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CHAPTER 1 – GETTING STARTED

1.1 INTRODUCTION

What It Is

The Alesis *QuadraVerb GT* is a stereo effects unit that is ideal for guitar. It combines analog and digital electronics to provide the best of both worlds. Analog effects include:

- Compression
- Distortion
- Flat/Presence/Brightness Control
- Bass Boost
- Speaker Cabinet Simulator (ideal for use with headphones or recording direct; can be bypassed when feeding a guitar amp)
- Noise Gate
- Programmable Effects Loop for inserting other effects (can also provide a signal send from the analog outputs, and receive a return signal into the digital processor)

The digital effects are the same ones that have made the *QuadraVerb Plus* a favorite in studios and live equipment racks world-wide:

- Reverb
- Delay (stereo or mono)
- Pitch Change (chorus, flange, detune, phaser, etc.)
- Equalization (graphic or parametric)
- Panning and Tremolo
- Ring Modulation
- Tunable Resonators (a very resonant filtering effect)
- Sampling (up to 1.5 seconds of sound can be captured and replayed)

The order of the analog effects are preset in their optimum positions; the routing of the digital effects is flexible and programmable. All effects parameters are editable. 100 edited programs can be saved in memory, and called up by front panel switches or MIDI program change commands.

The *QuadraVerb GT* is also MIDI controllable. Settings need not be static—you can control them in real time with Continuous Controller foot pedals, or with sequencers or keyboards.

Features

- 20 Hz to 20 kHz frequency response
- Up to 11 simultaneous effects (6 analog, 5 digital) and programmable effects loop
- Backlit, descriptive 32 character LCD display
- Touch sensitive programming buttons for quick editing—press harder to scroll faster through the display
- Stores up to 100 programs
- Comprehensive MIDI implementation
- Real-time parameter control via MIDI controllers
- Easy editing of all parameters
- All functions, parameters, and volume levels fully programmable
- Stereo in and out
- Flexible effects routing and mixing
- Several types of reverbs, including: Plate, Room, Chamber, Hall, and Reverse
- Several types of delay, including: Ping Pong Delay, Mono Delay, Stereo Delay, and Multitap delay
- Several types of Pitch Shift, including: Mono Chorus, Stereo Chorus, Mono Flange, Stereo Flange, Pitch Detune, and Phase Shifter
- Three types of Digital EQ, including: 3 band Parametric, 5 band Parametric, and 11 band Graphic
- Any or all Alesis presets can be recalled from ROM at any time

1.2 SYSTEM HOOKUP BASICS

The QuadraVerb GT is designed for mono or stereo guitar, bass, Chapman Stick, etc. but is also right at home in the studio for processing vocals, drums, pianos, synthesizers (try the rotating speaker sound!), tape tracks, and other instruments.

The QuadraVerb GT can insert between your guitar and subsequent effects units or amplification systems. This lets you use the amp's overdrive options to further color the QuadraVerb GT's sound. Or, patch the QuadraVerb GT into an amp's effects loop. This lets the QuadraVerb GT process the amp's internal sound, and in some cases, lets you use the amplifier's preamp section as an alternate to the QuadraVerb GT's internal preamp.

Following are some typical hookups, followed by information on proper

level-setting. All inputs and outputs are unbalanced lines.

Turn your amplifier volume all the way down when patching the QuadraVerb GT into your system!

AC Transformer Hookup

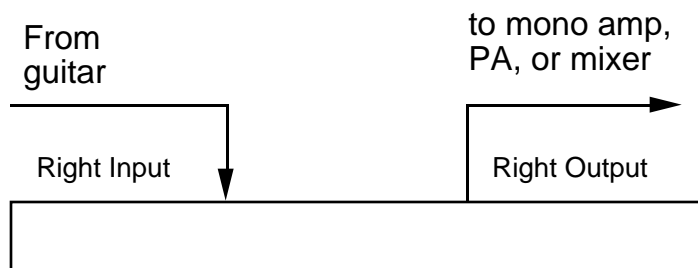
Plug the QuadraVerb GT's AC adapter into the wall. The smaller plug inserts into the 9 VAC power jack on the QuadraVerb GT's rear panel.

To prolong the AC adapter's life, unplug it from AC power when not in use (turning off the QuadraVerb GT's power switch does not disconnect the AC adapter from AC power). It's good practice to plug all your AC-powered devices into a switched power strip, so that turning off the strip turns off power to all your gear.

1.3 AUDIO HOOKUPS

The QuadraVerb GT can interface with a variety of guitar systems and recording studio setups.

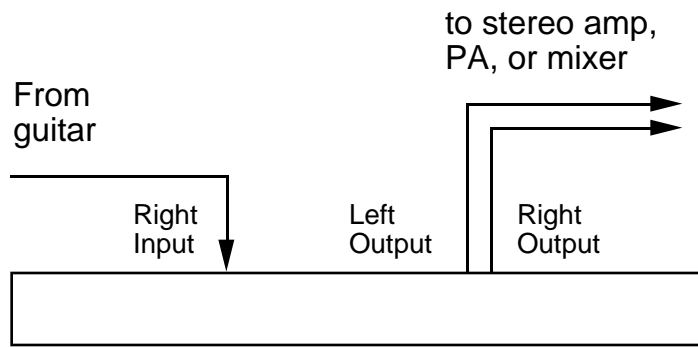
Mono In, Mono Out



Application Mono guitar feeding a mono amp, PA, or mixer.

Hookup Patch the guitar into the right input and feed the right output to your amplifier (Using the left input and output will also work, but for the sake of consistency and simplicity, we'll just refer to the right input and output).

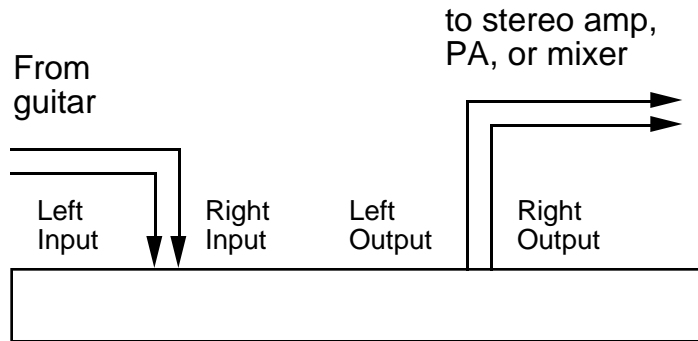
Mono In, Stereo Out



Application Mono guitar feeding a stereo amp, PA, or mixer.

Hookup Patch the guitar into the right input and feed the right and left outputs to your amplifier.

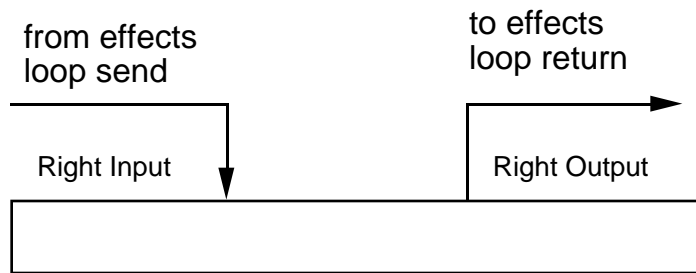
Stereo In, Stereo Out



Application Stereo guitar feeding a stereo amp, PA, or mixer.

Hookup Patch the guitar into the right and left inputs and feed the right and left outputs to your amplifier.

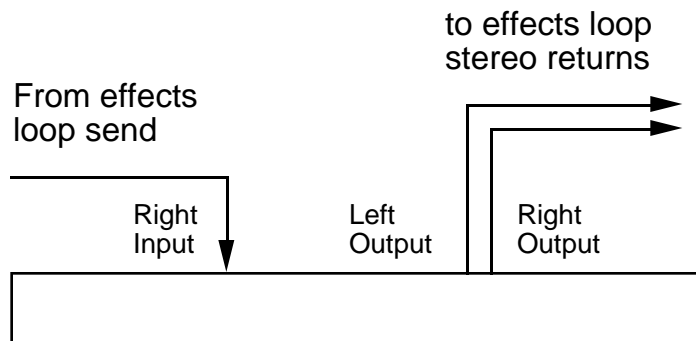
Mono Send, Mono Return Effects Loop



Application Patching into a guitar amp with a mono effects loop. Do not confuse this with the QuadraVerb GT's internal effects loop; the loop in an amplifier is specifically designed for the insertion of signal processors such as the QuadraVerb GT.

Hookup Patch the effects loop send into the right QuadraVerb GT input and feed QuadraVerb GT's right output to the effects loop return.

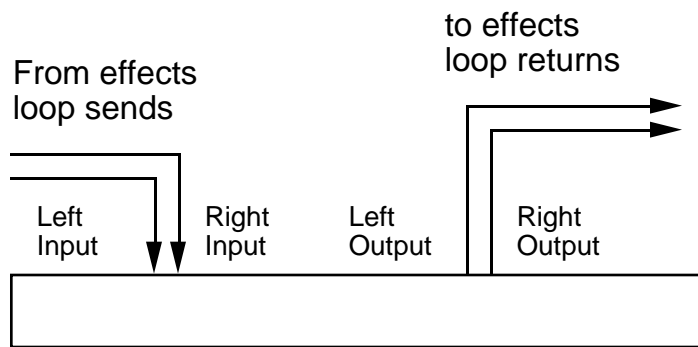
Mono Send, Stereo Return Effects Loop



Application Patching into a guitar amp with a mono send and stereo return effects loop. Do not confuse this with the QuadraVerb GT's internal effects loop; the loop in an amplifier is specifically designed for the insertion of signal processors such as the QuadraVerb GT.

Hookup Patch the effects loop send into the right QuadraVerb GT input and patch the QuadraVerb GT's right and left outputs to the effects loop stereo return.

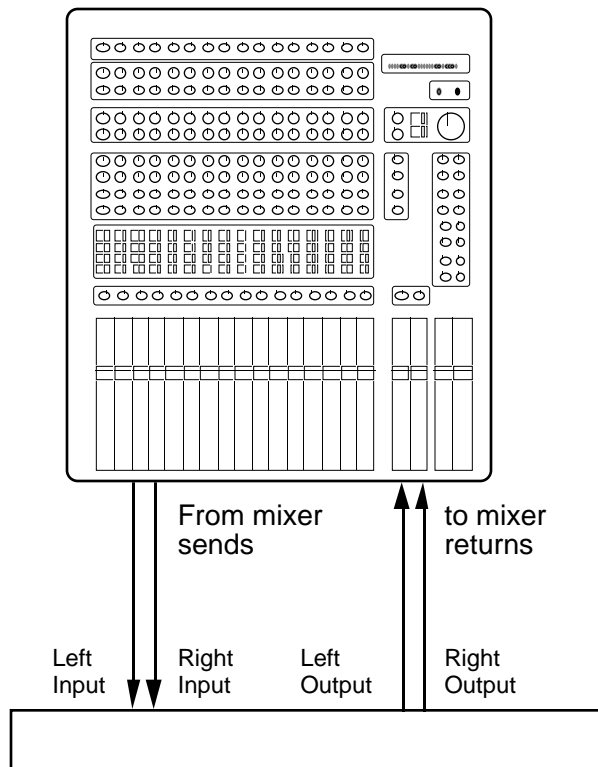
Stereo Send, Stereo Return Effects Loop



Application Patching into a guitar amp with a stereo send and stereo return effects loop. Do not confuse this with the QuadraVerb GT's internal effects loop; the loop in an amplifier is specifically designed for the insertion of signal processors such as the QuadraVerb GT.

Hookup Patch the effects loop sends into the right and left QuadraVerb GT inputs, and patch the QuadraVerb GT's right and left outputs to the effects loop stereo return.

Interfacing with Mixer Stereo Effects Sends



Application Patching into a mixer's stereo effects sends for use as a reverb or other processor while recording.

Hookup Patch the mixer's auxiliary bus (or effects bus) sends into the right and left QuadraVerb GT inputs, and patch the QuadraVerb GT's right and left outputs to the mixer's stereo returns or if not available, two standard mixer channel inputs.

1.4 FOOTSWITCH HOOKUP

There are two footswitch jacks on the rear panel that accept standard, normally open, momentary contact footswitches.

A footswitch plugged into the Bypass jack duplicates the **BYPASS** button function. Press on the footswitch to toggle between bypass and active modes. When bypassed, the LED in the middle of the **BYPASS** button will be lit.

A footswitch plugged into the Advance jack increments (or decrements)

the program number by one with each footswitch press. You can set an upper and lower program number limit, as described in section 5.7.

1.5 EXTERNAL EFFECTS HOOKUP

The QuadraVerb GT offers an effects loop where you can patch in effects other than the ones included in the unit (you might want to insert, for example, a wah-wah pedal or vintage fuzz). The effect can be bypassed or enabled for each patch.

Patch the Effects Loop Send jack to the effect input, and the Effects Loop Receive jack to the effect output. Also note that the Send jack provides a post-analog effects, pre-digital effects send suitable for driving guitar amps or a studio console; the Receive jack lets you plug directly into the digital effects and bypass the analog effects. The effects loop can therefore split the QuadraVerb GT into two separate effects, as described in section 2.1.

It is important to note that turning off the effects loop does not turn off the effects send. Selecting In or Out on the Effects Loop page will only enable or disable the Effects Loop Return jack. Also, the effects loop will be bypassed if there are no jacks inserted, regardless of whether the Effects Loop page is set to On or Off.

1.6 SETTING LEVELS

After hooking up your cables, set the proper levels. Start off with your amplifier turned down to a low volume to prevent any ear-shattering surprises as you learn about the QuadraVerb GT. After you know what you're doing, increase the level to normal monitoring levels.

1. Press the **BYPASS** button (its red LED will light) so that you hear only the straight guitar sound.
2. Play your instrument and observe the 4-step LED meter toward the left of the QuadraVerb GT.
3. Adjust the Input control so that the -6 dB LED lights consistently but the Clip (red) LED lights rarely, if ever. The red LED indicates that distortion is either about to occur or is actually occurring.
4. Adjust the output control for a comfortable monitoring level. Make sure the output is turned up high enough to provide the amplifier, mixer, or subsequent processor with sufficient level, but not turned up so high that it overloads the unit it is feeding.
5. Press the **BYPASS** button again so that you can hear the effect of the different QuadraVerb GT programs. **BYPASS** can be used at any time to toggle between processed and straight sounds.

1.7 CHECK OUT THE FACTORY PROGRAMS

The QuadraVerb GT contains 90 programs that put your guitar through serious sonic gyrations. Initially, these programs contain factory presets. However, they can be edited or replaced with your own programs. You can also recall the original factory sound associated with a program location at any time, even if that location has been modified or erased, because the parameters for these programs are stored in ROM (permanent memory).

Assuming you've hooked up your guitar as described in the previous section, it's time to audition the QuadraVerb GT programs and see what this baby can do.

Selecting Programs

1. Press the **PROGRAM (PROG)** button. The LED in the middle of the button will light.
2. There are three ways to select programs:
 - MIDI program changes. See next section.
 - Press either **VALUE** button to scroll through the available programs (**VALUE UP** increases the program number, **VALUE DOWN** decreases the program number). *The harder you press the VALUE button, the faster the Program numbers will scroll.* Stop on a program, and it will be selected.
 - Key in a particular two-digit program number. Note that the module buttons (**REVERB**, **DELAY**, **PITCH**, etc.) also have numbers printed in gray. These can be used for entering numbers as long as the **PROGRAM** button is held down.

Example: To enter program 56, press the **PROGRAM** button and while it is being held down, press the **5** (MIDI) and **6** (CONFIG) buttons. The display will show 56, and that program will be selected.

If you release the **PROGRAM** button before entering the two digit program number, the program number will revert to what it was before you pressed the **PROGRAM** button.

The number you enter must be a two-digit number, so enter a “leading zero” if necessary. *Example:* To enter program 9, enter 09.

1.8 MIDI HOOKUP

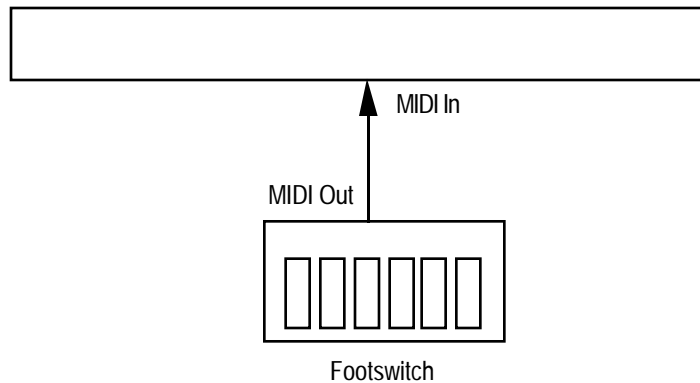
MIDI is an internationally-accepted protocol that allows musical-related data to be conveyed from one device to another. See the MIDI supplement if you are not familiar with how MIDI works.

The most popular MIDI applications are hooking up a MIDI footswitch to change programs, and/or a MIDI continuous controller pedal to vary QuadraVerb GT parameters in real time, as you play. The following sections describe how this process works.

MIDI Program Selection

The QuadraVerb GT responds to MIDI program change commands. Therefore, sending a particular program number via MIDI to the QuadraVerb GT will call up the program you specified.

