter.

Now we're ready to go back to page 1, parameters B and C. Bass Boost can be useful for adding a little warmth to a hall program. By setting the frequency to 237Hz and the Level to 100, we can add a touch of warmth to our hall program.

```
        Boost BassF
        100   237Hz
```

Finally, I'll leave the Depth at the default 60%. The resulting program should sound like a large, darkened church with plenty of character for orchestral instruments and voices.

CHAPTER 5

OVERVIEW OF EFFECTS

The Architecture of the Wedge

What is a Configuration?

A Configuration is an arrangement of one or more effects. Each of the 256 internal Programs in the Wedge use one Configuration. There are 28 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.

In most Single Configurations, the left and right inputs are summed internally before being fed into the effect, so it doesn't really matter which input is used. The left and right inputs need to be used only if you are using the Wedge inline between a stereo instrument and an input, to provide a wet/dry mix that preserves the dry stereo image.
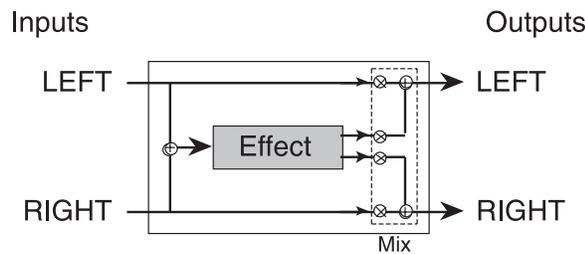
Examples: Large Hall, Large Plate, Mono Delay, Etc.

The Stereo Room and Quad Chorus Configurations are special single algorithms that treat the incoming left and right signals differently, but still creates a synthesized stereo image from each side, depending on the setting of the Width control. If the Width is set to 99%, a signal appearing at the left input will be processed and sent to only the left output; if the Width is set to 00%, the processed signal will appear in stereo at both outputs.
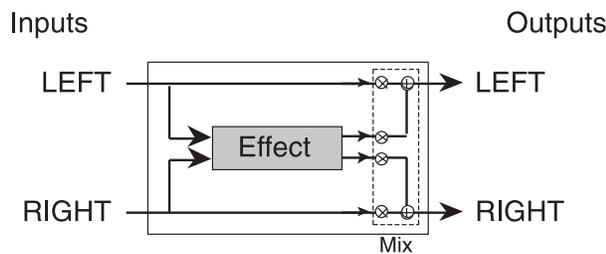
Examples: Stereo Room, Quad Chorus

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

Parallel

Parallel Configurations consist of two discrete "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 input is routed to one effect, while the Right 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.
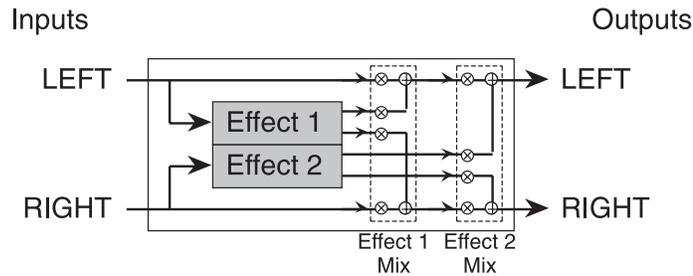
Examples: Room+Hall, Room+Chorus, etc.

Dual Mono

Dual Mono Configurations consist of two discrete "side-by-side" mono-in/mono-out effects. These Configurations are identified by the presence of a ":" in their name. In each case, the Left input is routed to one effect, while the Right input is routed to the other. The left signal only feeds the left output, and the right signal only the right output. The Configurations with a ":" in their name have independent control of the two effects; while CHORUS/FLANGE has two separate mono signal paths that are controlled by synchronized parameters to give a total stereo effect. The dry, uneffected signal of both inputs are also routed to the outputs.
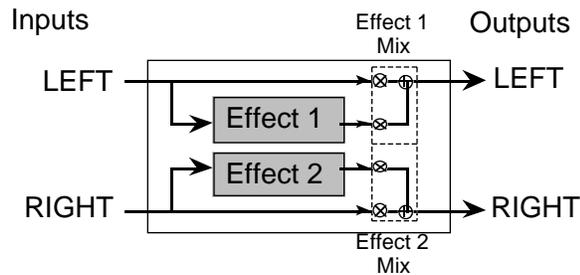
Examples: Chorus:Chorus, Delay:Delay, Chorus/Flange, etc.

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 → Room" Configuration is not as "dense" as the Single Configuration called "Room Reverb".

Inputs   Outputs
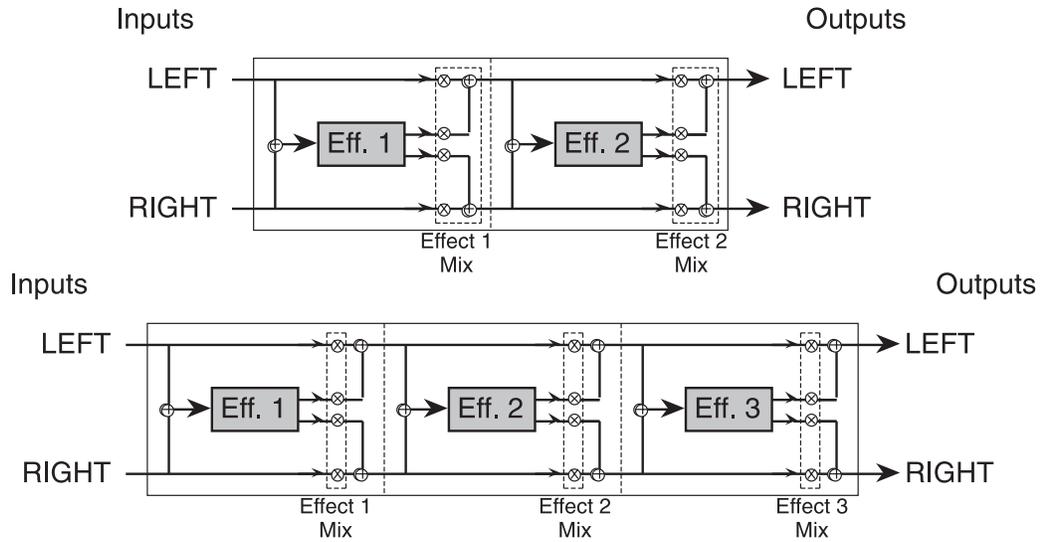
Examples: Chorus →Room, Flng →Dly →Rm, etc.

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 Wedge offers the following types of reverberation:

Large 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.