If a device can generate program change commands, patching its MIDI Out to the QuadraVerb GT's MIDI In allows for remote program selection.



Several devices can generate program change commands:

- **MIDI footswitch** This is probably the option that most guitarists will use. A MIDI footswitch sends program changes in response to footswitch presses. Many companies make MIDI footswitches; their manuals explain how to program the footswitch to send out particular program changes.
- **MIDI sequencer** A sequencer can record and play back MIDI data, including program change commands.
- **Synthesizer** Selecting a new program on a synthesizer usually sends out a corresponding program change command. This allows any signal processor hooked up to the synth to change its settings in response to different synth programs.
- **Other effects boxes** If you use more than one effects box, calling up a program on it will often send a corresponding program change through its MIDI Out.

NOTE: Your QuadraVerb GT and the MIDI footswitch must both be set to the same MIDI channel to execute program changes.

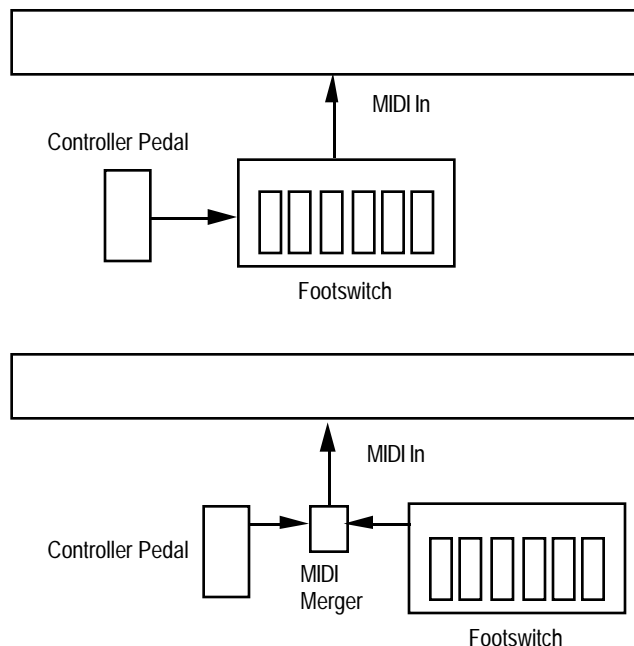
MIDI Controller Pedal Hookup

Several QuadraVerb GT parameters can be changed remotely over MIDI. Usually this is done with a footpedal that generates MIDI *continuous controller* data. There are 128 controllers, most of which are available for remote parameter control (some of the higher-numbered controllers are used to set up synthesizer modes and other things we don't need to worry about).

The basic idea is to set the parameter to be controlled to a particular controller number. Then set the pedal to the same controller number. As you vary the pedal, it will generate data that will change the QuadraVerb GT parameter. For example, assigning a foot pedal to delay feedback would allow you to kick in a slapback delay at the end of a phrase.

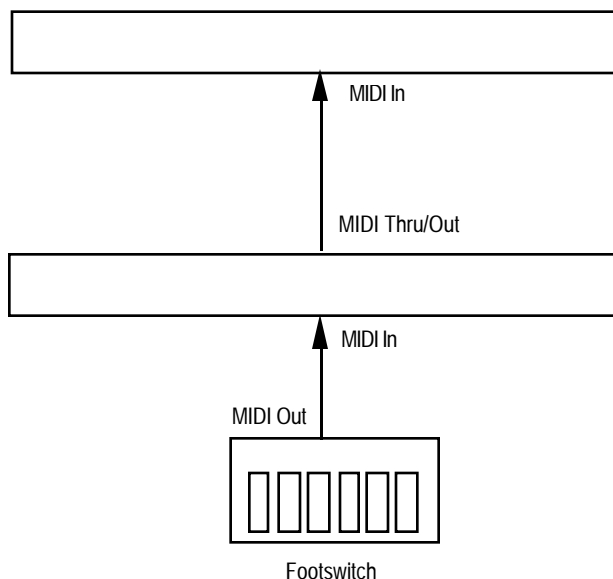
The MIDI controller pedal may be part of your footswitch unit, a separate stand-alone device, or a combination standard volume pedal and converter (e.g., Anatek Pocket Pedal). Synthesizers and other devices also generate MIDI continuous controller data.

If you want to feed the QuadraVerb GT with both a footswitch for program change control and a pedal for real time control, either the footswitch or pedal will need a merging input, or you will need a MIDI merger.



MIDI Thru/Out Hookup

The MIDI Thru/Out jack can have its function changed via software (see section 5.4). When MIDI Thru is turned on, this jack carries a duplicate of the MIDI data appearing at the MIDI In jack. In addition to the Thru function, the Thru/Out jack can then feed the MIDI In of other MIDI-controlled unit, thus distributing the MIDI signal to two different units.



In addition to the Thru function, data generated by the QuadraVerb GT can be sent to other MIDI units. This is more of a feature for advanced MIDI users and is described in sections 5.5 and 5.6 on QuadraVerb GT System Exclusive options (for more information on System Exclusive information, see the MIDI supplement). Generally, the data generated from the QuadraVerb GT is used for one of two purposes:

- Transfer program data directly from one QuadraVerb GT to another.
- Send program data to a such as the Alesis DataDisk or other MIDI storage device in order to back up the data inside the QuadraVerb GT.

1.9 ROCK OUT!

Play for a while and get a feel for how the QuadraVerb GT sounds. The factory programs give a good idea of what the QuadraVerb GT can do, and can also be modified later on if you want to customize the factory programs to your own specifications.

CHAPTER 2 – QUADRAVERB GT MODULES AND CONFIGURATIONS

Many guitarists will find that the 90 factory presets take care of most, if not all, of their musical needs. However, the QuadraVerb GT is a very flexible device and comes into its own when edited to your own specific needs.

To do this, it is necessary to understand the QuadraVerb GT's effects and configurations, which is what this chapter is all about. The next chapter covers how to edit those effects and configurations.

2.1 ABOUT THE QUADRAVERB GT's EFFECTS

The QuadraVerb GT has 11 main effects sections (including the mixer) and the ability to alter (modulate) some of the effects parameters in real time. Each effect modifies your signal in a particular way. A particular combination of the 11 effects is called a *configuration*, as explained in section 2.2.

Preamp

The Preamp section includes effects found in standard rack preamps, such as compression, overdrive, distortion, flat/bright/presence switch, bass boost, cabinet simulator, and noise gate.

This section is followed by a programmable effects loop that lets you insert your favorite classic wah-wah, phase shifter, etc.; you can enable or bypass the effect as part of a program. This loop can also be used to split the QuadraVerb GT into two separate effects (see the last part of this section on “Bi-Timbral” Effects).

Reverb

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.

There are five main reverb types, as described later. Furthermore, any reverb type can be *gated*, which is the process of abruptly cutting off the reverb's decay for a more "choppy" sound.

Delay

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. The QuadraVerb GT offers four types of delay:

- **Ping-Pong Delay** In stereo, the delayed signal bounces back and forth between channels, with the speed determined by the delay time parameter. Maximum delay is 375 milliseconds in QuadMode, 400ms in the Lezlie and Ring Modulation configurations, 750 ms in the Graphic > Delay configuration, 705ms in the 5 Band EQ > Pitch > Delay configuration, and 320ms in the Resonator configuration.
- **Stereo Delay** This has two individual delays, one for each channel. Setting them to different delay times allows for polyrhythmic delays. Maximum delay specs are the same as for ping-pong delay.
- **Mono Delay** Because this is a single delay line, it has twice the maximum delay time of the stereo delay (up to 1500 ms).
- **Multitap Delay** Available only in the 5 BAND EQ > PITCH > DELAY configuration, this delay includes 8 taps with variable delay time, volume, panning, and feedback amount for each tap. The total delay time of all eight delays cannot exceed 1470 ms.

Pitch Change

This module alters the pitch of a signal in various ways to produce "animated" timbres that are more complex than the original signal. The various pitch change options are:

- **Chorus** This combines a delayed (typically 10-25 ms), detuned version of the original signal with the straight signal. Modulating the delayed version creates phase, amplitude, and time differences that sound like two instruments playing together. Mono and stereo functions are available; stereo modulates two delayed signals instead

of just one.

- **Flanging** 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. Mono and stereo flanging is available, and the flange modulation sweep can be triggered in order to sync up with the rhythm of your playing.
- **Detune** Shifts the pitch by a fixed amount. This creates a thickening effect similar to the difference between a 12-string and 6-string guitar.
- **Phase Shifter** This effect is similar to flanging, but covers a narrower delay range and has a more diffused timbral quality.
- **Lezlie Speaker Simulator** With the Lezlie configuration selected, the pitch change module becomes a rotating speaker simulator. Rotating speakers, which involved mechanically rotating one or two speakers to produce complex timbral changes, were extremely popular during the 1960s.

Equalization

Equalization provides control over the tone of your signal by altering the frequency response in various ways. The QuadraVerb GT's three different types of EQ are:

- **3 Band Parametric** This combines high and low frequency shelving equalizers (like the tone controls found on stereo systems and guitar amps) along with a sweepable midrange *parametric* stage (see “5 Band Parametric,” next) that has variable boost or cut, frequency, and bandwidth (resonance, or “bite”). This works well for dialing in rhythm guitar sounds.

The high and low shelving bands offer two parameters, amplitude and frequency. Amplitude sets the amount of boost or cut; frequency sets the frequency at which the maximum boost or cut occurs. This boost continues for frequencies higher than the high frequency and lower than the low frequency.

The middle band is *parametric* and offers amplitude, frequency, and bandwidth parameters as described next.

- **5 Band Parametric** This is identical to the 3 Band Parametric but offers two additional sweepable midrange stages with variable boost or cut, frequency, and bandwidth. The following diagram shows the relationship between three parameters.

The complex response of the 5 band parametric lets you compensate for dead spots on a guitar's neck, or set up a very specific frequency response.

- **11 Band Graphic** The graphic equalizer can boost or cut any of 11 different bands (16 Hz, 32 Hz, 62 Hz, 126 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz).

Panning and Tremolo

Panning shifts the signal back and forth between the stereo outputs at a cyclical, adjustable rate. Tremolo provides a “pulsing” sound via cyclical level changes. Both have “depth” parameters; with panning this varies the width of the pan in the stereo field, with tremolo this sets the difference between volume peaks and valleys.

Ring Modulation

Ring modulation shifts a signal's harmonics up and/or down by an adjustable frequency (expressed in Hertz). The QuadraVerb GT's ring modulator features individual outputs for the up and down signals. The resulting sound takes on a “clangorous,” bell-like quality that is used mostly with percussive effects. Try this on a drum machine, or muted guitar parts.

Tunable Resonators

A resonator is a filter whose response is so sharp that it actually imparts a pitch to any signal going through it. In the Resonator configuration, there are up to five resonators, depending on the configuration, so you can tune the resonators to complex chord types. You can also transpose the resonator frequencies via MIDI notes to match a particular chord progression.

Sampling

Sampling is the process of digitally recording a signal into the QuadraVerb GT's memory, which can then be triggered via an external audio input (e.g., a snare drum sound coming from a tape track), a front panel button, or a MIDI note. Different MIDI notes will transpose the sample. Sampling is useful if you want to capture a particular effect or chord change, then play over it. Try it in the studio for drum sound replacement, reproducing unusual vocal effects, etc.

Mixer

The multiple effects are all placed in parallel. Each effect's output feeds a

mixer, and is variable so that you can change the balance of that particular effect with respect to the overall sound.

The effect input can come from the main input if you only want the effect to process the dry sound, but in many configurations, the effect can get its input from the output of other effects, or from a combination of processed and dry sounds.

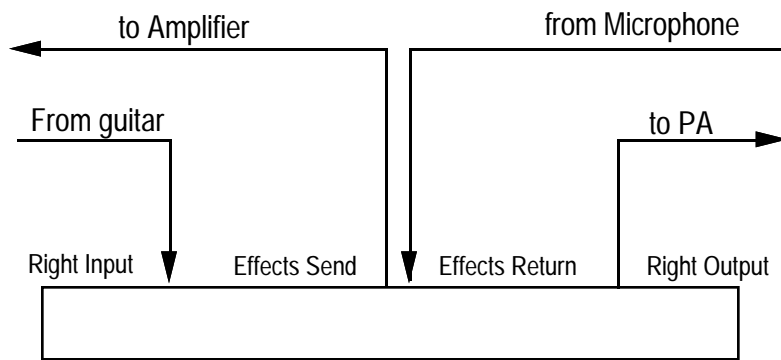
Modulation

As mentioned earlier, many QuadraVerb GT parameters can be changed in real time via pedals that generate continuous controller commands, or from commands issued by a sequencer or synthesizer. Continuous controller pedals are available from a variety of manufacturers at various price points. These generate signals that are “tagged” with a particular controller identification number. If you set a QuadraVerb GT parameter to be controlled by this particular controller number, moving the pedal will change the QuadraVerb GT parameter.

Modulation consists of choosing up to 8 “target” parameters to be modulated by any one of several types of MIDI “source” data types (pitch bend, aftertouch, note number, and note velocity as well as continuous controllers). Several parameters can be changed by one controller, so that, for example, moving a pedal could increase chorus depth and boost the midrange frequencies.

“Bi-Timbral” Effects

The QuadraVerb GT can serve as *two* separate effects units by proper patching to and from the effects loop. For example, consider a situation where a guitarist plays guitar and sings. Plug the guitar into the QuadraVerb input; the effects loop send provides the post-analog effects signal, which can be routed to a guitar amp. Meanwhile, the voice mic can be externally preamplified and sent into the effects loop return. This allows the vocal to be processed by the digital chorus, reverb, equalization, etc. sections. The QuadraVerb GT output, which now carries only the processed vocal sound, can be routed to a PA for further amplification.



2.2 ABOUT CONFIGURATIONS

No matter which program you select, the analog effects are always in the same order. However, the digital effects can be connected together in one of eight different ways, each of which is called a *configuration*. A configuration doesn't just include a specific collection of effects, but also the way in which they interconnect (*e.g.*, whether the delay signal is derived from an equalized or non-equalized signal). This allows for a great deal more flexibility than you would expect from a fixed configuration of effects.

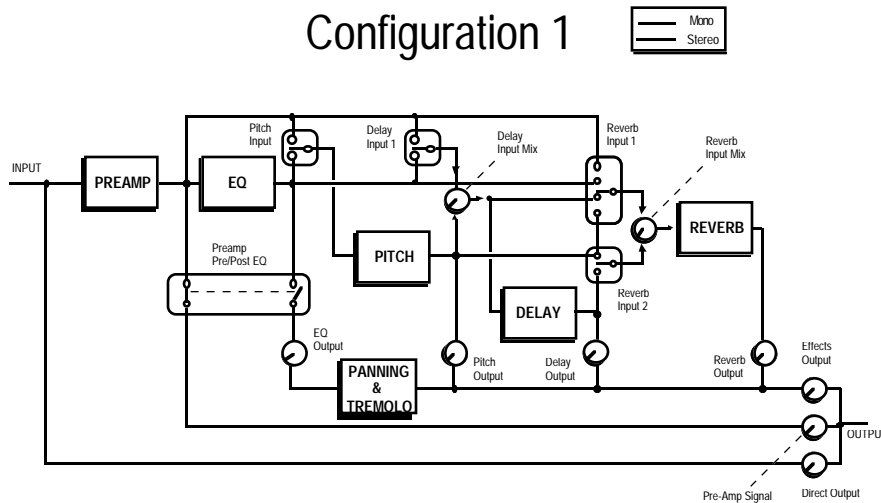
This flexibility allows for some great sounds, but also requires a bit of experimentation to learn the subtleties of each configuration and how these subtleties affect the sound. It's probably easiest to start off by “tweaking” the factory presets to learn what the different parameters do, then graduate to creating programs from scratch.

These configuration descriptions use block diagrams to indicate signal flow. Keep the following in mind:

- Think of the connecting lines as “patch cords” between different “effects boxes” (the individual modules).
- Switches are enclosed in rectangular boxes with rounded corners.
- The knobs act as volume controls if two wires hook into the knob, or mix (“pan”) between two signals (incoming wires) and provides an output (outgoing wire) if three wires hook into the knob.
- Heavy lines indicate a stereo path. Note that most effects output a stereo signal, but accept a summed, mono signal at the input.

#1 Preamp > EQ > Tremolo/Panning > Pitch > Delay > Reverb

Configuration 1



QuadMode™ is a complex configuration that offers comprehensive switching and mixing possibilities. It's excellent for creating larger-than-life, animated sounds.

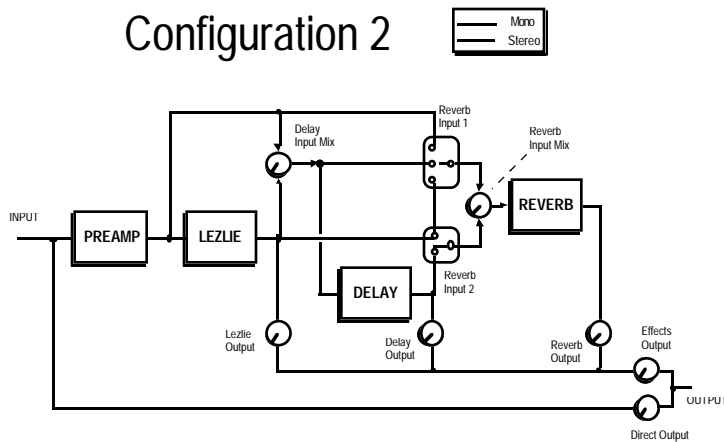
The Pitch module can switch its input between the preamp or EQ signals. The Delay module's Delay Input Mix control chooses a blend between the output of the Pitch module, or the preamp or EQ signal (as selected by the Delay Input 1 switch).

The Reverb module's Reverb Input Mix control chooses a blend between two input options. Reverb Input 1 switches between preamp, EQ, pre-Delay, or post-Pitch signals; Reverb Input 2 switches between the post-Delay or post-Pitch signal.

Panning and Tremolo are available in this configuration, and are in series with the preamp or EQ signal line. The Preamp Signal Pre/Post EQ switch chooses whether the Preamp Output comes from preamp or EQ.

#2 Preamp > Lezlie > Delay > Reverb

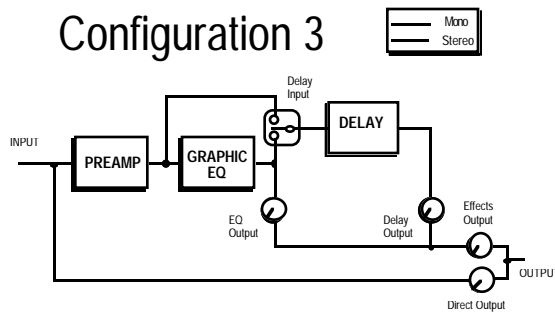
Configuration 2



This is similar to the QuadMode™ configuration, but replaces the EQ and Pitch modules with a Lezlie (rotating speaker simulator) module and does not have a Preamp level control.

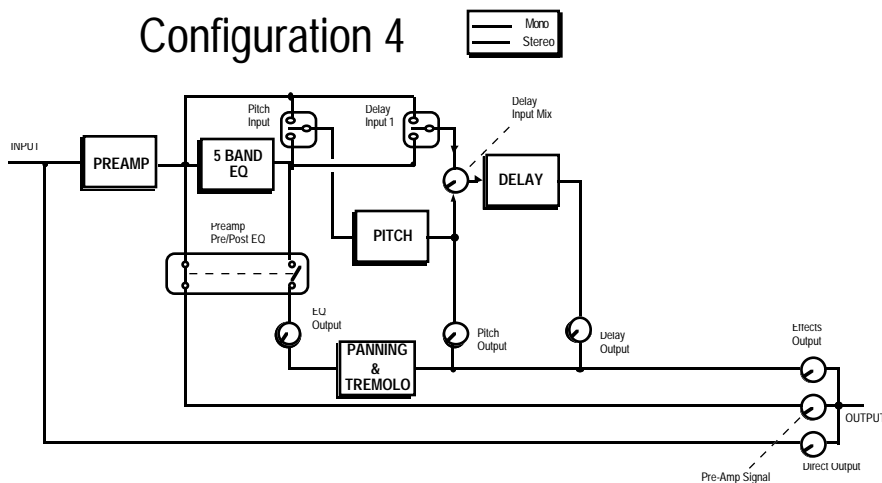
The Lezlie module simulates the common two-speaker system with two different speeds. The switching and mixing options are similar to those used in QuadMode. This configuration produces complex frequency and amplitude modulation effects and works very well with rhythm guitar.

#3 Preamp > Graphic EQ > Delay



This combines the 11 band graphic EQ with delay. The EQ provides sophisticated sound-shaping for the preamp sound, and the delay adds ambience for lead effects.

#4 Preamp > 5 Band EQ > Tremolo/Panning > Pitch Change > Delay



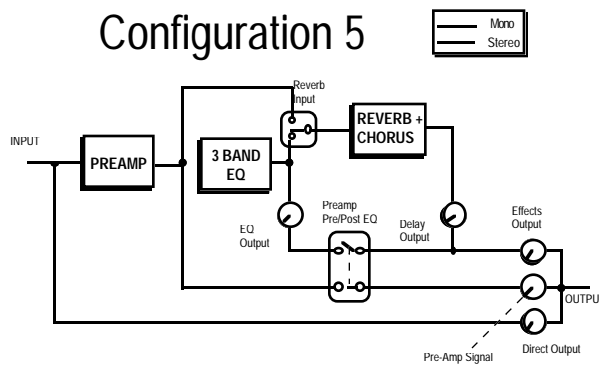
This is just the ticket for rich chorus sounds. Use the 5 Band EQ to shape your timbre, Pitch Change to add chorusing (or other pitch effects such as flanging, etc.), and Delay to add evocative echo effects. Using the Multi Tap option in the Delay module creates unusual echo effects along with chorusing.

The Pitch module can switch its input between preamp or EQ signals. The Delay module's Delay Input Mix control chooses a blend between the output of the Pitch module, or the preamp or EQ signal (as selected by the Delay Input 1 switch).

Multi Tap delay is also available in this mode along with the standard mono, stereo, and ping-pong delays. Up to eight taps are available along the delay line; each tap has variable delay time, panning, volume, and feedback. For more details about multitap delays, see section 4.5.

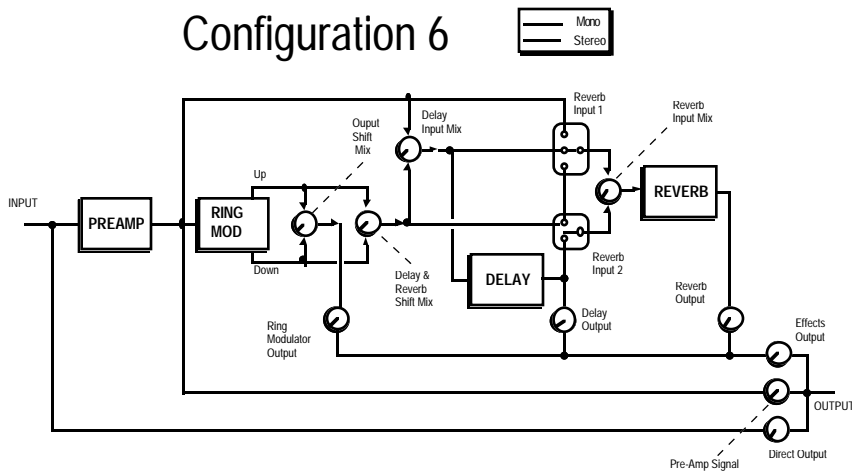
Panning and Tremolo are available in this configuration, and are in series with the EQ signal line. The Preamp Signal Pre/Post EQ switch chooses whether the Preamp Output comes from before or after the EQ.

#5 Preamp > 3 Band EQ > Reverb



This is the recommended configuration when you want the best possible reverb sound. By restricting the number of effects, the QuadraVerb GT can devote its full computing power to creating awesome reverberation effects. However, EQ is still available for additional tone shaping, as is a simpler version of chorusing.

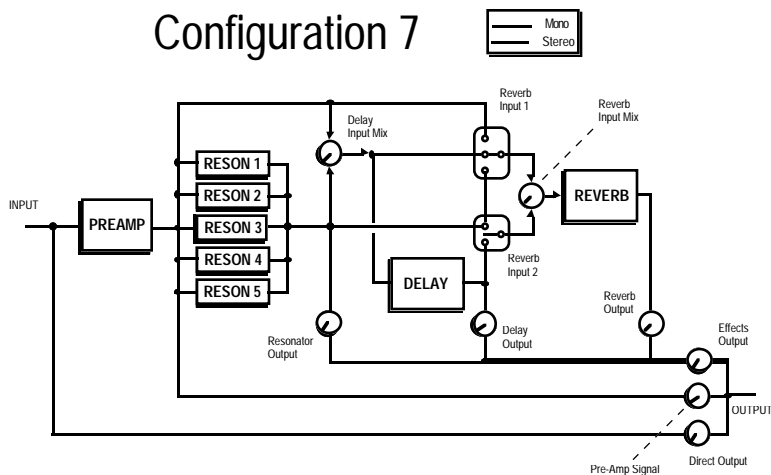
#6 Preamp > Ring Modulator > Delay > Reverb



This configuration features the Ring Modulation in conjunction with Delay and Reverb. The Ring Modulator is not available in other configurations.

The Ring Modulator produces two outputs, both of which are mathematically derived (sum and difference frequencies) from the input signal. The Ring Modulator output can pan between these two output signals, as can the Delay & Reverb Shift Mix control, which chooses a blend of both outputs to send to the Delay and Reverb inputs.

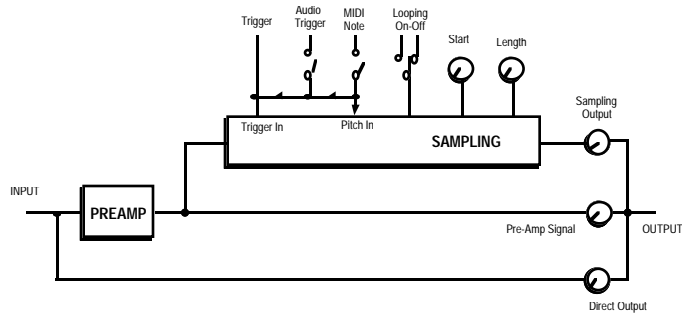
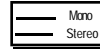
#7 Preamp > Resonators > Delay > Reverb



This configuration features the Resonators in conjunction with Delay and Reverb.

#8 Preamp > Sampling

Configuration 8



In this configuration, you can record sounds (processed by the Preamp if desired) into the QuadraVerb GT and play them back in a variety of ways.

CHAPTER 3 - BASIC EDITING TECHNIQUES

Editing is the key to using the QuadraVerb GT to its fullest potential. If you like a sound but want more reverb, less treble, more distortion, or whatever, editing is the answer.

Make sure that if you develop a custom set of programs, that you save your data to some form of MIDI system exclusive storage device, like the Alesis DataDisk (see sections 5.5-5.6).

3.1 HOW EDITING WORKS

The QuadraVerb GT contains five Effects Groups, each with its own corresponding front panel selection button: Reverb, Delay, Pitch, Equalization (EQ), and Guitar Preamp (Pre-Amp). These all contain editable parameters. Four other editable functions (with front panel buttons) are also available: MIDI, Name/Mod, Mix, and Configuration. The basic editing procedure is the same for whatever you want to edit; we'll get into specifics later.

1. Select What You Want to Edit

Push the button associated with the Effect Group (Reverb, Delay, Pitch, EQ, Preamp) or function (MIDI, Config, Mix, Mod) you want to edit. The LED in the middle of the button will light.

2. Select the Page with the Parameter to be Edited

Each effect/function includes several *pages*. Each page shows the name and value of one (or sometimes more) parameters, and each *parameter* controls some particular aspect of the QuadraVerb GT's sound or operation. Most effects or functions require multiple pages to show all available parameters.

The page's upper display line shows the parameter name, and the lower line, the parameter value. Press the **PAGE UP** and **DOWN** buttons to select a page containing a parameter to be edited. *The harder you press the PAGE button, the faster the pages will scroll.*

NOTE: The NAME/MOD button is the exception to this rule, as it

accesses both program name parameters as well as the QuadraVerb GT's MIDI modulation parameters. (See section 3.4)

3. Change the Parameter's Value

A parameter's value is like the “calibration scale” a knob would point to on a regular guitar effects box, except instead of setting a physical device to a certain position, you see the parameter setting on the screen and adjust its value with a pair of buttons (increase/decrease value). For example, a volume knob on a guitar amplifier might be set to 5 would be the same as a volume parameter with a range of 00-99 set to 50. In either case, the control is set halfway.

A small line under a parameter indicates it can be edited. Use the **VALUE** buttons to change a parameter's value. *The harder you press the VALUE button, the faster the values will scroll.*

4. Edit More Parameters

Repeat steps 1-3 until all the parameters you want to edit have been edited.

Notes

- All edits are not made to the original program, but to a copy of the program that resides in a special place in QuadraVerb GT memory called the Edit Buffer. A decimal point to the right of the program number indicates that you are listening to an edited program in the Edit Buffer. You must save an edited program by transferring the edit buffer contents into the original program memory location *before* selecting another program, or your edits will be lost.
- Each parameter has a default value that works well in most applications. To return to this value, press both **VALUE** buttons simultaneously. See chart on page 113.

3.2 COMPARING EDITED AND NON-EDITED VERSIONS OF PROGRAMS

Editing a program does not change the original version permanently until it is stored (see section 3.3 below). Because your edited version is separate from the original, you can compare the two versions without altering the original. This can be very useful if you “overedit” a program and want to see if the edited version really does represent an improvement over the original program. To compare:

1. Press the **PROG** button.
2. Press the **PAGE UP** button. The display says * **COMPARING** * and you can hear the program you started with.
3. To exit compare mode, hit any button **except a VALUE button. IF YOU PRESS A VALUE BUTTON, YOUR EDITED VERSION WILL BE LOST.**

3.3 SAVING (STORING) EDITED PROGRAMS

1. To save an edited program, press the **STORE** button. The LED in the middle of the button will light. The display says:

STORE PROGRAM AT
LOCATION: XX

...where XX is the original program number.

2. To save to a different program number, press the appropriate **VALUE** button to select the desired program location.

Warning! This edited program will overwrite the program stored in this location. Before saving, make sure the program to be overwritten is expendable.

3. Press the **STORE** button a second time to save the program. The display will say **PROGRAM STORED**.

3.4 RENAMING PROGRAMS

You may want to give your edited program a distinctive name.

1. Press the **NAME/MOD** button. The LED in the middle of the button will light and the display says:

EDIT NAME:
“(Name of Song)”

2. Use the **PAGE** buttons to select the character to be changed. Characters available (in addition to a blank space, Yen symbol, and left and right arrows) are:

!	“	#	\$	%	&	'
()	*	+	,	-	.
/	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	{	
}						

3. Use the **VALUE** buttons to select the desired character. To enter a space, press both **VALUE** buttons simultaneously (or press the **DOWN VALUE** button and scroll to the last character of the character list, which is a blank space).
4. Repeat steps 2 and 3 until the program is named.
6. To store the name, press the **STORE** button twice.
7. Press any button other than **PAGE** or **VALUE** to exit the Name page.

3.5 RECALLING INDIVIDUAL FACTORY PROGRAMS

1. Press **STORE**. The LED in the middle of the button will light.
2. Press the **PAGE UP** button to select the Recall page. The display says:

RECALL ALESIS PROG <u>YY</u> INTO XX

3. Press either **VALUE** button to select the program to be recalled (the first parameter).
4. Press the **PAGE UP** button again to move the cursor under the second parameter.
5. The factory program will be recalled into the program selected as the second parameter. Press either **VALUE** button to select this program number.
6. Press **STORE** to complete the recalling operation.

3.6 RECALLING ALL FACTORY PROGRAMS

1. Press **STORE**. The LED in the middle of the button will light.
2. Press the **PAGE UP** button three times. The display says:

RECALL ALL 90 ALESIS PROGRAMS

3. Press **STORE** and all the program locations will be occupied by factory programs. Any other data will be overwritten.

CHAPTER 4 – EDITING CONFIGURATION PARAMETERS

In this section, we'll describe how to select a configuration, then how to edit the parameters for each configuration. Please refer to the configuration block diagrams in section 2.2 for details on how particular mixing and switching parameters work with a particular configuration.

Remember that after selecting a configuration, the **PAGE** buttons select the various pages with different parameters. If a page has more than one parameter, the **PAGE** buttons also move between those parameters.

Once a parameter is selected, as indicated by a cursor (small underline), use the **VALUE** buttons to change the parameter value.

Sampling is such a different type of application that it has its own chapter. All sampling parameters are covered in that chapter.

Important! In many of the following sections, a diagram will show what you can expect to see when you call up a particular page. The parameter value shown for each page will usually be representative, but when you actually call up the page on the QuadraVerb GT, a different parameter value from the one shown in the manual may appear.

4.1 SELECTING A CONFIGURATION

1. Select the program whose configuration you want to change or edit.
2. Press the **CONFIG** button. The LED in the middle of the button will light.
3. Use the **VALUE** buttons to select the desired configuration.

4.2 SELECTING A CONFIGURATION MODULE FOR EDITING

After selecting the desired configuration, press the button associated with the module you want to edit (**REVERB**, **DELAY**, **PITCH**, **EQ**, or **MIX**). If the module is not used in a particular configuration, the display briefly says:

NOT USED IN THIS
CONFIGURATION

4.3 EDITING PREAMP PARAMETERS

Since all configurations use the Preamp section, we'll describe those edits first.

Press the **PRE-AMP** button. Its LED will light and the first page will show the compression amount. Use the **PAGE** buttons to access the various pages described below.

Compression

A compressor reduces the guitar's dynamic range to increase sustain and even out amplitude peaks. Recordings often use compression to give a smooth guitar sound. Compression is an important first link in any guitar effects chain.

COMPRESSION:
07

There are seven compression amounts (**1-7**) with higher numbers giving more compression. Compression can also be turned off.