Hall Reverb

This algorithm is similar to the one above, but the sound is not as "thick" and there are programmable early reflections. You might use this config instead of the Large Hall to get different hall characters or shapes. This configuration also has twice the predelay time of the Large Hall, 500ms instead of 250ms.

Room Reverb

Room Reverb gives you the sound of a medium size studio room. It has a quick attack and programmable reflections. It sounds good on drums, keyboards and guitars.

Chamber

Similar to the Room Reverb, this algorithm simulates a polished live reverb chamber. It differs from the Room in character; the chamber is smoother and more transparent. It sounds great on vocals and instruments, especially if you're looking for a non-obtrusive sound.

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. This works great for percussion, post-production, or anywhere you want to add space without a lot of long reverb.

Stereo Room

This algorithm is a true stereo room for use with stereo sources. The width is programmable and simulates the space between two microphones in a large room. The higher the width value gets, the closer the room gets to being two mono rooms with no bleed to each other.

Large Plate

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.

Plate

Plate is a variation on Large Plate. This version is not as "thick" and can sound better on drums and percussion.

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 Wedge 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 is a list of all reverb parameters found in the Wedge:

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. This parameter dictates the size of the space you are emulating: small rooms have a short decay (500ms-2 Sec) while large halls have a long decay (2-6 Sec).

Low Pass Filter

The lowpass filter can be set between 029 Hz and 41.3 kHz, and attenuates all frequencies above this value by 6dB per octave. The lower the setting, the less high frequencies are allowed to pass thru to the reverb effect.

The LPF simulates the reflectivity of the space you're emulating. A tiled room may roll off around 12kHz, where a living room or a warm church might roll off at 6kHz. An instrument may also dictate how "bright" the reverb should be. If you want to add sustain to an acoustic guitar without cluttering up the mix with the pick attack and string noises, set the LPF around 2 or 4kHz.

High Pass Filter/Low Shelf (Plates only)

Classic plate reverbs often have a midrangy twang to them. Since this frequency bump is part of the character of a plate reverb, the Wedge allows you to roll off the highs (see above) and low frequencies on Plate reverbs. The High Pass Filter parameter controls the frequency where the low end will begin to roll off (at a rate of 6dB per octave). The Low Shelf controls how deep the cut will be - from barely noticable (high value) to completely cut (low value).
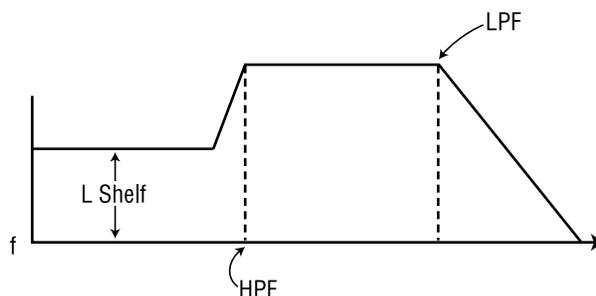
Bass Boost (Halls only)

The Hall reverb type allows you to add bass to the input signal before processing. This can make the halls sound "warmer", or even add rumble at extreme settings.

The "BassF" parameter selects the highest frequency which will be boosted, and the "Boost" parameter sets the amount of boost, up to 6 dB.
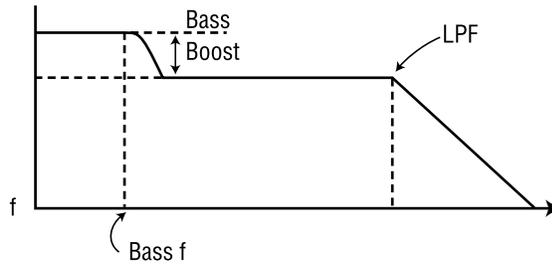
Pre-delay

All the reverb effects have pre-delay parameters. Pre-delay slightly delays the reverb itself up to 500 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. It is also useful when simulating big spaces, where the echos may take a moment to build up. You can also use predelay in conjunction with early reflections to dictate various room shapes.

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 Pre-Delayed Reverb sounds, making the delay less apparent.

Density

Density controls how smooth the reverb decay and early reflections sound. When set for very low values, the decay is "bumpier" and simulates a large room with lots of distinct echoes. If the density is set high, the reverb will be very smooth, like a chamber or tiled room. Try using lower density settings on vocals, piano and other sustained sounds, and higher density for percussive sounds.

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 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.
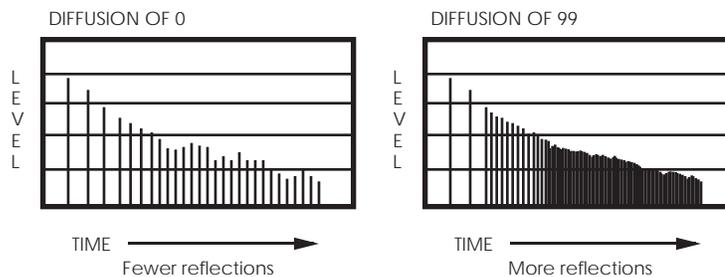
Note: The illustration above reflects a Density setting of 0.

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 over time, 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 high frequencies and harder rooms (parking garages, tiled rooms) diffusing low frequencies. *Example:* If a room has lots of hanging drapes, the high frequencies will decay faster than the lower frequencies.

Note that the Low Pass Frequency and High Damping parameters are related. If your LPF is set for 8kHz, and the High Damping parameter is set above 8kHz, you won't hear much of a change from this parameter. This is because the high frequencies have already been rolled off, so there's nothing left to filter. In most cases, make sure that the LPF is set above the high damping frequency to get the most out of this effect. However, since reverb is a random function, some high frequencies can be generated over the course of a *long* decay which are higher than the LPF. In these cases, setting the High Damping at the same frequency or higher than the LPF will attain audible results. In either case, by using the LPF and High Damping in conjunction, you can yield a more authentic room sound.