Overdrive

The Overdrive stage provides a "rhythm guitar crunch" type of sound as opposed to the smoother, more biting Distortion module (which is used more for leads). The overdrive stage also gives a fuller, more harmonically dense sound than the Distortion module. The QuadraVerb GT's Overdrive stage utilizes both odd and even order harmonics to

attain a warmer, fuller, more tube-like sound.

OVERDRIVE:
07

There are seven overdrive amounts (1-7) with higher numbers giving more distortion. Overdrive can also be turned off.

Experiment with various settings of both overdrive and distortion to produce a variety of different tones. It is important to note that you can get quite a different tone from combining Overdrive and Distortion in addition to using either of the effects independently.

Distortion

The QuadraVerb GT includes several distortion options, as selected with the VALUE buttons.

DISTORTION:
OFF

Off No distortion

- 1 Mild distortion for rhythm guitar & smooth leads.
- 2 A little more bite for leads.
- 3 Mild rock distortion for rhythm guitar and crunchy leads.
- 4 Rock distortion for lead or rhythm.
- 5 Bright, highly overdriven sound for lead and heavy rhythms.
- 6 Mild heavy metal distortion for rhythm guitar and metal leads.
- 7 Heavy metal distortion for lead or rhythm with tons of edge.
- 8 Big shred sound for lead.

Preamp Tone

The display says:

PREAMP TONE:
FLAT

There are three options: **Flat** (doesn't affect the sound), **Presence** (provides a treble boost), and **Bright** (provides an treble boost/midrange

cut). Both the Preamp Tone and Bass Boost parameters can be used to shape the initial sound of your tone, while the EQ and/or Resonators (see section 4.8) can be used for fine tuning.

Bass Boost

The display says:

BASS BOOST:
ON

Set to On for a fuller, bassier sound. Otherwise, set to Off. The Bass Boost can also be used to get a fuller sound at low volumes.

Cabinet Simulator

The display says:

CAB SIMULATOR:
ON

Much of the sound of an electric guitar doesn't come from effects or the power amp, but from the sound of the speaker cabinet. When feeding a recording console or PA, choose either **Cabinet 1** (sounds like two 10" speakers) or **Cabinet 2** (simulates a cabinet with four 12" speakers). When using the QuadraVerb GT with a standard guitar amp, leave this set to **Off**. However, if you like the sound of the cabinet simulators while using a guitar amp, it's perfectly OK to use these settings. You be the judge.

Effect Loop

The display says:

EFFECT LOOP:
IN

The QuadraVerb GT's Effect Loop is designed to let you insert other signal processing devices into your signal chain. The effect send and return jacks also allow you to use the analog and digital sections independently as described in section 2.1.

Noise Gate

The display says:

NOISE GATE: <u>A</u> UTO

Extreme compression and distortion settings, as well as hum and noise picked up from your guitar pickups, can add undesirable noise. The noise gate cuts off the signal when it dips below a certain threshold level, as set by the noise gate parameter value. Set the threshold just above the noise so that your playing exceeds the threshold and passes through the gate, but residual noise that is present when you are not playing will not exceed the threshold and will be blocked.

You can set the Quadraverb GT's noise gate threshold manually, or you can enable the Auto Gate feature to set it for you. The auto gate estimates a moderate gate level for you, depending on the amount of compression and distortion you have chosen.

To set the noise gate manually, don't play your guitar. If you hear noise, start with the value at Off and slowly increase value (up to 16) until the noise goes away. With extremely noisy signals, you may have to compromise a bit and have either a little bit of noise get through, or have more of a note's decay get cut off.

Preamp Out Level

The display says:

PREAMP OUT LEVEL 00

The Preamp Out Level is located in the Quadraverb GT's digital section, post-effects return. It controls the level of all of the analog effects as they are fed into the processor that generates all of the QuadraVerb GT's digital effects. Proper adjustment of the Preamp Out Level allows you to prevent overloading of this processor without sacrificing the input level necessary to provide sufficient gain to drive the QuadraVerb GT's analog section properly.

To set the Preamp Out Level, do the following:

1. Press the **BYPASS** button and play your guitar. Even though you won't hear any effects, check the QuadraVerb GT's input level meter. If the red clip light still lights, turn down the Input knob.
2. If the clip LED doesn't light with the **BYPASS** button pressed, press it again to disengage the bypass function. Play your guitar and decrease the Preamp Out Level until the level indicator stops clipping.

4.4 EDITING REVERB PARAMETERS

Reverb Type (configs 1, 2, 5, 6, 7)

In configuration 5, the following reverb type parameters are followed by the number 2 instead of 1 to remind you that this configuration uses the ultra-high-performance reverb algorithm.

- **Plate 1** Provides a bright reverb sound that's popular with vocals and snares.
- **Room 1** You can program the room's size and surface (harder or softer).
- **Chamber 1** Simulates the acoustic “echo chambers” that were built into studios prior to the days of high-quality electronic reverb.
- **Hall 1** This provides a concert hall ambience with long, dense reflections.
- **Reverse 1** This type of reverb does not exist in nature; reflections get louder over time, until they are cut off upon reaching a maximum volume level.

Reverb Input 1 (configs 1, 2, 6, 7)

The number in [brackets] indicates the configuration in which the parameter is found. Multiple numbers indicate that the parameter is found in more than one configuration.

- **Preamp Output** [1, 2, 6, 7] The reverb input signal comes from the preamp output.
- **EQ Output** [1] The reverb input signal comes after the EQ module.
- **Lezlie Output** [2] The reverb input signal comes after the Lezlie

module.

- **Ring Output [6]** The reverb signal comes from the Resonator Output.
- **Resonator Output [7]** The reverb signal comes from the Resonator Output.
- **Pitch Output [1]** The reverb signal comes from the pitch module output.
- **Delay Mix Input [1, 2, 6, 7]** The reverb signal comes from the Delay input, which consists of a blend, selected by the Delay Input Mix parameter, of the pitch output and either pre- or post-EQ signal (as selected by the Delay Input 1 switch).

Reverb Input (config 5)

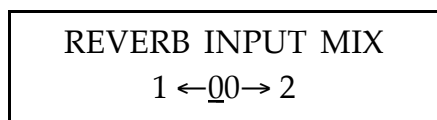
- **Preamplifier Output [5]** The reverb input signal comes from the preamp output.
- **EQ Output [5]** The reverb input signal comes after the EQ module.

Reverb Input 2 (configs 1, 2, 6, 7)

- **Delay Output [1, 2, 6, 7]** The reverb input signal comes from the delay output.
- **Pitch Output [1]** The reverb input signal comes from the pitch module output.
- **Lezlie Output [2]** The reverb input signal is post-Lezlie.
- **Ring Output [6]** The reverb input signal comes from the ring modulator output.
- **Resonator Output [7]** The reverb input signal comes from the resonator output.

Reverb Input Mix (configs 1, 2, 6, 7)

The display shows:



When set to 00, the signal sources selected in Reverb Input 1 and Reverb Input 2 are mixed equally into the reverb.

Larger numbers with the arrow pointing toward 1 indicate that more of the signal from Reverb Input 1 will be selected. When set to ←99, only the signal from Reverb Input 1 will feed the reverb.

Larger numbers with the arrow pointing toward 2 indicates that more of the signal from Reverb Input 2 will be selected. When set to 99→, only the signal from Reverb Input 2 will feed the reverb.

Reverb Predelay (configs 1, 2, 5, 6, 7)

The display shows:

REVERB PREDELAY:
001 milliseconds

With reverberation, it takes a few milliseconds before the signals from a sound source go through the acoustic space and encounter a surface, thus creating the first series of reflections. Predelay is the amount of delay that occurs before the first reflections begin. This parameter is variable from 1 to 140 ms. The larger this number, the greater the perceived size of the acoustic space.

NOTE: Don't confuse the Reverb Predelay parameter with the parameters found in the delay section. The Reverb Predelay is a function of the Reverb section.

Reverb Predelay Mix (configs 1, 2, 5, 6, 7)

The display shows:

PREDELAY MIX:
PRE ←99→ POST

This parameter lets you mix some of the non-predelayed signal into the reverb input. This is useful if you want to hear a bit of reverb immediately, with more reverb coming in after the amount of time set

by the predelay parameter.

When set to **00**, the predelayed and non-predelayed signals are mixed equally into the reverb.

Larger numbers with the arrow pointing toward **POST** indicate that more of the predelayed signal will be selected. When set to **99→** only the predelayed signal will feed the reverb.

Larger numbers with the arrow pointing toward **PRE** select more of the non-predelayed signal. When set to **←99** only the non-predelayed signal will feed the reverb.

Reverb Decay (configs 1, 2, 5, 6, 7)

The display shows:

REVERB DECAY: <u>4</u> 0

This determines how long it takes for the reverb to fade out, on a scale of **00** (shorter) to **99** (longer).

Reverb Diffusion Amount (configs 1, 2, 5, 6, 7)

The display shows:

REVERB DIFFUSION AMOUNT: <u>1</u>

Diffusion determines the “thickness” of the reverb sound by altering the time that occurs between reverberant reflections. With lower diffusion settings, you may be able to actually hear the individual echoes that make up the overall reverb sound. With higher diffusion settings, the echoes increase in number and blend together. Greater diffusion works better with percussive sounds, whereas less amounts of diffusion work well with vocals and other sustained sounds. This parameter is variable from **1** to **9**.

Reverb Density (configs 1, 2, 5, 6, 7)

The display shows:

REVERB DENSITY: <u>4</u>

Usually, in natural acoustic spaces, some time elapses between the first reflection and all other reflections that make up the reverb sound. If you listen to only the reverb with Density set to 1, you will hear the source sound repeat (the first reflection), a short bit of silence, then the onset of the rest of the reverb. Increasing the Density shortens the time between the first reflection and the remaining reverb reflections. At the maximum setting of 9, the reverb will seem to “explode” since the first reflection will no longer be perceived as a separate echo.

This parameter is very useful with percussive sounds, since an isolated first reflection may sound like an additional percussive “hit.” It is available in all of the reverbs except for Hall 1 and Hall 2.

Reverb Low Frequency Decay (configs 1, 2, 5, 6, 7)

The display shows:

LOW FREQUENCY DECAY: <u>-40</u>

Separating the decay times for the high and low frequencies changes the timbral quality of the reverb over time. The value is always a negative number since this parameter *shortens* the time of reverb with low frequency content compared to the master reverb decay time parameter.

Reverb High Frequency Decay (configs 1, 2, 5, 6, 7)

The display shows:

HIGH FREQUENCY DECAY: <u>-40</u>

Separating the decay times for the high and low frequencies changes the timbral quality of the reverb over time. The value is always a negative number since this parameter *shortens* the time of reverb with high frequency content compared to the master reverb decay time parameter.

Reverb Gate Status (configs 1, 2, 5, 6, 7)

The display shows:

REVERB GATE: <u>ON</u>

The level of natural, acoustic reverb decays gradually to zero. Gated reverb abruptly shuts off the reverb “tail” after a user-settable elapsed time. The next few parameters control the time the gate stays “open,” the amount of time it takes to “close,” and the residual reverb level that remains after the gate has closed.

NOTE: Don't confuse the Reverb Gate Status parameter with the Noise Gate parameter found in the preamp section. The Reverb Gate is a function of the Reverb section.

Reverb Gate Hold Time (configs 1, 2, 5, 6, 7)

The display shows:

REVERB GATE HOLD TIME: <u>00</u>

This parameter sets the amount of elapsed time (00-99) before the gate closes and cuts off the reverb tail.

Reverb Gate Release Time (configs 1, 2, 5, 6, 7)

The display shows:

REVERB GATE RELEASE TIME: <u>00</u>
--

This parameter determines the period of time (**00-99**) over which the gate closes. **00** gives an extremely sharp cutoff; **99** gives a more gradual decay.

Reverb Gated Level (configs 1, 2, 5, 6, 7)

The display shows:

REVERB GATED LEVEL: <u>00</u> %

The gate does not have to close to a zero level. This parameter sets the final gate level, from **00** (complete gating action; no residual reverb sound) to **99** (no gating action; reverb sound only).

4.5 EDITING DELAY PARAMETERS

Delay Type (configs 1, 2, 3, 4, 6, 7)

There are four different types of delay.

- **Mono Delay** This sends the same delay signal to both output channels. The maximum delay depends on the chosen configuration:

Configurations 1, 2, 6	775, 800, 800 ms respectively
Configurations 3, 4	1500, 1470 ms respectively
Configuration 7	720 ms

- **Stereo Delay** Each audio channel has its own individual delay settings. The maximum delay depends on the chosen configuration:

Configurations 1, 2, 6 375, 400, 400 ms respectively
 Configurations 3, 4 750, 705 ms respectively
 Configuration 7 320 ms

- **Ping-Pong Delay** This delay bounces the delayed signal from left to right audio outputs, with the speed determined by the delay time. The maximum delay depends on the chosen configuration:

Configurations 1, 2, 6 375, 400, 400 ms respectively
 Configurations 3, 4 750, 705 ms respectively
 Configuration 7 320 ms

- **Multi Tap Delay** Available only in configuration 4, this offers up to 8 different taps along a delay line, with variable panning, volume, delay time, and feedback. The total delay of all taps cannot exceed 1470 ms.

You might want to think of each individual tap as a mono delay line (being fed from a common source) with its own delay time feedback and volume parameters that can be panned anywhere in the stereo field.

Delay Input 1 (configs 1, 4, 6, 7)

- **Preamp Output** The delay input signal comes from the preamp output.
- **EQ Output** The delay input signal comes after the EQ module.

Delay Input (config 3)

- **Preamp Output** The delay input signal comes from the preamp output.
- **EQ Output** The delay input signal comes after the EQ module.

Delay Input Mix (configs 1, 2, 4, 6, 7)

The display shows:

DELAY INPUT MIX:
1 ←00→ (MODULE)

The lower line shows the blend between the signal selected by Delay Input 1 and one of several module outputs, depending on the configuration:

Configurations 1, 4 Pitch
Configuration 2 Lezlie
Configuration 6 Ring Modulator
Configuration 7 Resonator

When set to **00**, the signal sources selected in Delay Input 1 and the module output are mixed equally into the delay.

Larger numbers with the arrow pointing toward **1** indicate that more of the signal from Delay Input 1 will be selected. When set to **←99**, only the signal from Delay Input 1 will feed the delay.

Larger numbers with the arrow pointing toward the module name indicate that more of the signal from the module output will be selected. When set to **99→**, only the module output will feed the delay.

Delay Time (configs 1, 2, 3, 4, 6, 7)

With Mono or Ping Pong selected as the delay type, the display shows:

DELAY TIME:
300 milliseconds

With Stereo selected, this will say LEFT DELAY TIME. This sets the time between successive delay signals, and is variable in 1 ms increments from 1 millisecond to the maximum delay available in the configuration.

As mentioned under Delay Type, the maximum delay depends on the selected reverb type and the configuration.

Delay Feedback (configs 1, 2, 3, 4, 6, 7)

With Mono or Ping Pong selected for delay type, the display shows:

DELAY FEEDBACK: 33%

With Stereo selected, this will say DELAY FEEDBACK LEFT. Increasing the feedback increases the number of successive echoes; each echo will be softer than its predecessor.

Right Delay Time (configs 1, 2, 3, 4, 6, 7)

This page appears only if Stereo is selected as the delay type, and says:

RIGHT DELAY TIME: 400 milliseconds

This sets the time between successive delay signals, and is variable in 1 ms increments from 1 millisecond to the maximum delay available in the configuration.

As mentioned under Delay Type, the maximum delay depends on the selected delay type and the configuration.

Delay Feedback Right (configs 1, 2, 3, 4, 6, 7)

This page appears only if Stereo is selected as the delay type, and says:

DELAY FEEDBACK RIGHT: 33%

Increasing the feedback increases the number of successive echoes; each echo will be softer than its predecessor.

Multi Tap Number (config 4 only)

The display says:

TAP NUMBER: <u>8</u>

This parameter selects the tap to be edited on subsequent pages.

IMPORTANT: When the Delay Time, Volume, Panning, or Feedback pages are selected, you can select the next higher-numbered tap by pressing the **DELAY** button. Going past 8 returns you to 1.

Multi Tap Delay Time (config 4 only)

The display says:

TAP X DELAY TIME <u>0</u> 125 millisecs
--

X is the number of the tap selected for editing. Note that each tap's delay is cumulative. *Example:* If tap 1 is 150 ms and you want tap 2 to be 300 ms and tap 3 to be 400 ms, set tap 2's delay time to 150 ms (150+150=300) and tap 3's delay time to 100 (150+150+100=400).

If you change a tap's delay time, all higher numbered taps will be offset by the same amount that you changed the tap's delay time.

Multi Tap Volume (config 4 only)

The display says:

TAP X VOLUME: <u>50</u>

X is the number of the tap selected for editing. This sets the volume of the selected tap.

Multi Tap Panning (config 4 only)

The display says:

TAP X PANNING:
LEFT ←00→ RIGHT

X is the number of the tap selected for editing. This pans the tap output anywhere in the stereo field between full left (←**99**) and full right (**99**→). Center is **00**.