ER: Early Reflections (Spread, Shape and Level)

The Early Reflections of a reverb add attack to the room and dictate the room's size.
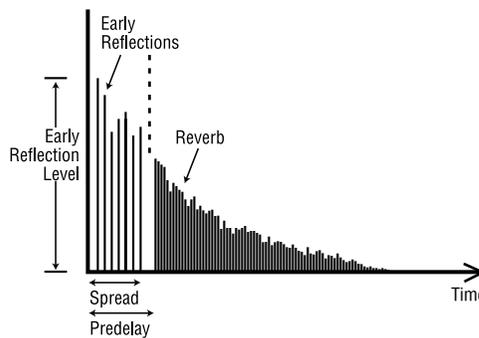
The **Shape** parameter controls how the reflections fade out over time. Different shapes will dictate the shape of the room and the intensity of the attack. The Early Reflection shapes are diagramed below:
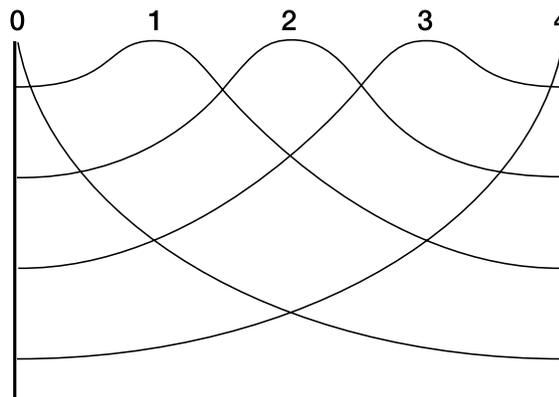
These shapes range from 0, which fades immediately and is good for small rooms, to 2, which builds and then falls to approximate a hall, to 4, which builds up slowly for a long "bloom" reverb. These shapes can then be scaled using the Spread parameter, explained below, to better emulate various spaces.

The **Level** parameter controls how loud the early reflections will be compared to the reverb's "body". The **Spread** parameter scales how close the reflections are to each other. If Spread is set for 500ms, the last reflection will be 500ms away from the first and the room will seem larger. Use Spread in conjunction with Shape to define the character of your reverberant spaces.

Depth

The Depth parameter makes the reverb sound wider and deeper. At 0%, the reverb sounds like its coming from the speakers and slightly behind. At settings of 60% and above, the reverb sounds like it's around you and farther behind the speakers. Use a low setting for better mono or surround encoding compatibility and higher values for a huge stereo sound.

Width (Stereo Room only)

This setting simulates the distance between two microphones in a stereo room. When set to 100%, you get two mono rooms. When set to 0%, you get a mono in, stereo out room. When set anywhere between these values, a sound which starts on one side reverberates there then bleeds over to the other side.

Reverberation Swirl

This parameter is very useful for adding randomness to the decay of a reverb when set to a low value. When set to a high value, it creates a more dramatic chorusing 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 was very popular on drums in the '80s 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 Room 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 don't want 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.

On some Configurations, only one parameter is available: Gate. This can be set between OFF and 500 ms, and controls both the hold and release times of the gate 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 (1/1000 of a second). Wedge offers the following types of delay:

Mono Delay

This Single Configuration provides delay of signal up to 5499 ms (5 1/2 seconds). The delay time can be adjusted separately by 100ms, 10ms 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. Also available are Density, Modulation (chorusing), Tremolo and Autopan.

Delay:Delay

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

MultiTap Delay

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

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, (either the TAP/AUDITION button or the [A] button), you can have the Wedge follow your tapping and adjust its delay time to match the tempo you are using.

You can also adjust the delay time using tap tempo from the audio source being routed to the Wedge's input(s). This can be done by holding down the TAP/AUDITION button while playing a sound into the inputs. 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). See the next page for more information.

Delay Parameters

Some of these parameters (Feedback, etc.) are found in all of the Delay configurations, where others are found only on the single delays. Following is a list of all Delay parameters found in the Wedge:

Delay Time

In most cases, the delay time is seperated into three parameters for fine-tuning the time: 100mS, 10mS, and 1mS. Maximum delay time depends on the configuration; the Mono Delay offers up to 5499mS of delay while the Ping Pong delay offers only 2499mS.

Tap

Single Configurations with only one delay time setting (Mono Delay, Ping Pong) use the TAP/AUDITION button for tap tempo delays. For others, there is usually a parameter labelled "`TAP `" with a value of "`--- `". Use this button to tap the delay time.

The Wedge can also use the incoming audio signal as a Tap Tempo source. If you hold down the [TAP/AUDITION] button while playing a snare, fingersnap or any other percussive source into the Wedge, the Delay time will change to match the tempo of this source.

Feedback

The Feedback parameter controls the regeneration of the delay. If feedback is set for 0, you will only hear one delay. If it is set for 99, the delay will continue to repeat for days. The feedback can also be set for negative values (-1 to -99). Negative values produce out of phase delays for a thinner sound.

Low Cut/ High Cut

These parameters filter the input and feedback of the delay. They can be used to make a "warmer" or "thinner" delay sound. The filters can each be set for Off or 29Hz to 41.3kHz and they roll off at 6dB per octave.

Density

Similar to the Density parameter on the reverb programs, this adds several quick delay to the initial delay time. This effect "smears" the delayed sound, so the result is more like a small room than a discrete echo.

Rate/Depth

These parameters work like the pitch modulation parameters on the Chorus/Flange configurations (see next section). This allows you to add chorusing to a delay for a richer effect. Used in conjunction to the tremolo and autopan parameters, you can even create unique panning chorus effects. To bypass this effect, simply set the Depth to 000.

Tremolo Rate/Depth

This effect adds a tremolo effect to the delay return. You can use it as a simple tremolo by setting the delay time to 000mS and the Tremolo depth and Delay Mix to 100%. Or, you can use it in conjunction with the delay to produce delays which fade in and out. Rate controls the speed and Depth controls the intensity of the effect.

Pan Rate/Depth

This parameter is an autopanner which effects the delayed signal. Like the Tremolo effect, you can set the delay time to 000mS for a simple autopan effect or use it with the delay for panning delays. Rate controls the speed and Depth controls the intensity of the effect. Make sure you have the Delay Mix set at 50% or more to hear the effect of the pan or tremolo.

Tip: Note that all of the modulation effects have similar Rate scales. By setting the rates to the same values (or multiples of eachother; double, quadruple, …) you can "sync" them to each other. Use this trick to create swirling, panning choruses, flanges which fade in and out every cycle, or anything else you can come up with.

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:

Chorus/Flange

Chorus and Flange are combined into one configuration, since the only difference between these effects is the amount of delay before the effect. A predelay of 0-14 will produce a flanger, and a delay of 15 or more will chorus. Note that on Choruses and Flangers, the "Wet" and "Dry" signals need to be mixed in order to hear the effect.

The Chorus/Flange 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, offset from one another. 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.