Multi Tap Feedback (config 4 only)

The display says:

TAP X FEEDBACK:
00%

X is the number of the tap selected for editing. Increasing the feedback increases the number of successive echoes this tap will produce; each echo will be softer than its predecessor.

Multi Tap Master Feedback (config 4 only)

The display says:

MASTER FEEDBACK:
00%

This scales all feedback parameters simultaneously if you want to increase or decrease feedback without having to readjust each tap's feedback parameter.

4.6 EDITING PITCH PARAMETERS

Configurations 1, 2, 4, 5, and 6 can access the pitch parameters. However, the pitch parameters are quite different for these configurations. Parameters are covered in the following order:

Configurations 1 and 4 use pitch parameters in a relatively traditional manner (chorus, flange, pitch detune, and phase shifter).

Configuration 2 uses the pitch module to access Leslie effects.

Configuration 5 uses the pitch module to access Reverb Chorus effects.

Configuration 6 uses the pitch module to access Ring Modulator effects.

Pitch Mode (configs 1, 4)

- **Mono Chorus** Splits the signal into two lines: one is unprocessed, while the other has its pitch changed in a cyclical manner. Mixing these two together produces frequency response and amplitude variations that create the sound of multiple instruments playing en ensemble.
- **Stereo Chorus** This is similar to mono chorus, but splits the signal into two pairs of two lines (one pair per channel). As the delay time in one channel is increasing, the other channel's delay is decreasing and vice-versa.
- **Mono Flange** Similar to mono chorus, but with parameters optimized for flanging. This effect imparts a whooshing, "jet airplane" sound to the signal being processed.
- **Stereo Flange** Similar to stereo chorus, but with parameters optimized for flanging.
- **Pitch Detune** Detunes a signal slightly sharp or slightly flat. This is often used to obtain "12-string" effects from a six-string guitar.
- **Phase Shifter** The Phase Shifter shifts the phase of certain frequencies to produce a comb filter effect. This produces a sound that is similar to flanging, but more subtle.

IMPORTANT! For the deepest pitch effects, the dry and processed signal levels (found in the Mix section) should be equal (50% dry and 50% effect).

Pitch Input (configs 1, 4)

- **Preamp Output** The pitch module input signal comes from the preamp output.
- **EQ Output** The pitch module input signal comes after the EQ module.

LFO Waveshape (Chorus only)

As mentioned earlier, in chorusing the pitch change is cyclical. There are two ways to modulate the pitch:

- **Triangle** This produces a smooth, regular chorusing sound.
- **Square** The time delay jumps between two values, producing a more radical modulation effect.

LFO Speed (Chorus and Flange only)

The display says:

LFO SPEED: 04

This parameter alters the rate of pitch modulation, from 01 (slow) to (fast) 99.

LFO Depth (Chorus and Flange only)

The display says:

LFO DEPTH: 61

This parameter determines how much the modulation affects pitch. The higher the number, the greater the degree of pitch modulation. High LFO depth settings may make a signal seem out of tune unless you slow down the LFO speed.

Pitch Feedback (Chorus and Flange only)

The display says:

PITCH FEEDBACK:
00%

Pitch feedback sends some of the output signal back to the input, from **00%** to **99%**. Higher numbers give a sharper, more resonant sound.

Trigger Flange (Flange only)

The display says:

TRIGGER FLANGE:
OFF

When on, a silence between incoming notes resets the flanger to its highest point, and as soon as a new note appears, the flanger sweeps downward. If you continue to holding a sustaining note, the flanger will sweep according to the LFO parameters.

Trigger flange works best with notes having a percussive attack.

Pitch Detune (Detune only)

The display says:

DETUNE AMOUNT:
-15

This sets the amount of detuning in cents from -99 to +99 (+ is sharp, - is flat).

Phaser Speed (Phaser only)

The display says:

PHASER SPEED: <u>0</u> 4

This parameter alters the rate of phaser modulation, from **01** (slow) to (fast) **99**.

Phaser Depth (Phaser only)

The display says:

PHASER DEPTH: 25

This parameter determines the degree to which the modulation affects the phaser effect. Higher numbers increase the phaser sweep.

Lezlie Stereo Separation (config 2 only)

The display says:

LEZLIE STEREO SEPARATION: <u>8</u> 0

This parameter determines the extent to which bass and treble will be spread across the stereo image. Higher numbers increase the degree of separation.

Lezlie Motor Control (config 2 only)

The display says:

LEZLIE MOTOR CONTROL: <u>ON</u>

Because the speakers in a mechanical rotating speaker system weigh a lot, they take a while to get up to speed from a dead stop, and take a while to slow down when turned off. Turn this parameter off to slow the speakers down to a stop, or on to speed them up to the speed set on the next page; it's a natural for MIDI control (sections 6.1-6.2).

Lezlie Speed (config 2 only)

The display says:

```
LEZLIE SPEED:  
EAST
```

Mechanical rotating speaker systems generally offer two speeds, slow and fast. The QuadraVerb's simulated rotating speaker gives you two speeds also.

Ring Modulator Spectrum Shift (config 6 only)

The display says:

```
SPECTRUM SHIFT:  
100Hz
```

This determines how much the up and down harmonic signals will be shifted with respect to the original input signal.

Ring Modulator Output Mix (config 6 only)

The display says:

```
RING MOD. OUTPUT  
MIX: DOWN←00→UP
```

This varies the balance between the up and down signals. At **00**, there is an equal blend of both signals. At **99→**, the output consists entirely of the

upshifted signal. At ←99, the output consists entirely of the downshifted signal. (With the QuadraVerb GT, excessive downshifting will not wear out the clutch. There is no clutch.)

Ring Modulator Delay/Reverb Input (config 6 only)

The display says:

DEL/REVERB INPUT MIX: DOWN←00→UP

The ring modulator signal that can optionally feed the Delay and/or Reverb inputs can consist of any blend of the up and downshifted signals. At 00, there is an equal blend of both signals. At 99→, the output consists entirely of the upshifted signal. At ←99, the output consists entirely of the downshifted signal.

Reverb Chorus Mode (config 5 only)

The display says:

REVERB CHORUS: ON

Don't confuse this parameter with the Chorus found in the Pitch module. Turning on the Reverb Chorus will make the reverb modulate and sound "swimmy".

4.7 A WORD ABOUT EQ, RESONATORS, AND GUITAR TONE

Resonators, EQ, and Tone

A guitar tone is a complex thing. Factors as diverse as the wood, size, and shape of a guitar can alter its tone. Strings, pickups, hardware, active electronics, and a myriad of other factors make up the distinctive and elusive intangible known as "tone".

All of these factors, however, have one thing in common: they alter the harmonic structure of the guitar's sound. While the fundamental frequency of A above middle C is 440 Hz, the timbre of the note itself is made up of not only the fundamental frequency, but a series of overtones (harmonics) as well. When you play an A on one guitar, the note will have a unique sound. When you play an A on a different guitar, the note will have the same 440 Hz fundamental, but can have a completely different sound. This is due to the difference in overtones. This difference, which can be caused by all of the previously mentioned factors, means that every guitar setup has its own unique sound. Its own unique tone.

The Quadraverb GT's EQ/Resonator section gives you specific control over fundamental and harmonic overtones in your guitar's tone.

The parametric EQ gives you precise control of the fundamentals of your guitar tone by increasing or decreasing the amplitude of specific pitches over a variable bandwidth.

By tuning the resonators and controlling their amplitude and delay resonance you can accentuate harmonics in your guitar tone. A resonator is a special filter whose response is so sharp that it actually imparts a pitch to any signal going through it.

Programmable Tone Curves

To simplify the process of getting a great guitar sound (after all, you'd rather play, right?), each configuration in the Quadraverb GT includes six preset tone curves with EQ and/or resonator parameters that have been pre-programmed to yield certain types of guitar tones with a minimum of programming. You can easily select one of these tones and store it to the program you're working on, or, if you wish, you can use the presets as starting points for creating your own custom tone curves. You might want to create tone curves for specific programs to be used with specific guitars, for example.

4.8 EDITING 3-BAND EQ AND RESONATOR PARAMETERS (config 1)

EQ Preset

The display says:

EQ PRESET:
USER

This page allows you to access 6 preset tone curves, or to create your own curve from scratch. The EQ and/or resonator parameters of the 6 preset curves have been programmed to give you a variety of tones to choose from. To listen to each tone curve, press the Up VALUE button which will scroll through presets 1 through 6. If you find a preset you like, you can store it to the current program by pressing the STORE button twice. To use a preset as a starting point for your own custom tone curve, simply edit its EQ and/or resonator parameters until you have the sound you want (for more about the specific parameters, see their explanations below). Then press the STORE button twice. This will store the edited tone curve as part of the program that you are currently working on. The next time you call up that program, your edits will appear as the program's USER curve.

Configuration 1 has 6 tone curves. They are:

- #1 (3 Band EQ Mode)
- #2 (3 Band EQ Mode)

- #3 (3 Band EQ Mode)
- #4 (3 Band EQ Mode)
- #5 (2 Resonator + 1 Band EQ Mode)
- #6 (2 Resonator + 1 Band EQ Mode)

EQ Mode

The display says:

EQ MODE:
RESONATORS + EQ

This page switches between the 3 BAND EQ and RESONATORS + EQ modes.

Resonator Tune (Resonators + EQ mode only)

The display says:

RESONATOR 1 TUNE
 +0 SEMI TONE

The **PAGE** buttons switch between the 2 resonators, as shown by the upper line. The **VALUE** buttons tune the resonators in semitones over a five-octave range, from -24 semitones to +36 semitones.

Resonator Decay (Resonators + EQ mode only)

The display says:

RESONATOR 1 DCY:
 20

This sets the decay time for resonator 1. The higher the number, the longer the decay.

Resonator Amplitude (Resonators + EQ mode only)

The display says:

RESONATOR 1 AMP: 99

This sets the volume level for resonator 1. The higher the number, the louder the output of the resonator. Please note that if both resonators are assigned a value of 00, you will not hear any sound in this configuration.

Pressing the PAGE up button will show the Tune, Decay, and Amplitude pages for Resonator 2.

Low EQ Frequency (3 Band EQ mode only)

The display says:

LOW EQ FREQUENCY 200Hz

This sets the frequency below which all signals will be boosted or cut by the amplitude amount set on the next page.

Low EQ Amplitude (3 Band EQ mode only)

The display says:

LOW EQ AMPLITUDE +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Low EQ Frequency set on the previous page.

Mid EQ Frequency

The display says:

MID EQ FREQUENCY 2000Hz

The midrange filter is a parametric type. This parameter sets the midrange frequency at which signals will be boosted or cut.

Mid EQ Bandwidth

The display says:

MID EQ BANDWIDTH 1.00 OCTAVES

Bandwidth refers to the width (range of frequencies) of the band of frequencies that will be affected by the EQ's boost and cut values.

Example: A bandwidth of one octave boosts a wider range of frequencies than a bandwidth of 0.2 octaves.

Mid EQ Amplitude

The display says:

MID EQ AMPLITUDE +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Mid EQ Frequency set on the Mid EQ Frequency page.

High EQ Frequency (3 Band EQ mode only)

The display says:

HIGH EQ FREQUENCY 08000Hz

This sets the frequency above which all signals will be boosted or cut by the amplitude amount set on the next page.

High EQ Amplitude (3 Band EQ mode only)

The display says:

HIGH EQ AMPLITUDE +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the High EQ Frequency set on the previous page.

4.9 EDITING LEZLIE EQ PARAMETERS (config 2)

Configurations 2's EQ has one page that adjusts the timbre of the rotating speaker sound.

High Rotor Level

The display says:

HIGH ROTOR LEVEL
+00dB

Rotating speakers generally have two different speaker drivers, one for high, and one for low frequencies. This parameter adjusts the level of the high frequency speaker from -20 dB lower than the low frequency speaker to +06 dB higher. More positive numbers increase the overall brightness of the sound.

4.10 EDITING 11-BAND GRAPHIC EQ PARAMETERS (config 3)

EQ Preset

The display says:

EQ PRESET:
USER

This page allows you to access 6 preset tone curves, or to create your own curve from scratch. The EQ parameters of the 6 preset curves have been programmed to give you a variety of tones to choose from. To listen to each tone curve, press the Up VALUE button which will scroll through presets 1 through 6. If you find a preset you like, you can store it to the current program by pressing the STORE button twice. To use a preset as a starting point for your own custom tone curve, simply edit its EQ parameters until you have the sound you want. Then press the STORE button twice. This will store the edited tone curve as part of the program that you are currently working on. The next time you call up that

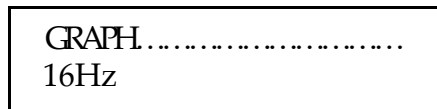
program, your edits will appear as the program's USER curve.

Configuration 3 has 6 tone curves. They are:

- #1 (Graphic EQ Mode)
- #2 (Graphic EQ Mode)
- #3 (Graphic EQ Mode)
- #4 (Graphic EQ Mode)
- #5 (Graphic EQ Mode)
- #6 (Graphic EQ Mode)

Graphic Frequencies and Levels

The display says:



GRAPH.....
16Hz

Configurations 3's EQ is an 11-band graphic equalizer. It only has one page, but all frequencies and levels are accessed from it, and the display shows a graph that indicates the approximate frequency response.

To program the graphic EQ:

- Use the PAGE buttons to select different bands, as shown in the display's lower left corner. The available bands are 16 Hz, 32 Hz, 62 Hz, 126 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, and 16 kHz.
- Use the VALUE buttons to select the desired amount of boost or cut. The display will show a flashing dash that corresponds to the chosen frequency band, which will move above or below the dotted centerline to indicate a boosted or cut frequency band respectively.

4.11 EDITING 5-BAND EQ AND RESONATOR PARAMETERS (config 4)

EQ Preset

The display says:

EQ PRESET:
USER

This page allows you to access 6 preset tone curves, or to create your own curve from scratch. The EQ and/or resonator parameters of the 6 preset curves have been programmed to give you a variety of tones to choose from. To listen to each tone curve, press the Up VALUE button which will scroll through presets 1 through 6. If you find a preset you like, you can store it to the current program by pressing the STORE button twice. To use a preset as a starting point for your own custom tone curve, simply edit its EQ and/or resonator parameters until you have the sound you want (for more about the specific parameters, see their explanations below). Then press the STORE button twice. This will store the edited tone curve as part of the program that you are currently working on. The next time you call up that program, your edits will appear as the program's USER curve.

Configuration 4 has 6 tone curves. They are:

- #1 (5 Band EQ Mode)
- #2 (5 Band EQ Mode)
- #3 (5 Band EQ Mode)
- #4 (5 Resonator/3 Band EQ Mode)
- #5 (5 Resonator/3 Band EQ Mode)
- #6 (5 Resonator/3 Band EQ Mode)

EQ Mode

The display says:

EQ MODE:
5 RESONATOR/3 EQ

This page switches between the 5 BAND EQ and 5 RESONATOR/3 EQ modes.

Low EQ Frequency

The display says:

LOW EQ FREQUENCY
200Hz

This sets the frequency below which all signals will be boosted or cut by the amplitude amount set on the next page.

Low EQ Amplitude

The display says:

LOW EQ AMPLITUDE
+00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Low EQ Frequency set on the previous page.

Low Mid EQ Frequency (5 Band EQ mode only)

The display says:

LOW MID EQ FREQ
500Hz

All three midrange filters are parametric types. This parameter sets the lower midrange frequency at which signals will be boosted or cut.

Low Mid EQ Bandwidth (5 Band EQ mode only)

The display says:

LO MID EQ WIDTH 1.00 OCTAVES

Bandwidth refers to the width (range of frequencies) of the band of frequencies that will be affected by the EQ's boost and cut values.

Example: A bandwidth of one octave boosts a wider range of frequencies than a bandwidth of 0.2 octaves.

Low Mid EQ Amplitude (5 Band EQ mode only)

The display says:

LOW MID EQ AMP +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the lower midrange frequency set on the Low Mid EQ Frequency page.

Mid EQ Frequency

The display says:

MID EQ FREQUENCY 2000Hz

All three midrange filters are parametric types. This parameter sets the midrange frequency at which signals will be boosted or cut.

Mid EQ Bandwidth

The display says:

MID EQ BANDWIDTH
1.00 OCTAVES

Bandwidth refers to the width (range of frequencies) of the band of frequencies that will be affected by the EQ's boost and cut values.

Example: A bandwidth of one octave boosts a wider range of frequencies than a bandwidth of 0.2 octaves.

Mid EQ Amplitude

The display says:

MID EQ AMPLITUDE
+00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Mid EQ Frequency set on the Mid EQ Frequency page.

Hi Mid EQ Frequency (5 Band EQ mode only)

The display says:

HIGH MID EQ FREQ
05000Hz

All three midrange filters are parametric types. This parameter sets the high midrange frequency at which signals will be boosted or cut.

Hi Mid EQ Bandwidth (5 Band EQ mode only)

The display says:

HIGH MID EQ WIDTH
1.00 OCTAVES

Bandwidth refers to the width (range of frequencies) of the band of frequencies that will be affected by the EQ's boost and cut values.

Example: A bandwidth of one octave boosts a wider range of frequencies than a bandwidth of 0.2 octaves.