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 because of the high-frequency comb filtering that sweeps across the frequency range as the delay varies. 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.
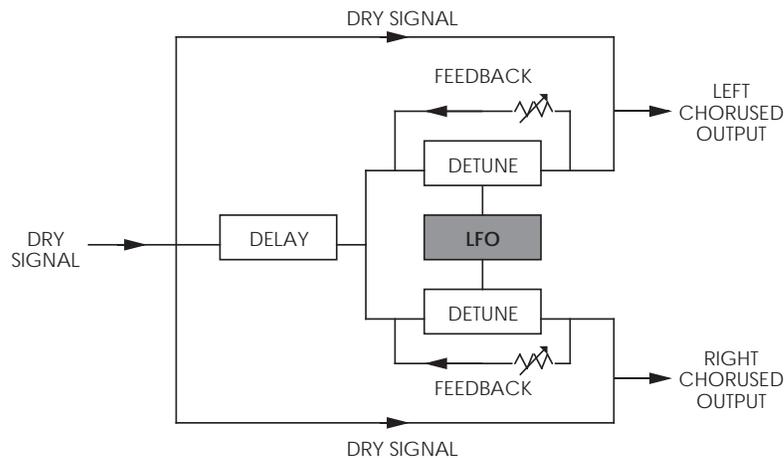
The Wedge has filters on the input and the feedback loop to tailor the frequency sweep of the effect.

Quad Chorus

Quad Chorus modulates four delayed signals, each with independent rate and depth controls. Each of the four signals has a separate Predelay variable, allowing you to change the "rhythm" of the phasing.

Quad 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 Quad Pitch Shift configuration provides two discrete pitch shifters, each with their own Pan and Level control.

Both the Quad Chorus and Quad Pitch Shifter have stereo Input and stereo Output routing. The Left Input feeds Voice 1 and the Right Input feeds Voice 4. Voices 2 and 3 are fed by a mix of the Left and Right Input. These Voices are similarly panned in the Outputs: Voices 1,2,3 and 4 are panned from hard Left to Hard Right.

Chorus:Chorus

This is a dual mono configuration with two independent mono Chorus/Flangers. Even though the configuration is called Chorus:Chorus, you can use it as a dual Flanger, or even a Chorus and a Flange. Both the controls and the I/O are separate, so stereo imaging will be maintained. By setting the left and right sides to slightly different settings, you can achieve a wide stereo image.

Chorus

This is a mono, less processor-intensive version of the Stereo Chorus effect, used in Multi Chain Configurations (Chorus → Room, Room → Flange, Flange →Delay →Room) and Dual Configurations (Room+Chorus).

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 MIDI Aftertouch.

Chorus/Flange Parameters

Rate

This is the rate that the delay time is modulated. It is adjustable from 0.00 to 6.47Hz.

Depth

This controls how deep the flange or chorusing will be. It affects how wide a range of delay time is swept, and is adjustable from 0-250.

Feedback

This is the amount of regeneration (output fed back to the input) in the Chorus/Flanger, from -99 to 99%. Negative values produce out-of-phase feedback, which has a thinner, hollow sound.

Rate, Depth and Feedback are always related, and you will probably find yourself adjusting all of them at the same time. In general, slower rates sound better with high depth settings than faster ones, and lots of feedback will sound better with lower depth settings.

Thru Zero

This control delays the input signal to better simulate tape flanging. 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 Wedge is digitally simulating the flanging effect, it normally cannot provide the through zero effect. The "Thru0" parameter found in the Wedge'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 much 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. If you are using the Wedge in a send/return arrangement with a mixer (with Dry Defeat on), there is no dry signal to delay so you won't hear a difference in this control.

Low Pass Filter

This filter allows you to roll off any high frequencies going into the Chorus/Flanger. This allows you to get a "warmer" flanger sound, or to simulate vintage effects.

Feedback Highpass and Lowpass Filters

These controls filter out the high and low frequencies in the feedback loop only. By rolling off the lowest and highest frequencies, you can add lots of feedback without getting a metallic ring or low frequency thump to the sound.

Predelay

This controls the amount of delay before the modulation effect. If you set it below 15mS, you get a Flanger. If you set it for 15 mS or more, you get a Chorus. The Predelay range is typically up to 250mS.

Wave

The Wave parameter sets the waveform of the Chorus/Flanger's sweep, either Sine or Triangle.

SINE   TRIANGLE
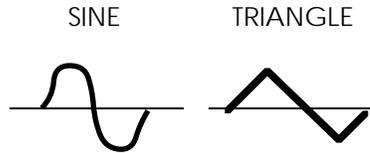
Triggered Flange

The Flanger effects can be Triggered by the input audio signal. This allows you to start the flanger at the top of the measure and other rhythmic effects. It starts the "sweep" of a flanger from the same point whenever it is triggered, and then runs until the next time you trigger it.

▶ TRIGGER   ▶ TRIGGER

FLANGER SHAPE

ATTACK THRESHOLD
RELEASE THRESHOLD

INPUT SIGNAL
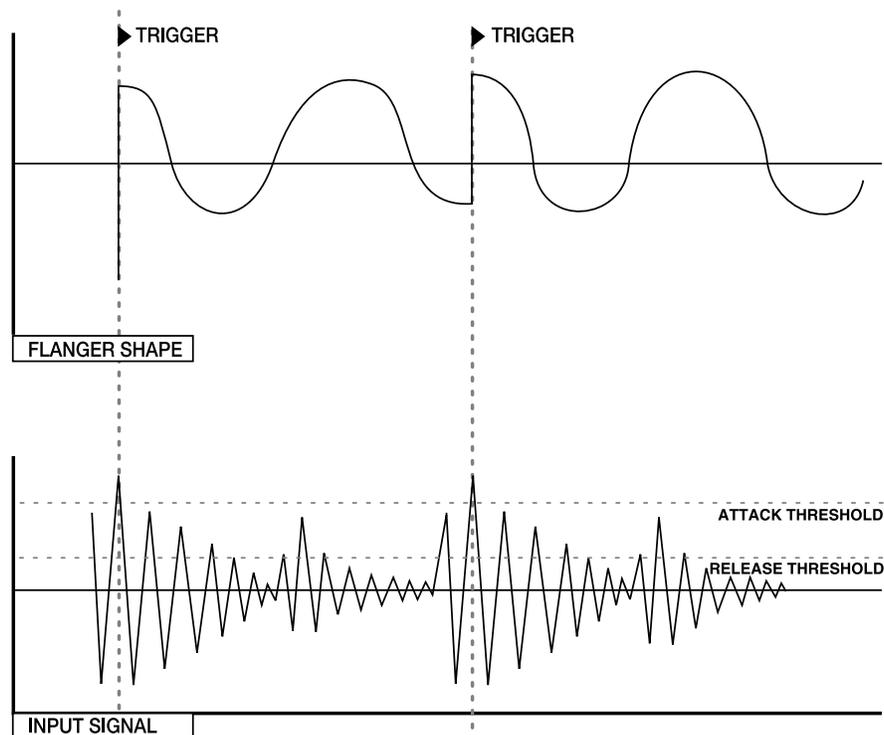
This function is controlled by three parameters:

Trig: This selects which input to monitor to begin triggering. The choices are OFF, Left, Right, or Left and Right.

Attack: This parameter sets the level where the flange will "trigger" or reset. When the audio goes above this level, the flanger will begin its sweep.

Release: This is the level where the flanger stops listening to the input. When the flanger is triggered, it won't trigger again until the input signal falls below the Release level then goes above the Attack level.

Width (Quad Chorus only)

The Width parameter adjusts the stereo width of the Quad Chorus output. A setting of 99% is full stereo, 0% is mono, and -99% is reverse stereo (The left input feeding voice 1 will be panned right).

Level (Quad Chorus only)

The level of Voices 2 and 3. 1 and 4 are always set to 100%.

Motor, Speed, High Rotor Level (Lezlie only)

These three parameters control the sound of the rotary speaker simulation. Motor turns the spinning effect on or off, but does not bypass the effect - it will still be phased and filtered with the rotor on, frozen in its pan position. Speed toggles between Fast and Slow. On true rotary speakers, an organ player often switches between these speeds during a performance. High Rotor Level affects the tone of the effect. A rotary speaker usually has two segments: a spinning horn for high frequencies and a woofer firing into a spinning "scoop" for low frequencies. This parameter simulates moving a microphone closer to the high rotor.

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
LARGE HALL	1	Decay !33-229·	Boost 000-255	BassF 029ƒ-4!3∂, OFF	LPF 029ƒ-4!3∂, OFF
	2	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	3	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF	Swirl 00-50	Depth 000-100å
	4	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	Mix 000-100å
HALL REVERB	1	Decay !97-135·	Boost 000-255	BassF 029ƒ-4!3∂, OFF	LPF 029ƒ-4!3∂, OFF
	2	Dens 000-100å	Diff 000-100å	PDly 000-500©	PMix 000-100å
	3	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF	Swirl 00-50	Depth 000-100å
	4		Spread 000-500©	Shape 0-4	Level 00-99
	5	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	Mix 000-100å
STEREO ROOM	1	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3		Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©
	4		Swirl 00-50	Width 00-99å	Mix 000-100å
ROOM REVERB	1	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-500©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3		Spread 000-500©	Shape 0-4	Level 00-99
	4		Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©
	5		Swirl 00-50	Depth 00-100å	Mix 000-100å
CHAMBER	1	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-500©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3		Spread 000-500©	Shape 0-4	Level 00-99
	4		Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©

	5		Swirl 00-50	Depth 00-100å	Mix 000-100å
AMBIENCE	1	Decay 650©-2!2˙	LPF 029ƒ-4!3∂, OFF	PDly 000-500©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3		Spread 000-500©	Shape 0-4	Level 00-99
	4		Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©
	5		Swirl 00-99	Depth 00-100å	Mix 000-100å
LARGE PLATE	1	Decay 567©-6!6˙	LShlf 000-255	HPF OFF, 029ƒ-4!3∂	LPF 029ƒ-4!3∂, OFF
	2	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	3	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF	Swirl 00-50	Depth 000-100å
	4	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	Mix 000-100å
PLATE	1	Decay !59-6!2˙	LShlf 000-255	HPF OFF, 029ƒ-4!3∂	LPF 029ƒ-4!3∂, OFF
	2	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	3	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF	Swirl 00-50	Depth 000-100å
	4	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	Mix 000-100å
ROOM+HALL	1	Decay !00-7%8˙	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3				Mix 000-100å
	4	Decay !97-135˙	Boost 000-255	BassF 029ƒ-4!3∂, OFF	LPF 029ƒ-4!3∂, OFF
	5	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	6				Mix 000-100å
ROOM+PLATE	1	Decay !00-7%8˙	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	3				Mix 000-100å
	4	Decay !59-6!2˙	LShlf 000-255	HPF OFF, 029ƒ-4!3∂	LPF 029ƒ-4!3∂, OFF
	5	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å

Effect	#	Col1	Col2	Col3	Col4
	6		LDamp OFF, 029f-4!3∂	HDamp 029f-4!3∂, OFF	Mix 000-100å
PLATE+HALL	1	Decay !59-6!2˙	LShlf 000-255	HPF OFF, 029f-4!3∂	LPF 029f-4!3∂, OFF
	2	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	3		LDamp OFF, 029f-4!3∂	HDamp 029f-4!3∂, OFF	Mix 000-100å
	4	Decay !97-135˙	Boost 000-255	BassF 029f-4!3∂, OFF	LPF 029f-4!3∂, OFF
	5	Dens 000-100å	Diff 000-100å	PDly 000-250©	PMix 000-100å
	6				Mix 000-100å
NONLINEAR	1	Time 100-600©	LPF 029f-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dir For, rEv	Dens 000-100å	Diff 000-100å	Mix 000-100å
MONO DELAY	1	100ms 0-54	10ms 0-9	1ms 0-9	Fdbk -99-99å
	2		LoCut OFF, 029f-4!3∂	HiCut 029f-4!3∂, OFF	Dens 000-100å
	3	Rate)00-^47f	Depth 000-250	TremR)00-^47∂	TremD 000-100å
	4		PanR)00-^47∂	PanD 000-100å	Mix 000-100å
PINGPONGDLY	1	100ms 0-24	10ms 0-9	1ms 0-9	Fdbk 00-99å, -01-99å
	2	LoCut OFF, 029f-4!3∂	HiCut 029f-4!3∂, OFF	Dens 000-100å	Mix 000-100å
MULTI TAP	1	Time1 000-250©	Lvl1 00-99	Pan1 -50-50	Fdbk1 00-99å
	2	Time2 000-250©	Lvl2 00-99	Pan2 -50-50	Fdbk2 00-99å
	3	Time3 000-250©	Lvl3 00-99	Pan3 -50-50	Fdbk3 00-99å
	4	Time4 000-250©	Lvl4 00-99	Pan4 -50-50	Fdbk4 00-99å
	5	Time5 000-250©	Lvl5 00-99	Pan5 -50-50	Fdbk5 00-99å
	6	MFdbk 000-100å	LoCut OFF, 029f-4!3∂	HiCut 029f-4!3∂, OFF	Mix 00-100å
DELAY:DELAY	1	Tap ---	100ms 0-24	10ms 0-9	1ms 0-9
	2		Fdbk -99-99å	LoCut OFF, 029f-4!3∂	HiCut 029f-4!3∂, OFF
	3	Rate)00-^47f	Depth 000-250	Wave Sin, tri	RFdbk 00-99å
	4	Tap ---	100ms 0-24	10ms 0-9	1ms 0-9