Hi Mid EQ Amplitude (5 Band EQ mode only)

The display says:

HIGH MID EQ AMP
+00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the high midrange frequency set on the High Mid EQ Frequency page.

High EQ Frequency

The display says:

HIGH EQ FREQUENCY
08000Hz

This sets the frequency above which all signals will be boosted or cut by the amplitude amount set on the next page.

High EQ Amplitude

The display says:

HIGH EQ AMPLITUDE
+00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the High EQ Frequency set on the previous page.

Resonator Number (5 Resonator/3 EQ mode only)

The display says:

RESONATOR NUMB:
1

This selects a resonator to be edited. There are 5 resonators in 5 Resonator/3 EQ mode.

NOTE: While in the Resonator Tune, Resonator Decay, or Resonator Amplitude pages, pressing the EQ button repeatedly will step through the five resonators.

Resonator Tune (5 Resonator/3 EQ mode only)

The display says:

RESONATOR 1 TUNE
+00 SEMI TONE

The **VALUE** buttons tune the resonators in semitones over a five-octave range, from -24 semitones to +36 semitones.

Resonator Decay (5 Resonator/3 EQ mode only)

The display says:

RESONATOR 1 DCY: 90

This sets the decay time for each resonator. The higher the number, the longer the decay.

Resonator Amplitude (5 Resonator/3 EQ mode only)

The display says:

RESONATOR 1 AMP: 99

This sets the volume level for each resonator. The higher the number, the louder the output of the resonator. Please note that if all resonators are assigned a value of 00, you will not hear any sound in this configuration.

4.12 EDITING 3-BAND EQ (config 5)

EQ Preset

The display says:

EQ PRESET: USER

This page allows you to access 6 preset tone curves, or to create your own curve from scratch. The EQ parameters of the 6 preset curves have been programmed to give you a variety of tones to choose from. To listen to each tone curve, press the Up VALUE button which will scroll through presets 1 through 6. If you find a preset you like, you can store it to the

current program by pressing the STORE button twice. To use a preset as a starting point for your own custom tone curve, simply edit its EQ and/or resonator parameters until you have the sound you want (for more about the specific parameters, see their explanations below). Then press the STORE button twice. This will store the edited tone curve as part of the program that you are currently working on. The next time you call up that program, your edits will appear as the program's USER curve.

Configuration 5 has 6 tone curves. They are:

- #1 (3 Band EQ Mode)
- #2 (3 Band EQ Mode)
- #3 (3 Band EQ Mode)
- #4 (3 Band EQ Mode)
- #5 (3 Band EQ Mode)
- #6 (3 Band EQ Mode)

Low EQ Frequency

The display says:

LOW EQ FREQUENCY 200Hz

This sets the frequency below which all signals will be boosted or cut by the amplitude amount set on the next page.

Low EQ Amplitude

The display says:

LOW EQ AMPLITUDE +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Low EQ Frequency set on the previous page.

Mid EQ Frequency

The display says:

MID EQ FREQUENCY 2000Hz

The midrange filter is a parametric type. This parameter sets the midrange frequency at which signals will be boosted or cut.

Mid EQ Bandwidth

The display says:

MID EQ BANDWIDTH 1.00 OCTAVES

Bandwidth refers to the width (range of frequencies) of the band of frequencies that will be affected by the EQ's boost and cut values.

Example: A bandwidth of one octave boosts a wider range of frequencies than a bandwidth of 0.2 octaves.

Mid EQ Amplitude

The display says:

MID EQ AMPLITUDE +00.00dB

This sets the amount of boost (positive numbers) or cut (negative numbers) at the Mid EQ Frequency set on the Mid EQ Frequency page.

High EQ Frequency

The display says:

```
HIGH EQ FREQUENCY:  
 08000Hz
```

This sets the frequency above which all signals will be boosted or cut by the amplitude amount set on the next page.

High EQ Amplitude

The display says:

```
HIGH EQ AMPLITUDE:  
+00.00dB
```

This sets the amount of boost (positive numbers) or cut (negative numbers) at the High EQ Frequency set on the previous page.

4.13 EDITING 5 BAND RESONATOR (config 7 only)

Resonator Gate Mode (config 7 only)

The display says:

```
RESONATOR GATE  
MODE: MIDI GATED
```

There are two options, Continuous and MIDI Gated.

- In Continuous mode, the resonators are active at all times, with the tuning set by the tuning parameter on subsequent pages.
- In MIDI Gated mode, the resonators track up to five notes you play on a MIDI keyboard. *Example:* Play C2, E2, G2, D3, and G3 on a MIDI

keyboard, and the five resonators will assume those pitches; the resonators will change to different notes as you play different keys. Furthermore, the MIDI notes “gate” the resonators on and off. So, when a resonator receives a MIDI note-off message, it will decay to zero according to the decay time (set on the next page) even if there’s still a signal present at the QuadraVerb GT input.

Resonator Decay (config 7 only)

The display says:

RESONATOR DECAY: 90

This sets a global decay time for all five resonators. The higher the number, the longer the decay.

Resonator Tune (config 7 only)

The display says:

RESONATOR 1 TUNE +00 SEMI TONE

The **PAGE** buttons switch between the 5 resonators, as shown by the upper line. The **VALUE** buttons tune the resonators in semitones over a five-octave range, from -24 semitones to +36 semitones.

If MIDI gated mode is selected, standard chromatic pitch tracking will occur only if the tuning for all resonators is set to **00**. However, if you offset the resonator tunings and play the same MIDI key repeatedly, you’ll hear an arpeggiator effect.

4.14 EDITING MIX PARAMETERS (config 1)

Configuration 1 offers separate mix levels for the Preamp or EQ, Pitch,

Delay, and Reverb modules, tremolo or panning, and master/direct mix levels.

Direct Signal Level

The display says:

DIRECT LEVEL: <u>5</u> 0

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

MASTER EFFECTS LEVEL: <u>0</u> 0

This sets the master volume for all the effects module outputs. Use this and the Direct signal control to balance the levels of the straight and processed signal paths.

Preamp Signal

The display says:

PREAMP SIGNAL: <u>P</u> RE-EQ

This selects whether the preamp output will be routed through the EQ before being sent to the Output Level Control.

Preamp Level (appears only with Pre-EQ preamp signal)

The display says:

PREAMP LEVEL: 99

This mixes the preamp output signal into the master effects buss. Note that this level is dependent on the Preamp Output level found in the Preamp module.

EQ Level (appears only with Post-EQ preamp signals)

The display says:

EQ OUTPUT LEVEL: 99

This mixes the EQ'ed signal into the master effects output bus.

Pitch Output Level

The display says:

PITCH LEVEL: 99

This mixes the pitch-modulated signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL: 99

This mixes the delayed signal into the master effects output bus.

Reverb Output Level

The display says:

REVERB LEVEL: 29

This mixes the reverberated signal into the master effects output bus.

Modulation

The display says:

MODULATION: TREMOLLO

This allows you to choose between tremolo or panning.

Modulation Depth

The display says:

MODULATION DEPTH 00

This determines the depth of either the panning or tremolo, depending upon which you have selected.

Modulation Speed

The display says:

MODULATION SPEED 00

This determines the speed of either the panning or tremolo, depending

upon which you have selected.

4.15 EDITING MIX PARAMETERS (config 2)

Configuration 2 offers separate mix levels for the Lezlie, Delay, and Reverb modules, as well as master level (no preamp signal output is needed in this configuration).

Direct Signal Level

The display says:

DIRECT LEVEL: 50

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

MASTER EFFECTS LEVEL: 00

This sets the master volume for all the effects module outputs.

Lezlie Output Level

The display says:

LEZLIE LEVEL: 99

This mixes the Lezlie output signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL: <u>99</u>

This mixes the delayed signal into the master effects output bus.

Reverb Output Level

The display says:

REVERB LEVEL: <u>99</u>

This mixes the reverberated signal into the master effects output bus.

4.16 EDITING MIX PARAMETERS (config 3)

Configuration 3 offers separate mix levels for the EQ and Delay, as well as master level control.

Direct Signal Level

The display says:

DIRECT LEVEL: <u>50</u>

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

MASTER EFFECTS LEVEL: 00

This sets the master volume for all the effects module outputs.

EQ Output Level

The display says:

EQ OUTPUT LEVEL: 29

This mixes the EQ'ed signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL: 29

This mixes the delayed signal into the master effects output bus.

4.17 EDITING MIX PARAMETERS (config 4)

Configuration 4 offers separate mix levels for the EQ, Pitch, and Delay modules, along with master/direct mix levels.

Direct Signal Level

The display says:

```
DIRECT LEVEL:  
50
```

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

```
MASTER EFFECTS  
LEVEL: 00
```

This sets the master volume for all the effects module outputs. Use this and the Direct signal control to balance the levels of the straight and processed signal paths.

Preamp Signal

The display says:

```
PREAMP SIGNAL:  
PRE-EQ
```

This selects whether the preamp output will be routed through the EQ before being sent to the Output Level Control.

Preamp Level (appears only with Pre-EQ preamp signal)

The display says:

PREAMP LEVEL: 29

This mixes the preamp output signal into the master effects buss. Note that this level is dependent on the Preamp Output level found in the Preamp module.

EQ Output Level (appears only with Post-EQ preamp signals)

The display says:

EQ OUTPUT LEVEL: 29

This mixes the EQ'ed signal into the master effects output bus.

Pitch Output Level (appears only with Post-EQ direct signals)

The display says:

PITCH LEVEL: 29

This mixes the pitch-modulated signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL:
99

This mixes the delayed signal into the master effects output bus.

Modulation

The display says:

MODULATION:
TREMOLO

This allows you to choose between tremolo or panning.

Modulation Depth

The display says:

MODULATION DEPTH:
00

This determines the depth of either the panning or tremolo, depending upon which you have selected.

Modulation Speed

The display says:

MODULATION SPEED:
00

This determines the speed of either the panning or tremolo, depending upon which you have selected.

4.18 EDITING MIX PARAMETERS (config 5)

Configuration 5 offers a mix control for the Reverb module, along with master/direct mix levels.

Direct Signal Level (appears only with Pre-EQ direct signals)

The display says:

```
DIRECT LEVEL:  
  50
```

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

```
MASTER EFFECTS  
LEVEL:  00
```

This sets the master volume for all the effects module outputs. Use this and the Direct signal control to balance the levels of the straight and processed signal paths.

Preamp Signal

The display says:

```
PREAMP SIGNAL:  
PRE-EQ
```

This selects whether the preamp output will be routed through the EQ

before being sent to the Output Level Control.

Preamp Level (appears only with Pre-EQ preamp signal)

The display says:

PREAMP LEVEL: 99

This mixes the preamp output signal into the master effects buss. Note that this level is dependent on the Preamp Output level found in the Preamp module.

EQ Output Level (appears only with Post-EQ preamp signals)

The display says:

EQ OUTPUT LEVEL: 99

This mixes the EQ'ed signal into the master effects output bus.

Reverb Output Level

The display says:

REVERB LEVEL: 99

This mixes the reverberated signal into the master effects output bus.

4.19 EDITING MIX PARAMETERS (config 6)

Configuration 6 offers separate mix levels for the Ring Modulator, Delay, and Reverb modules, along with master/direct mix levels.

Direct Signal Level

The display says:

DIRECT LEVEL: 50

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

MASTER EFFECTS LEVEL: 00

This sets the master volume for all the effects module outputs. Use this and the Direct signal control to balance the levels of the straight and processed signal paths.

Preamp Level

The display says:

PREAMP LEVEL: 99

This mixes the preamp output signal into the master effects buss. Note that this level is dependent on the Preamp Output level found in the Preamp module.

Ring Modulator Output Level

The display says:

RING MOD. LEVEL: +99

This mixes the ring modulated signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL: 99

This mixes the delayed signal into the master effects output bus.

Reverb Output Level

The display says:

REVERB LEVEL: 99

This mixes the reverberated signal into the master effects output bus.

4.20 EDITING MIX PARAMETERS (config 7)

Configuration 7 offers separate mix levels for the Resonator, Delay, and Reverb modules, along with master/direct mix levels.

Direct Signal Level

The display says:

```
DIRECT LEVEL:  
  50
```

This sets the level for the direct signal path. Use this and the Master Effects level control to balance the levels of the straight and processed signal paths.

Master Effects Level

The display says:

```
MASTER EFFECTS  
LEVEL:  00
```

This sets the master volume for all the effects module outputs. Use this and the Direct signal control to balance the levels of the straight and processed signal paths.

Preamp Signal Level

The display says:

```
PREAMP LEVEL:  
  50
```

This mixes the preamp output signal into the master effects buss. Note that this level is dependent on the Preamp Output level found in the

Preamp module.

Resonator Output Level

The display says:

RESONATOR LEVEL: <u>99</u>

This mixes the resonator signal into the master effects output bus.

Delay Output Level

The display says:

DELAY LEVEL: <u>99</u>

This mixes the delayed signal into the master effects output bus.

Reverb Output Level

The display says:

REVERB LEVEL: <u>99</u>

This mixes the reverberated signal into the master effects output bus.

CHAPTER 5 – SAMPLING

The QuadraVerb GT can record an audio sample of up to 1.55 seconds. During playback, the sample start and length times can be altered for special effects or to trim the playback of the sample to the actual start point of the sound. The sample can also be played back in its entirety (one shot) or continuously repeated (looping). Several external sources can trigger the sample, including an incoming audio source, MIDI note on, note off, and note number/pitch message, which allows the sample to be played back from a MIDI keyboard.

CAUTION: A sample or edited version of a sample cannot be saved either internally or via MIDI and will remain in memory only as long as the power remains on. If you sample something you do not want to lose, record it on some other medium, such as a cassette or DAT recorder, before shutting off power to the QuadraVerb GT. Any time that you change configurations or programs you will lose your sample.

5.1 SELECTING THE SAMPLING CONFIGURATION

Configuration 8 is used for sampling. All sampling parameters are accessed through the DELAY module (although the EQ button is used for triggering and stopping sample playback).

To select this configuration:

1. Press the **CONFIG** button.
2. Press the **UP VALUE** button until the display reads:

CONFIGURATION:
SAMPLING

5.2 RECORDING A SAMPLE

There are two ways to record a sample. In the first (the easiest way to get a good sample), the QuadraVerb GT waits for the incoming audio to trigger recording. With the second method, pressing the front panel **BYPASS** button initiates recording.

Recording By Audio Trigger

1. Press the **DELAY** button. The display says:

SAMPLE PLAYBACK:
LOOPING

(The lower line may also show ONE SHOT or AUDIO TRIGGER.) This page is primarily for playback and can be bypassed for now.

2. Press the **PAGE UP** button three times. The display says:

AUDIO TRIGGER
SAMPLING: ON

3. Use the **VALUE** buttons to select Audio Trigger On mode (if it is turned off).
4. Press the **BYPASS** button. The display says:

WAITING FOR
AUDIO THRESHOLD

5. Send a signal to the QuadraVerb GT. When the first LED (-18dB) lights, the input signal has passed the audio threshold and recording has begun. *For the best signal quality, vary the input level control so that the -6dB LED lights. The signal, and sample, will be distorted if the red "Clip" LED lights.*

Recording from the Front Panel

1. Press the **DELAY** button. The display will read:

SAMPLE PLAYBACK:
LOOPING

(The lower line may also show ONE SHOT or AUDIO TRIGGER.)

This page is primarily for playback and can be bypassed for now.

2. Press the **PAGE UP** button until the display says:

AUDIO TRIGGER
SAMPLING: ON

3. Use the **VALUE** buttons to select the Audio Trigger Off mode.
4. Press the **BYPASS** button to start sampling. The display will read:

SAMPLING.....

For the best signal quality, vary the input level control so that the -6dB LED lights. The signal will be distorted if the red "Clip" LED lights.

Playing Back a Sample

There are three ways to play back a recorded sample: from the front panel, from an audio trigger, or through MIDI. Playback from the front panel (manual playback) would normally be used when you want to manually trigger a recorded sample. Playback from an audio trigger is useful for replacing one audio source with a recorded sample, as in the case of replacing a snare drum on a tape track with a better recorded sample. Playback through MIDI enables a recorded sample to be played, and transposed, from a MIDI keyboard.

NOTE: Make sure that the Sample Playback Level in the Mix section (section 7.2) is set to an audible level (i.e., greater than zero).

Front Panel Playback

1. Press the **DELAY** button. The lower display line shows either **ONE SHOT** or **LOOPING**:

SAMPLE PLAYBACK:
ONE SHOT

ONE SHOT means that once a sample is initiated, it will play until the end of the sample and then stop. If you want to play back the sample continuously until you tell it to stop, select **LOOPING**.

2. To begin playback, press the **EQ** button. The sample will play to the end and then automatically stop. To play back again, press **EQ** again.

If you selected **LOOPING** in step 1, push the **EQ** button to stop sample playback.

3. Use the **OUTPUT** control to increase or decrease the sample volume.

Audio Trigger Playback

1. Press the **DELAY** button. The display says:

SAMPLE PLAYBACK:
ONE SHOT

2. Press the **VALUE UP** button until the display reads:

SAMPLE PLAYBACK:
AUDIO TRIGGER

Any incoming audio signal that passes the threshold (makes the -18dB LED light) will cause the sample to play.