	5		Fdbk -99-99å	LoCut OFF, 029ƒ-4!3∂	HiCut 029ƒ-4!3∂, OFF
	6	Rate)00-^47ƒ	Depth 000-250	Wave Sin, tri	Mix 00-100å
CHRS/FLANGE	1	Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	Thru0 OFF, On
	2		LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF
	3		PDlyL 000-250©		PDlyR 000-250©
	4	Trig OFF, L, r, Lr	Attck 000-255	Rel 000-255	Mix 000-100å
QUAD CHORUS	1	1:Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	Wave Sin, tri
	2	1:Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	Wave Sin, tri
	3	1:Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	Wave Sin, tri
	4	1:Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	Wave Sin, tri
	5	PDly1 000-250ª©	PDly2 000-250ª©	PDly3 000-250ª©	PDly4 000-250ª©
	6	Width -99-99å	Lvl2 00-99	Lvl3 00-99	Mix 000-100å
CHORUS: CHORUS	1	Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	PDly 000-250©
	2		LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF
	3		Wave Sin, tri	Thru0 OFF, On	Mix 000-100å
	4	Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	PDly 000-250©
	5		LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF
	6		Wave Sin, tri	Thru0 OFF, On	Mix 000-100å
QUAD PITCH	1	1:Semi -12-12	Fine -50-50	Level 00-99	Pan -50-50
	2	2:Semi -12-12	Fine -50-50	Level 00-99	Pan -50-50
	3	3:Semi -12-12	Fine -50-50	Level 00-99	Pan -50-50
	4	4:Semi -12-12	Fine -50-50	Level 00-99	Pan -50-50
	5	PDly1 000-250©	PDly2 000-250©	PDly3 000-250©	PDly4 000-250©
	6	Fdbk1 -99-99å	Fdbk2 -99-99å	HiCut 029ƒ-4!3∂, OFF	Mix 000-100å
LEZLIE}ROOM	1	Motor OFF, On	Speed SLo, FSt	HiRot 000-250	LMix 000-100å

Effect	#				
	2	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	3	Dens 000-100å	Diff 000-100å	LDamp OFF, 029ƒ-4!3∂	HDamp 029ƒ-4!3∂, OFF
	4			Gate OFF, 010-500©	RMix 000-100å
DELAY} ROOM	1	Tap ---	100ms 0-24	10ms 0-9	1ms 0-9
	2	Fdbk -99-99å	LoCut OFF, 029ƒ-4!3∂	HiCut 029ƒ-4!3∂, OFF	Dens 000-100å
	3	Rate)00-^47ƒ	Depth 000-250	TremR)00-^47ƒ	TremD 00-99
	4		PanR)00-^47ƒ	PanD 00-99	DMix 000-100å
	5	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	Dens 000-100å	Diff 000-100å
	6	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	RMix 000-100å
CHORUS} ROOM	1	L:Rate)00-^47ƒ	Depth 000-255	Fdbk -99-99å	PDly 000-250©
	2	R:Rate)00-^47ƒ	Depth 000-255	Fdbk -99-99å	PDly 000-250©
	3	LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF	CMix 000-100å
	4	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	5	Dens 000-100å	Diff 000-100å	Gate OFF, 010-500©	RMix 000-100å
ROOM} FLANGE	1	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	Gate OFF, 010-500©	RMix 000-100å
	3	Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	PDly 000-250©
	4	Thru0 0ffffffFF, On	LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF
	5	Trig 0ffffffFF, L, r, Lr	Attck 000-255	Rel 000-255	FMix 000-100å
FLNG}DLY} RM	1	Rate)00-^47ƒ	Depth 000-250	Fdbk -99-99å	PDly 000-250©
	2	Thru0 OFF, On	LPF 029ƒ-4!3∂, OFF	FBHPF OFF, 029ƒ-4!3∂	FBLPF 029ƒ-4!3∂, OFF
	3	Trig 0ffffffFF, L, r, Lr	Attck 000-255	Rel 000-255	FMix 000-100å
	4	Tap 000-500©	Fdbk -99-99å	HiCut 029ƒ-4!3∂, OFF	DMix 000-100å
	5	Decay !00-7%8·	LPF 029ƒ-4!3∂, OFF	PDly 000-250©	PMix 000-100å

	6	Dens 000-100å	Diff 000-100å	Gate OFF, 010-500©	RMix 000-100å
ROOM+ DELAY	1	Decay !00-7%8·	LPF 029*f*-4!3∂, OFF	Dens 000-100å	Diff 000-100å
	2	Gate OFF, 001-100å	Hold 000-500©	Rel 000-500©	RMix 000-100å
	3	Tap ---	100ms 0-24	10ms 0-9	1ms 0-9
	4	Fdbk -99-99å	LoCut OFF, 029*f*-4!3∂	HiCut 029*f*-4!3∂, OFF	Dens 000-100å
	5	Rate)00-^47*f*	Depth 000-250	TremR)00-^47*f*	TremD 000-100å
	6		PanR)00-^47*f*	PanD 000-100å	DMix 000-100å
ROOM+ CHORUS	1	Decay !00-7%8·	LPF 029*f*-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	Gate OFF, 010-500©	RMix 000-100å
	3	L:Rate)00-^47*f*	Depth 000-255	Fdbk -99-99å	PDly 000-250©
	4	R:Rate)00-^47*f*	Depth 000-255	Fdbk -99-99å	PDly 000-250©
	5	LPF 029*f*-4!3∂, OFF	FBHPF OFF, 029*f*-4!3∂	FBLPF 029*f*-4!3∂, OFF	CMix 000-100å
ROOM+ FLANGE	1	Decay !00-7%8·	LPF 029*f*-4!3∂, OFF	PDly 000-250©	PMix 000-100å
	2	Dens 000-100å	Diff 000-100å	Gate OFF, 010-500©	RMix 000-100å
	3	Rate)00-^47*f*	Depth 000-250	Fdbk -99-99å	PDly 000-250©
	4	Thru0 OFF, On	LPF 029*f*-4!3∂, OFF	FBHPF OFF, 029*f*-4!3∂	FBLPF 029*f*-4!3∂, OFF
	5	Trig 0ffffffFF, On	Attck 000-255	Rel 000-255	FMix 000-100å

CHAPTER 6

MIDI APPLICATIONS

MIDI Functions

The Wedge 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 messages for use with the realtime modulation capabilities in the Wedge.