Notes

- The recorded sample can still be manually played back by pressing the **EQ** button.

- Looping is not available in the Audio Trigger mode.
- Once a sample is audio triggered, the -18dB LED must turn off before sample can be re-triggered.

MIDI Playback

It is also possible to trigger the recorded sample from a MIDI keyboard in two different ways:

- **MIDI One Shot** When the QuadraVerb GT receives a MIDI note on, the recorded sample will play back to the selected sample end point, regardless of how long that the key is pressed.
- **MIDI Gated** The sample will stop playing when you lift your finger off the key.

It is also possible to select the note on the keyboard that will trigger the sample at its original pitch, as well as the highest and lowest notes to which the sample will respond.

Select MIDI Trigger Mode

1. Press the **DELAY** button. The lower display line shows either **ONE SHOT** or **LOOPING**:

SAMPLE PLAYBACK:
ONE SHOT

2. Press the **PAGE UP** button until the display reads:

MIDI TRIGGER:
GATED

Use the **VALUE** buttons to select the desired mode:

- **MIDI Gated** The sample stops playing as soon as the key is released.

- **Off** The QuadraVerb GT will not respond to MIDI note on/off information).
- **MIDI One Shot** The recorded sample will play back to the selected end of the sample, regardless of how long the key is pressed.

IMPORTANT: If the playback mode is set to "Looping" and MIDI Trigger is set to One Shot, the sample will play indefinitely until the mode is changed or the sampling configuration is deselected. MIDI Trigger and Sample Playback mode need to be set to the same value (either both Looping or both One Shot.)

Select the MIDI Trigger Note

1. Assuming the **DELAY** module is selected, use the **PAGE** buttons to select the display that says:

MIDI TRIGGER
LOW LIMIT: 000

2. Press the **VALUE UP** button to select the lowest note that can trigger the recorded sample. (Note number 60 = Middle C.)
3. Press the **PAGE UP** button. The next display says:

MIDI TRIGGER
BASE: 060

4. The Base value is the note where the sample plays back with no pitch change. Press the **VALUE** buttons to select the desired note.
5. Press the **PAGE UP** button. The next display says:

MIDI TRIGGER
HIGH LIMIT: 060

6. Press the **VALUE DOWN** button to select the highest note that can trigger the recorded sample.

Notes

- Because of the nature of sampling, the timing of the sample as well as the pitch will change the farther away from the base note from which it is transposed, with the higher notes sounding like “munchkins” and the lower notes like “giants.” This is a normal phenomena that occurs during sample playback.
- The pitch of the sample will follow within a 2 octave range and will loop back into the range if any note information falls outside of the 2 octave range. For instance, if the base note has been selected to note number 60 (Middle C or C3) and you play note number 84 (C5), the sample pitch will be triggered 1 octave higher than the bass (C4).

Adjusting the Sample Playback Length

In any playback mode it is possible to adjust the sample playback length to either ignore unwanted sampled material or “dead air,” or to make a loop more musical. To do this:

1. Assuming the **DELAY** module is selected, use the **PAGE** buttons to select the display that says:

SAMPLE START:
0.00 SECONDS

This page determines the point from which the sample plays back.

2. Use the **VALUE** buttons to select the desired Start time. The start can be anywhere in the sample in 10 millisecond steps. Moving the sample start maintains the loop length unless the sample end moves past the loop end point. In this case, the loop will end at the actual sample end regardless of the loop duration. However, the duration value will remain intact, and will retake effect if the loop start is moved forward enough to allow the complete loop length.
3. Use the **PAGE** buttons to select the display that says:

SAMPLE LENGTH:
1.55 SECONDS

This page determine the length of the sample playback.

4. Use the **VALUE** buttons to select the desired sample length time.

Adjusting the Sample Mix Parameters

The Mix module allows for adjusting the relative balance between the direct signal, and the recorded sample playback signal.

1. Press the **MIX** button. The display says:

DIRECT LEVEL: 50

This page controls the level of the direct signal.

2. Press the **VALUE** buttons to select the desired direct signal level. The range is 0 to 99 (0 is off).
3. Press the **PAGE UP** button to select the next page. The display says:

PREAMP LEVEL: 50

This page controls the sample's output level.

4. Press the **VALUE** buttons to select the desired preamp signal level. The range is 0 to 99 (0 is off).
5. Press the **PAGE UP** button to select the next page. The display says:

PLAYBACK LEVEL: 50

This page controls the sample's output level.

6. Press the **VALUE** buttons to select the desired recorded Sample signal level. The range is 0 to 99 (0 is off).

CHAPTER 6 – THE MIDI BUTTON

This Chapter describes how to set up the QuadraVerb GT for MIDI operation. The next Chapter covers how to modulate different parameters via MIDI continuous controllers.

Please note that the **MIDI** button selects global settings that apply to all programs. Only the MIDI modulation options are stored with each program.

All operations begin by pressing the **MIDI** button. The LED in the middle of the button will light. Use the **PAGE** buttons to select the following pages, and the **VALUE** buttons to select the parameter value for each page.

6.1 SELECT MIDI MODE

The display says:

MIDI CHANNEL: OMNI

There are two options.

- **Omni** In this mode, the QuadraVerb GT will respond to any data coming in from any MIDI channel. If you're using the QuadraVerb GT only with something like a MIDI Program Change Footswitch or Continuous Controller pedal, this is a hassle-free setting. If there are several devices connected to the MIDI line, you will need to assign each one to its own channel number, described next.
- **01-16** This selects a MIDI channel from 1 to 16. The QuadraVerb GT will respond only to information appearing on the selected channel. *Example:* If you want to control two independent QuadraVerb GT's from the same MIDI line, set each one to a different channel, such as 1 and 2, 5 and 10, 11 and 16, etc.

6.2 PROGRAM CHANGE ENABLE

The display says:

MIDI PROGRAM
CHANGE: ON

There are three options.

- **Off** When off, the QuadraVerb GT will ignore any incoming program changes.
- **On** When on, the QuadraVerb GT will respond to incoming program change commands. There is a one-to-one correspondence between program change numbers and QuadraVerb GT programs (*i.e.*, MIDI program 0 calls up QuadraVerb GT program 0, MIDI program 1 calls up QuadraVerb GT program 1, MIDI program 43 calls up QuadraVerb GT program 43, etc.). MIDI programs 100-127 will call up QuadraVerb GT programs 00-27

MIDI Weirdness Consumer Alert! Not all program change-generating devices number their programs from 000-127; some number their programs from 001 to 128 (which would offset all program numbers by one), others group programs as banks of 8 or 16 programs, and so on. To figure out what's going on, set the QuadraVerb's MIDI Program Change parameter to on, select various programs on your program change-generating device, and see which programs are called up on the QuadraVerb GT.

- **Table** This enables a program change table (see next section) that lets you assign any QuadraVerb GT program number to any incoming program change number. *Example:* You can have MIDI program change 23 select QuadraVerb GT program 75. With Table selected, it is not necessary to have a one-to-one correspondence between QuadraVerb GT program numbers and incoming program change commands.

6.3 EDIT THE PROGRAM CHANGE TABLE

The display says:

PROGRAM TABLE: 000 = 00

The lower left, three-digit number represents the incoming program change number. The lower right, two-digit number represents the QuadraVerb GT program that will be selected in response to the displayed program change number. In a new QuadraVerb GT, the two numbers should be equal up to MIDI program change number 100. At that point, the QuadraVerb GT program numbers start over again (*i.e.*, 100=00, 101=01, 102=02, etc.).

While this screen is showing, the **PAGE UP** button moves the cursor underneath the QuadraVerb GT program number. The **PAGE DOWN** button moves the cursor back under the MIDI program change number. The **VALUE** buttons change the selected parameter.

To edit the program change table:

1. Select the incoming MIDI program change number with the **VALUE** buttons.
2. Press the **PAGE UP** button to move the cursor under the corresponding QuadraVerb GT program number.
3. Use the **VALUE** buttons to select the desired QuadraVerb GT program number.
4. To do more edits, press the **PAGE DOWN** button to return the cursor to the incoming MIDI program change parameter.
5. Repeat steps 1-4 until the table is completely edited.

6.4 MIDI THRU/OUT SELECTION

The display says:

MIDI THRU
OFF

When **OFF**, the rear panel MIDI Out/Thru jack works as a MIDI Out jack that can transmit data generated by the QuadraVerb GT (see sections 5.5 and 5.6). When **ON**, the rear panel MIDI Out/Thru jack serves as a MIDI Thru jack that carries a duplicate of the data appearing at the QuadraVerb GT's MIDI In. Even when the MIDI Thru function is enabled, the MIDI Thru/Out jack will continue to function as a MIDI Out.

6.5 SYSTEM EXCLUSIVE DATA ENABLE

The display says:

SYSEX ENABLE:
ON

When **ON**, the QuadraVerb GT can send and receive System Exclusive data over its MIDI Out jack.

When **OFF**, the QuadraVerb GT will not be able to send or receive System Exclusive data.

6.6 SEND PROGRAM DATA (SYS EX) OVER MIDI

The display says:

SEND MIDI PROG:
00 TO 00

The QuadraVerb GT can convert its patch data into a format compatible with the MIDI spec. This is a type of System Exclusive data, meaning that it is not defined as part of the general MIDI spec, but represents data that is only understood by gear that has been “trained” to receive information

pertaining to the QuadraVerb GT, such as another QuadraVerb GT. This information can also be sent to a MIDI data storage device, such as the Alesis DataDisk (a cool product in its own right, but that's another story), and reloaded from the storage device back into the QuadraVerb GT if you want to reload a particular program or set of programs.

The lower left number represents the program number to be transmitted as System Exclusive information. The lower right number represents the "target" QuadraVerb GT program number into which the program data will be dumped. If you specify a "target" number when saving to a System Exclusive storage device, the program will load back into that program number on the QuadraVerb GT, not the original one.

While this screen is showing, the **PAGE UP** button moves the cursor underneath the "target" QuadraVerb GT program number. The **PAGE DOWN** button moves the cursor back under the program number to be transmitted as System Exclusive information. The **VALUE** buttons change the selected parameter.

When a QuadraVerb GT's MIDI In sees System Exclusive data from another QuadraVerb GT, it will understand and process that data. Here's an example of how to send one program from one QuadraVerb GT to another QuadraVerb GT. We'll assume your friend has a QuadraVerb GT and really thinks your program 76 is cool, but also that your friend already has a program in location 76 and therefore wants your program to go into program location 32.

1. Hook the MIDI Thru/Out of your QuadraVerb GT to the MIDI In of your friend's QuadraVerb GT.
2. Make sure your System Exclusive is enabled.
3. Make sure your friend's System Exclusive is enabled.
4. Select the Send MIDI Program page.
5. Use the VALUE buttons to select 76 as the left hand numbers.
6. Press the **PAGE UP** button to move the cursor under the "target" QuadraVerb GT program number.
7. Use the **VALUE** buttons to select program 32.
8. Press the **STORE** button. The display will say "MIDI DATA DUMP IN

PROGRESS.” The target QuadraVerb GT will say “LOADING MIDI DATA” (although when loading a single program, this happens so fast you might miss it if you blink).

If you want to save the program to a DataDisk or other System Exclusive storage device, follow the same general procedure, but connect the QuadraVerb GT’s MIDI Thru/Out to the storage device’s MIDI In. To reload the data from the storage device back to the QuadraVerb GT, treat the storage device as the originator of the data, and the QuadraVerb GT as the target device.

If you scroll past 99 for the program number to be transmitted, the display says:

SEND MIDI PROG:
EEDIT TO EDIT

Upon pressing the **STORE** button, the contents of the source QuadraVerb GT’s edit buffer will be transferred to the target QuadraVerb GT’s edit buffer (see section 3.2 for info about the edit buffer). This is useful if you want to send a program over to a QuadraVerb GT but don’t want to commit it to a particular memory location.

This feature is also great for programmers who make several edits to a program and can’t decide which one they like best. Save each edit to a System Exclusive storage device as a separate file. When you reload these back to the QuadraVerb GT, each one will load into the Edit Buffer. Audition the different versions, one at a time; when you decide on one you like, store it to a QuadraVerb GT program location.

If you scroll past the EDIT TO EDIT option, the display says:

SEND MIDI PROG:
ALL DATA

Upon pressing the **STORE** button, this sends *all* program data in the QuadraVerb GT to the target QuadraVerb GT or MIDI System Exclusive storage device.

Alesis strongly recommends that you periodically back up your programs to a System Exclusive storage device (DataDisk, keyboard that stores Sys Ex, sequencer program, etc.). Then if any malfunction occurs (e.g., the

QuadraVerb GT's internal battery goes dead, the unit gets abused and needs to be repaired, etc.), you can reload your programs back into the QuadraVerb GT and be right back in business with your own favorite patches.

REMEMBER: *The System Exclusive page must be set to ON for any of this stuff to work at all.*

6.7 PROGRAM ADVANCE FOOTSWITCH RANGE

The display says:

FOOTSWITCH RANGE 00 THROUGH 99

The advance footswitch jack on the rear panel lets you increment or decrement through a range of programs (as set on this page) one program at a time. Enter the range by alternating between the two numbers with the **PAGE** buttons, and change the numbers with the **VALUE** buttons.

If the first number is higher than the second one, each footswitch press will decrement the program number by one. If the first number is lower than the second one, each footswitch press will increment the program number by one.

Examples: If the first number is set to 76 and the second to 70, then pressing the footswitch will cycle through the programs in the following order: 76, 75, 74, 73, 72, 71, 70, 76, 75, 74, 73, 72, 71, 70, 76, etc.

If the first number is set to 00 and the second to 10, then pressing the footswitch will cycle through the programs in the following order: 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 00, 01, 02, 03, 04, 05, etc.

CHAPTER 7 – MIDI MODULATION (NAME/MOD BUTTON)

Now we're getting into the part for the hardcore MIDI fanatic; if you're

new to MIDI, it may take you some time to figure out how to work modulation into your sound. The good news is that MIDI control can add a tremendous amount of control to your setup (both live and in the studio), so once you learn to use MIDI modulation, you'll be able to produce some absolutely mind-boggling effects.

We've already mentioned using a continuous controller footpedal to vary parameters in real time with a pedal (section 1.8). Another application is to use a MIDI sequencer to change parameters (and programs, if desired) in real time as you play. If you'd just like to play instead of hit footswitches and move pedals, this is the answer. While it may not always be feasible to use a sequencer live, this technique can always work in the studio.

It is possible to control up to eight parameters simultaneously from one to eight MIDI controllers. All mod assignments are stored with their programs, so a pedal could vary delay feedback in one program, equalization in another program, etc.

7.1 ABOUT MOD SOURCES AND TARGETS

A *mod source* controls a particular QuadraVerb GT parameter. The QuadraVerb GT can respond to any of the following sources of data:

- **Continuous controllers** This is the type of data produced by MIDI Continuous Controller footpedals. Several companies offer such pedals, which can usually be set to generate data over any particular controller number. Some products are available with multiple pedals, thus letting you control more than one parameter at a time.
- **Pitch bend** This data is produced by the pitch bend wheel on a synthesizer.
- **Aftertouch** This is another keyboard feature; pressing down on the keys after they're down produces data that corresponds to the amount of pressure. Not all keyboards offer this feature.
- **Note number** This can be any MIDI note, as generated by a keyboard, drum machine, sequencer, etc.
- **Note velocity** The MIDI note will include velocity data that corresponds to the dynamics of your playing.

A *target* is the parameter to be controlled by the controller. Not all parameters of all configurations are available as targets, but many are.

The basic idea is to choose a target parameter to be controlled, then assign a mod source to it (e.g., control delay feedback with controller 12). The QuadraVerb GT also lets you scale the amplitude and direction of the control data. In other words, increasing a controller value can either increase (positive direction) or decrease (negative direction) the target parameter's value; *amplitude* determines over how wide a range the target parameter will be varied.

7.2 PROGRAMMING MOD SOURCES AND TARGETS

Programming is done in the Name/Mod module. First, select the program to which you want to add MIDI control. Second, press the **NAME/MOD** button. Then, press the **NAME/MOD** button again to access the Mod parameters. The **NAME/MOD** button will toggle between these two pages. The first screen that appears under the Name parameters lets you name the selected program.

1. Press the **NAME/MOD** button twice and the screen will show:

MOD 1 SOURCE:
PITCH BEND

2. Choose the mod source for the first target parameter with the **VALUE** buttons. It is recommended you not use controller values over 120 since many of these are reserved for special purposes in keyboard-based MIDI setups (and you may have to interface with one someday!).

3. Press the **PAGE UP** button again, and the display shows:

MOD 1 TARGET:
LFO SPEED

Of course, your actual screen may show a different target parameter.

4. Choose the first target parameter with the **VALUE** buttons. Different configurations offer different target parameters for modulation; see the list at the end of this section.
5. Press the **PAGE UP** button again, and the display shows:

MOD 1 AMPLITUDE:
+00

6. Use the **VALUE** buttons to select the desired amplitude (scaling) and direction (positive or negative).
7. Repeat steps 1 through 6 for as many mod source/target combinations you want to program (up to eight total).

Since a continuous controller will modulate a target parameter across a range of possible values, the idea here is to set the Mod Target parameter's value equal to the controller's zero value. Then, set the Mod Amplitude's value equal to the maximum amount of modulation that you want the controller to generate.

Before you panic, let's explain this more fully with an example. Let's say that you wanted to modulate your Reverb Decay with a continuous controller foot pedal.

First, set the Mod Source to the pedal's MIDI controller number. Then set the Mod Target to Reverb Decay.

Now, with the pedal set to its heel position (all the way back), set the Reverb Decay parameter (in the Mix section) to its "default" level—for the sake of this example, let's say 50. This represents the amount of reverb that you will hear when the controller is all the way back in the heel position (if you want to keep the Reverb Decay completely off until you step on the foot pedal, set this value to 00).

Now, step on the pedal until it is all the way forward. Set the Mod Amplitude level to its maximum value (+99). This sets the amount of Reverb Output level you will hear when the pedal is completely forward. By assigning these two values to the extreme positions of your controller's range, you have defined the range within your target parameter that you will be able to modulate with the controller.

7.3 TARGET PARAMETER LISTING

Here is a listing of available target parameters for all configurations except Configuration 8 (sampling), which has no target parameters. Some of the target parameters are dependent on a previously selected page. For example, the Reverb Decay parameter in configuration 1 becomes Reverb Reverse Time when the Reverb Type page has been set to Reverse (see below). The indented bold headings signify which parameter or mode must be selected to yield the target parameters that follow it.

Configuration 1 Target Parameters

Reverb Input Mix

Reverb Predelay

Reverb Predelay Mix

Reverb Type: Reverse

Reverb Reverse Time

Reverb Type: All Others

Reverb Decay

Reverb Diffusion

Reverb Density (not available for Reverb Type: Hall 1)

Reverb Low Decay

Reverb Hi Decay

Delay Input Mix

Delay Type: Mono Delay

Delay Time

Delay Feedback

Delay Type: Stereo Delay

Left Delay Time/Right Delay Time

L Delay Feedback/R Delay Feedback

Pitch Mode: Pitch Detune

Detune Amount

Pitch Mode: All Others

LFO Speed

LFO Depth

Pitch Feedback

EQ Mode: 3 Band EQ

Lo EQ Frequency
 Lo EQ Amplitude
 Mid EQ Frequency
 Mid EQ Bandwidth
 Mid EQ Amplitude
 Hi EQ Frequency
 Hi EQ Amplitude

EQ Mode: Resonators + EQ

Res 1 Decay
 Res 1 Amplitude
 Res 2 Decay
 Res 2 Amplitude
 Mid EQ Frequency
 Mid EQ Bandwidth
 Mid EQ Amplitude

Direct Mix Level
 Preamp or EQ Mix Level
 Effect Mix Level
 Pitch Mix Level
 Delay Mix Level
 Reverb Mix Level
 Preamp Out Level

Configuration 2 Target Parameters

Reverb Input Mix
 Reverb Predelay
 Reverb Predelay Mix

Reverb Type: Reverse
 Reverb Reverse Time

Reverb Type: All Others
 Reverb Decay

Reverb Diffusion
 Reverb Density (not available for Reverb Type: Hall 1)
 Reverb Low Decay
 Reverb Hi Decay

Delay Type: Mono Delay
 Delay Time
 Delay Feedback

Delay Type: Stereo Delay
 Left Delay Time/Right Delay Time
 L Delay Feedback/R Delay Feedback

Lezlie Stereo
 Lezlie Motor
 Lezlie Speed
 Lezlie Hi Level
 Direct Mix Level
 Effect Mix Level
 Lezlie Mix Level
 Delay Mix Level

Reverb Mix Level
Preamp Out Level

Configuration 3 Target Parameters

Delay Type: Mono Delay

Delay Time
Delay Feedback

Delay Type: Stereo Delay

Left Delay Time/Right Delay Time
L Delay Feedback/R Delay Feedback

Each Graphic EQ Band Boost/Cut (11 target parameters total)

Direct Mix Level
Effect Mix Level
EQ Mix Level
Delay Mix Level
Preamp Out Level

Configuration 4 Target Parameters

Delay Input Mix

Delay Type: Mono Delay

Delay Time
Delay Feedback

Delay Type: Stereo Delay

Left Delay Time/Right Delay Time
L Delay Feedback/R Delay Feedback

Pitch Mode: Pitch Detune

Detune Amount

Pitch Mode: All Others

LFO Speed
LFO Depth
Pitch Feedback

EQ Mode: 5 Band EQ

Low EQ Frequency
Low EQ Amplitude
Low Mid EQ Frequency
Low Mid EQ Bandwidth
Low Mid EQ Amplitude
Mid EQ Frequency
Mid EQ Bandwidth
Mid EQ Amplitude
High Mid EQ Frequency
High Mid EQ Bandwidth
High Mid EQ Amplitude
Hi EQ Frequency

EQ Mode: Resonators + EQ

Res 1 Decay
Res 1 Amplitude
Res 2 Decay
Res 2 Amplitude
Res 3 Decay
Res 3 Amplitude
Res 4 Decay
Res 4 Amplitude
Res 5 Decay
Res 5 Amplitude
Low EQ Frequency
Low EQ Amplitude

Hi EQ Amplitude

Mid EQ Frequency
Mid EQ Bandwidth
Mid EQ Amplitude
Hi EQ Frequency
Hi EQ Amplitude

Direct Mix Level
Effect Mix Level
Preamp Mix Level or EQ Mix Level
Pitch Mix Level
Delay Mix Level
Mix Mod Depth
Mix Mod Speed
Preamp Out Level

Configuration 5 Target Parameters

Reverb Input Mix
Reverb Predelay
Reverb Predelay Mix

Reverb Type: Reverse 2
Reverb Reverse Time

Reverb Type: All Others
Reverb Decay

Reverb Diffusion
Reverb Density (not available for Reverb Type: Hall 2)
Reverb Low Decay
Reverb Hi Decay
LFO Speed
LFO Depth
Low EQ Frequency
Low EQ Amplitude
Mid EQ Frequency
Mid EQ Bandwidth
Mid EQ Amplitude
Hi EQ Frequency
Hi EQ Amplitude
Direct Mix Level
Effect Mix Level
Preamp Mix Level or EQ Mix Level
Reverb Mix Level
Preamp Out Level

Configuration 6 Target Parameters

Reverb Input Mix
Reverb Predelay
Reverb Predelay Mix

Reverb Type: Reverse
Reverb Reverse Time

Reverb Type: All Others
Reverb Decay

Reverb Diffusion
Reverb Density (not available for Reverb Type: Hall 1)
Reverb Low Decay
Reverb Hi Decay

Delay Type: Mono Delay
Delay Time
Delay Feedback

Delay Type: Stereo Delay
Left Delay Time/Right Delay Time
L Delay Feedback/R Delay Feedback

Spectrum Shift
Ring Output Mix
Del/Rev In Mix
Direct Mix Level
Effect Mix Level
Preamp Mix Level
Ring Mix Level
Delay Mix Level
Reverb Mix Level
Preamp Out Level

Configuration 7 Target Parameters

Reverb Input Mix
Reverb Predelay
Reverb Predelay Mix

Reverb Type: Reverse
Reverb Reverse Time

Reverb Type: All Others
Reverb Decay

Reverb Diffusion
Reverb Density (not available for Reverb Type : Hall 1)
Reverb Low Decay
Reverb Hi Decay

Delay Type: Mono Delay

Delay Time
Delay Feedback

Delay Type: Stereo Delay

Left Delay Time/Right Delay Time
L Delay Feedback/R Delay Feedback

Resonator Decay
Direct Mix Level
Effect Mix Level
Mix Preamp Level
Resonator Level
Delay Mix Level
Reverb Mix Level
Preamp Out Level

CHAPTER 8 – MIDI SUPPLEMENT

(This chapter is an abridged version of material from *Power Sequencing with Master Tracks Pro/Pro 4* and *The Complete Guide to the Alesis HR-16 and MMT-8*, copyright 1990 and 1989 respectively by AMSCO Publications, and is adapted with permission.)

8.1 MIDI BASICS

Most current electronic instruments and signal processors, including the QuadraVerb GT, contain an internal computer. Computers and music have been working together for decades, which is not surprising considering music's mathematical basis (consider frequencies, harmonics, vibrato rates, tunings, etc.). In the mid-70s, microcomputers became inexpensive enough to be built into consumer-priced musical instruments. They were used for everything from sound generation to storing parameters in memory for later recall.

In 1983, the MIDI (Musical Instrument Digital Interface) specification was introduced to better exploit the computers inside these new musical instruments, primarily to insure compatibility with equipment from other manufacturers. MIDI expresses musical events (notes played, vibrato, dynamics, tempo, etc.) as a common "language" consisting of standardized digital data. This data can be understood by MIDI-compatible computers and computer-based musical instruments.

Before electronics, music was expressed exclusively as written symbols. By translating musical parameters into digital data, MIDI can express not only the types of musical events written into sheet music, but other parameters as well (such as amount of pitch bend or degree of vibrato).

8.2 MIDI HARDWARE

MIDI-compatible devices usually include both MIDI In and MIDI Out jacks, which terminate in 5-pin DIN-style connectors. The MIDI Out jack transmits MIDI data to another MIDI device. As you play a MIDI controller such as a keyboard, data corresponding to what you play exits the MIDI Out jack. *Example:* If you play middle C, the MIDI Out transmits a piece of data that says "middle C is down." If you release that

key, the MIDI Out transmits another piece of data that says "middle C has been released."

If the keyboard responds to the dynamics of your playing, the note data will include dynamics information too. Moving the modulation wheels and pedals attached to many synthesizers will also generate data associated with the wheel or pedal being used.

The MIDI In jack receives data from another MIDI device. In addition to the type of performance data described above, rhythmically-oriented MIDI devices (*e.g.*, drum machines) can often transmit and/or receive additional MIDI timing messages that keep other rhythmically-oriented units in a system synchronized with each other.

An optional MIDI Thru jack provides a duplicate of the signal at the MIDI In jack. This is handy if you want to route MIDI data appearing at one device to another device as well. Some devices, like the QuadraVerb GT, switch their MIDI Out between the Out and Thru functions.

Example: Suppose a keyboard's MIDI Out feeds the QuadraVerb's MIDI In. If the QuadraVerb's MIDI Out is set to function as a Thru jack, you could patch it to the input of an MMT-8 sequencer. Thus, the keyboard would control the QuadraVerb and be able to record data into the sequencer.

8.3 MIDI MESSAGE BASICS

There are two main types of MIDI messages. *Channel* messages, which are channel-specific, consist of Voice and Mode messages. *System* messages, which do not have a channel number and are received by all units in a system, include Common, Real Time, and Exclusive messages.

8.4 CHANNEL MESSAGES

8.4A Voice Messages

A synthesizer's voice is the most basic unit of sound generation. Usually, each voice plays one note at a time, so the number of notes you can play at one time will be limited by the available number of voices. MIDI

messages that affect voices include:

Note On Corresponds to a key being pressed down; values range from 000 (lowest note) to 127 (highest note). Middle C is 60.

Note Off Corresponds to a key being released; values are the same as note on.

Velocity Corresponds to dynamics; values range from 001 (minimum velocity) to 127 (maximum velocity). A velocity of 000 is equivalent to a note-off message.

Pressure Indicates the pressure applied to a keyboard after pressing a key. Like many other affordable keyboards, the DPM 2 does not include pressure.

Program Change Sending a program change command from a sequencer or other MIDI keyboard can change synth patches automatically. There are 128 program change command numbers.

Also note that not all units number programs consistently. Some number them as 000-127, others as 001-128, and still others arrange programs in banks of 8 programs (such as A1-A8, B1-B8, C1-C8, etc.).

Pitch Bend This "bends" a note from its standard pitch.

Continuous Controller Footpedals, breath controllers, and modulation wheels can vary sounds as you play, thus adding expressiveness. MIDI allows for 64 continuous controllers (these act like potentiometers in that you can choose one of many different values) and 58 continuous/switch controllers (these can act like continuous controllers but some are assumed to choose between two possible states, such as on/off).

Each type of controller is stamped with its own controller identification number. Not all controller numbers have been standardized for specific functions, but the following indicates the current list of assigned controllers. Numbers in parenthesis indicate the controller range.

- 1 Modulation Wheel (0-127)
- 2 Breath Controller (0-127)
- 3 Early DX7 Aftertouch (0-127)
- 4 Foot Controller (0-127)
- 5 Portamento Time (0-127)

- 6 Data Slider (0-127)
- 7 Main Volume (0-127)
- 8 Balance (0-127)
- 10 Pan (0-127)
- 11 Expression (0-127)
- 16 General Purpose #1 (0-127)
- 17 General Purpose #2 (0-127)
- 18 General Purpose #3 (0-127)
- 19 General Purpose #4 (0-127)
- 32-63 Least Significant Bits, Controllers 0-31 (0-127)
- 64 Sustain Pedal (0 or 127)
- 65 Portamento On/Off (0 or 127)
- 66 Sustain Pedal (0 or 127)
- 67 Soft Pedal (0 or 127)
- 69 Hold 2 (0 or 127)
- 80 General Purpose #5 (0 or 127)
- 81 General Purpose #6 (0 or 127)
- 82 General Purpose #7 (0 or 127)
- 83 General Purpose #8 (0 or 127)
- 92 Tremolo Depth (0-127)
- 93 Chorus Depth (0-127)
- 94 Celeste Depth (0-127)
- 95 Phase Depth (0-127)
- 96 Data Increment (0 or 127)
- 97 Data Decrement (0 or 127)
- 98 Non-Registered Parameter MSB (0-127)
- 99 Non-Registered Parameter LSB (0-127)
- 100 Registered Parameter MSB (0-127)
- 101 Registered Parameter LSB (0-127)
- 121 Reset All Controllers (0)
- 122 Local Control On/Off (0 or 127)
- 123 All Notes Off (0)
- 124 Omni Off (0)
- 125 Omni On (0)
- 126 Mono On (0-16; 0=Omni Off)
- 127 Poly On (0)

8.4B Mode Messages

There are two messages that determine the MIDI mode (*i.e.*, how the QuadraVerb GT will receive MIDI data). The "omni" message determines how many channels will be recognized. Omni On means that data from all channels will be received; Omni Off limits the number

of channels, usually to one.

The "mono/poly" message deals with voice assignment within the synthesizer. In Mono mode, only one note at a time plays in response to voice messages; in Poly mode, as many voices can play notes as are available to play notes.

The QuadraVerb GT implements two different MIDI modes.

Omni On/Poly (Mode 1) The QuadraVerb GT responds to MIDI data occurring on any channel.

Omni Off/Poly (Mode 3) The QuadraVerb GT is tuned to a single MIDI channel, from 1 to 16.

8.5 SYSTEM COMMON MESSAGES

Intended for all units in a system, some of these messages are:

Song Position Pointer This indicates how many "MIDI beats" (normally a 16th note) have elapsed since a piece started (up to 16,384 total beats). It is primarily used to allow different sequencers and drum machines to auto-locate to each other so that if you start one sequencer, the other device will automatically jump to the same place in the song, whereupon both continue on together.

System Exclusive This message (called sys ex for short) is considered "exclusive" because different manufacturers send and receive data over MIDI which is intended only for that manufacturer's equipment.
Example: Sending an QuadraVerb GT message to an Ensoniq SD-1 won't do anything but the message will be understood by other QuadraVerb GT. This data often contains information about individual instrument programs.

Timing Clock A master tempo source (such as a sequencer) emits 24 timing messages (clocks) per quarter note. Each device synchronized to the sequencer advances by 1/24th of a quarter note when it receives the clock message, thus keeping units in sync after they've both started at the same time. Many devices subdivide this clock signal internally for higher resolution (*e.g.*, 96 pulses per quarter note).

Start Signals all rhythmically-based units when to start playing.

Stop Signals all rhythmically-based units when to stop playing.

Continue Unlike a Start command, which re-starts a sequencer or drum machine from the beginning of a song each time it occurs, sending a continue message after stop will re-start units from where they were stopped.

8.6 BOOKS ON MIDI

The preceding does not substitute for reading a good book on the subject of MIDI. For further information, refer to the following:

MIDI For Musicians and *The Electronic Musician's Dictionary* by Craig Anderton; AMSCO Publications. The former was written specifically for musicians with no background in MIDI, and the latter defines terms related to musical electronics.

Music Through MIDI by Michael Boom; Microsoft Press. An excellent text for those just getting started with MIDI, synthesis, and related topics.

The Murphy's Law MIDI Book by Jeff Burger; Alexander Publishing. Emphasizes applications and problem-solving.

Using MIDI by Helen Casabona and David Frederick; Alfred Publishing. A general guide to MIDI with an emphasis on applications.

Understanding MIDI and *Understanding MIDI 2* by various authors; Amordian Press. A collection of MIDI-oriented articles from *Musician* magazine.

Descubriendo MIDI by José Valenzuela; Alesis Publishing. A thorough overview of MIDI in Spanish, suitable for beginners and/or advanced users.