To set the Wedge's MIDI channel:

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

❷ Continue pressing the [UTIL] button until page 2 is selected.
The display will look like this:
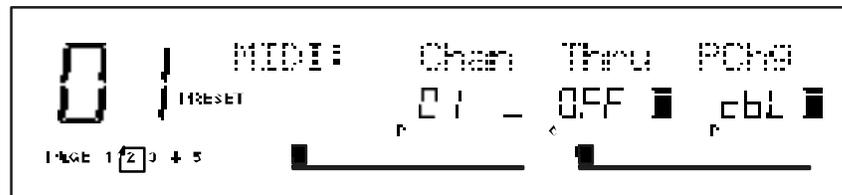
❸ Move the [B] slider to set the MIDI Channel from 01 through 16, or 00 for Omni mode (receives on all 16 channels simultaneously).

MIDI Thru

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

❶ Connect the control device's MIDI OUT to the Wedge's [MIDI IN]. Then connect the Wedge's [MIDI OUT] to the MIDI IN of the other device you wish to control.

❷ Press [UTIL] repeatedly until page 2 is selected.

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

Receiving Program Changes

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

❶ Connect the control device's MIDI OUT to the Wedge's [MIDI IN].

❷ Press the [UTIL] button repeatedly until page 2 is selected.

❸ Move the [D] slider to select either OFF, On or tbL.

- When OFF, the Wedge ignores incoming program change messages.

- When On, program changes received on the MIDI channel the Wedge 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 Wedge 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 Wedge Programs of a different number. Although MIDI program changes only allow for 128 different programs to be recalled (0–127), the Program Table allows you to map any incoming MIDI program change message recall any of the 256 Programs in the Wedge. *Example:* You can program the Table so that program change 101 recalls Preset 33.

To modify the Program Change Table:
❶ Press the [UTIL] button repeatedly until page 5 is selected.
The display will look like this:
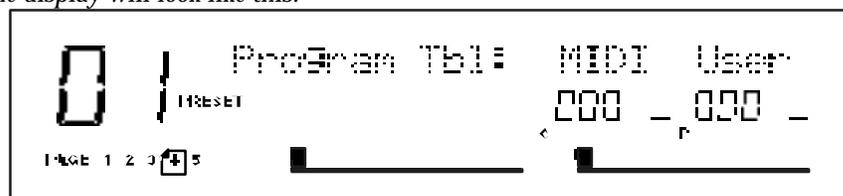
❷ Move the [C] slider to select a MIDI program change number from 000–127 to be remapped.

❸ Move the [D] slider to select a Wedge Program for the selected MIDI program change message to be re-mapped to (User 000–127 or Preset 000–127).

If the [D] slider is moved to the bottom half of its range 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 Wedge:

❶ Connect the other device's MIDI OUT to the Wedge's [MIDI IN]. Connect the Wedge's [MIDI OUT] to the other device's MIDI IN.
This provides two-way communication between the devices.

❷ Press the [UTIL]button repeatedly until page 5 is selected.
The [UTIL] *button will now be flashing, and the display will read:*

> Send MIDI Sysex: A̲ll

❸ Use the [VALUE] knob to select All User Programs, the Edit Buffer, the Program Table and the Utility menu settings (All), or the currently selected Program (Buffer), or the Program Change Table (Table).

❹ Set the receiving MIDI device to receive or record the MIDI information about to be sent from the Wedge.

❺ Press the flashing [STORE] button to transmit.
The [STORE] *button will flash rapidly and the display will read:*

> Transmitting Sysex...

❻ When you send a Sysex dump back to the Wedge, 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 Wedge, 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 Wedge, 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 Wedge'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, as shown on the Modulation Parameters Index on the next page. *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:

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

❷ Continue pressing the [UTIL] button until page 3 is selected.
The display will look like this:

❸ Move the [A] slider to edit the Modulator X field and 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 continuous controller number from 000–119.*

❹ Move the [B] slider to edit the Amplitude X field. This parameter specifies the amount of control Modulator X will have over the parameters it controls.
This can be set anywhere from -99 to +99.

❺ Repeat steps Ë and Í, substituting sliders [A] and [B] with sliders [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
LARGE HALL	Decay	Wet/Dry Mix
HALL REVERB	Decay	Wet/Dry Mix
STEREO ROOM	Decay	Wet/Dry Mix
ROOM REVERB	Decay	Wet/Dry Mix
CHAMBER	Decay	Wet/Dry Mix
AMBIENCE	Decay	Wet/Dry Mix
LARGE PLATE	Decay	Wet/Dry Mix
PLATE	Decay	Wet/Dry Mix
ROOM+HALL	Decay (Room)	Decay (Hall)
ROOM+PLATE	Decay (Room)	Decay (Plate)
PLATE+HALL	Decay (Plate)	Decay (Hall)
NONLINEAR	Decay	Wet/Dry Mix
MONO DELAY	Feedback	Wet/Dry Mix
PINGPONGDELAY	Feedback	Wet/Dry Mix
MULTI TAP	Master Feedback	Wet/Dry Mix
DELAY:DELAY	Delay 1 Feedback	Delay 2 Feedback
CHRS/FLANGE	Wet/Dry Mix	Depth*
QUAD CHORUS	Wet/Dry Mix	Depth*
CHRS:CHRS	Chorus 1 Wet/Dry Mix	Chorus 2 Wet/Dry Mix
QUAD PITCH	(none)	(none)
LEZLIE}ROOM	Speed (Slow/Fast)	Motor (On/Off)
DELAY}ROOM	Delay Feedback	Reverb Decay
CHORUS}ROOM	Chorus Wet/Dry Mix	Reverb Decay
ROOM}FLANGE	Reverb Decay	Flange Wet/Dry Mix
FLNG}DLY}ROOM	Flange Wet/Dry Mix	Reverb Decay
ROOM+DELAY	Reverb Decay	Delay Feedback
ROOM+CHORUS	Reverb Decay	Chorus Depth
ROOM+FLANGE	Reverb Decay	Flange Depth

* *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 Modu-lator 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.

Realtime Sysex Control

The Wedge sends all parameters changes to the MIDI Output. This allows you to record parameter changes to a MIDI Sequencer as a sequence plays back, then hit play on the sequencer to automate these changes. Some possibilities include:

- Editing the Decay Time to be longer during verses and shorter on the chorus

- Adding filtering to a delay during a break in the music

- Turning up the Mix control for more flanging during one note in the solo

- Increasing the Autopanner rate on the Mono Delay for dramatic effect

- Controlling one Wedge with another

To record Wedge Parameter changes into a sequencer:

① Connect the Wedge MIDI [OUT] to the sequencer's MIDI In, and the Wedge MIDI [IN] to the sequencer's MIDI Out.

② Select a sequencer track and record-enable it.

③ Press Record on the sequencer and move the sliders.

About System Exclusive vs. Controller Messages

Sysex (short for System Exclusive) messages are different from Continuous Controller messages in several ways. To decide which method of control is best for your application, consider the following:

Exclusive control: Sysex messages from the Wedge may only be read by the Wedge, and generated by the Wedge (or by special computer software that knows its Sysex "language"). If a Wedge Sysex message is received by any other device in a MIDI system (except for another Wedge), it will be ignored. Controller commands, on the other hand, are universal to all devices may be set to control several different devices at the same time (as long as they're reading the same MIDI channel). Sysex commands do not have a channel, so (for example) if you had two Wedges, any Sysex commands sent to both will be processed by both, even if they're set to different MIDI channels.

Display: Most MIDI sequencers can display Controller settings with standard faders on screen; Sysex messages usually must be edited in a data format.

Complexity: Anything you can do to a program on the top panel controls may be done via Sysex if desired. With MIDI controllers, only two parameters of a program may be manipulated, and they're pre-selected for each Configuration.

CHAPTER 7

TROUBLESHOOTING

Trouble-Shooting Index

If you are experience problems while operating the Wedge, 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.
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 2 and move the [B] slider to adjust the MIDI channel.
	Program Change receive is disabled.	Go to UTILity page 2 and move the [D] slider to turn On MIDI PChg.
No audio is heard.	Bypass function is on with Dry Defeat on.	Press [UTIL] 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.)
Using the Wedge on a mixer send and return, thin, phasing sound on all programs.	Dry Defeat is turned off	Press [UTIL] until Page 1 is selected, then press [D] to turn on Dry Defeat.
Cannot adjust an effect's MIX parameter (displays "- - -" instead of a number from 0-100%).	Dry Defeat is turned on.	Press [UTIL] until Page 1 is selected, then press [D] to turn off Dry Defeat.
Unit does not respond to front panel controls.	Unknown software conflict, military satellites, 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 Wedge, hold down both [PROG] and [BYPASS] while turning on the power. This will reset all Utility parameters to their default settings, restore all factory User Programs and will recall Preset 00.

✪ *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/PAGE]. The display will briefly indicate the currently installed software version. Please take note of the software version and include it in any correspondence with the factory.

Maintenance/Service

Cleaning

Disconnect the AC cord, then use a damp cloth to clean the Wedge'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 Wedge 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. Static-sensitive digital devices are enclosed which may be destroyed by improper handling. Service on this product should be performed only by qualified technicians. NO USER-SERVICEABLE PARTS INSIDE.

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Obtaining Repair Service

Before contacting Alesis, check over all your connections, and make sure you've read the manual. You might also try our web site at <u>http://www.alesis.com</u> or emailing tech support at support@alesis.com.

Customers in the USA: If the problem persists, visit www.alesis.com to find the Alesis or local service center phone number. Have your serial number, software version and shipping address ready. Talk the problem over with one of our technicians; if necessary, you will be given a repair order (RO) 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 RO number on the shipping label. If you do not have the original packing, ship the Wedge 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 the warranty. Next-day service may be available for a surcharge.

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

Alesis Studio Electronics
www.alesis.com

Customers outside the USA: Contact your local Alesis dealer for warranty assistance. Note that the warranty is valid only in the country of origin.

MIDI IMPLEMENTATION CHART

Function		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	X * * * * * * * *	1 — 16	
Mode	Default Messages Altered	X X * * * * * * * *	Mode 3 X	
Note Number	True Voice	X * * * * * * * *	0 — 127 0 — 127	
Velocity	Note On Note Off	X X	O X	
After Touch	Key's Ch's	X X	X O	
Pitch Bender		X	O	
Control Change	0 — 119	X	O	Controller 0 used as Bank Select (0=Preset, 1-127=User)
Prog Change	True #	X * * * * * * * *	O 00 — 127 00 — 127	
System Exclusive		O	O	
System Common	Song Pos Song Sel Tune	X X X	X X X	
System Realtime	Clock Commands	X X	X X	
Aux Messages	Local On/Off All Notes Off Active Sense Reset	X X X X	X X X X	
Notes: UTIL p.3 menu sets Pitch Bend, Aftertouch, Note Number, Velocity, or CC 00-119 as an internal modulation source.				

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)
	<0.007% @ peak level
Crosstalk:	<90dB below full scale

Input

Number of Channels:	2
Format:	1/4" TRS servo balanced
Nominal Level:	-10 dBV, adjustable to +4dBu
Maximum Level:	+19 dBV, adjustable
Impedance:	1M /channel stereo, 500k /channel mono

A/D - D/A Conversions

Processor Speed:	6 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" TRS servo balanced
Maximum Level:	+14dBu
Nominal Level	-20 dBV or +4dBu, front- panel adjustable
Output Impedance:	150 ohms

Front Panel

Controls	Value, A, B, C, D Sliders	
Buttons	PROG	EDIT/PAGE
	UTIL	A/NAME
	I/O	B/ESC
	STORE	C/<
	COMPARE	D/>
	BYPASS	TAP/AUDITION
Switches	Power	
Indicator	Custom LCD display	

Rear Panel

Input (Left/CH 1, Right/CH 2)	1/4" 3-conductor
Output (Left/CH 1, Right/CH 2)	1/4" 3-conductor
MIDI (In, Out/Thru)	5 pin DIN
Power	Alesis 9 Volt Power Transformer (600mA current draw)

Processing and Memory

User Programs (RAM):	128
Factory Preset Programs (ROM):	128
Internal processing resolution:	24 bit accumulator
Delay memory:	5499 milliseconds (5.49 seconds)
Reverb effects:	Large Hall, Hall Reverb, Stereo Room, Room Reverb, Chamber, Ambience, Large Plate, Plate, Nonlinear
Delay effects:	Mono Delay, Ping Pong Delay, Multi Tap Delay,
Pitch effects:	Chorus/Flange, Quad Chorus, Quad Pitch
Multiple effect configurations:	
Double:	Room+Hall, Room+Plate, Plate+Hall, Room+Delay, Room+Chorus, Room+Flange
Dual Mono:	Delay:Delay, Chorus:Chorus,
Multi Chain:	Delay->Room, Chorus->Room, Lezlie->Room, Room->Flange, Flange->Delay->Room