

CHAMELEON[®]2000

PROGRAMMABLE 24-BIT DSP GUITAR PREAMP

User's Manual

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May be covered by one or more of the following:
U.S. Patents #4538297, 4647876, 4696044, 4745309, 4881047,
4893099, 5124657, 5263091, 5268527, 5319713, 5333201,
5402498 and 5493617.

Other patents pending. Foreign patents pending.





Your Chameleon® 2000 has been tested and complies with the following Standards and Directives as set forth by the European Union:

Council Directive(s): 89/336/EEC Electromagnetic Compatibility

Standard(s): EN55022, EN50082-1

This means that this product has been designed to meet stringent guidelines on how much RF energy it can emit, and that it should be immune from other sources of interference when properly used. Improper use of this equipment could result in increased RF emissions, which may or may not interfere with other electronic products.

To insure against this possibility, always use good shielded cables for all audio input and output connections. This will help insure compliance with the Directive(s).

ROCKTRON
CORPORATION

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1. Introduction

The Rocktron Chameleon® 2000 is a 24-bit DSP professional guitar preamp providing 6 unparalleled effect algorithms and superb sound quality never before heard from a digital guitar preamp. Complete programmability and full MIDI implementation are coupled with a user-friendly operating format to ensure that designing unique and useful preset sounds is as simple as possible.

In addition, the Chameleon® 2000 also features:

- **Advanced Speaker Simulation**, which provides a strikingly realistic approximation of a miked speaker cabinet for headphone listening.
- **Hush Systems' HUSH® noise reduction** provides noise reduction while playing and complete silence when not.
- **Variac Simulation**, like a conventional Variac, adjusts the level at which the preamp begins to distort. This provides more gain in high-gain applications, and allows for full-bodied cleaner presets which just begin to distort when the strings are attacked harder.
- **Internal Wah-Wah** allows the player to use a MIDI expression pedal for Wah-Wah effects instead of running long audio cables out to a conventional Wah-Wah pedal.
- **High-quality digital effects**, including:
 - *Reverb*
 - *Tremolo*
 - *Pitch Shifting*
 - *Chorus*
 - *Phasing*
 - *Flanging*
 - *Compression*
 - *Delay*

For a thorough explanation of the Chameleon® 2000 and its features, please read this manual carefully and keep it for future reference. After removing the Chameleon® 2000 from the box, save all packing materials in case it becomes necessary to ship the unit.

PRECAUTIONS

NOTE: IT IS VERY IMPORTANT THAT YOU READ THIS SECTION TO PROVIDE YEARS OF TROUBLE FREE USE. THIS UNIT REQUIRES CAREFUL HANDLING.

- All warnings on this equipment and in the operating instructions should be adhered to and all operating instructions should be followed.
- Do not use this equipment near water. Care should be taken so that objects do not fall and liquids are not spilled into the unit through any openings.
- The power cord should be unplugged from the outlet when left unused for a long period of time.

DO NOT ATTEMPT TO SERVICE THIS EQUIPMENT. THIS EQUIPMENT SHOULD BE SERVICED BY QUALIFIED PERSONNEL ONLY. DO NOT MAKE ANY INTERNAL ADJUSTMENTS OR ADDITIONS TO THIS EQUIPMENT AT ANY TIME. DO NOT TAMPER WITH INTERNAL ELECTRONIC COMPONENTS AT ANY TIME. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID THE WARRANTY OF THIS EQUIPMENT, AS WELL AS CAUSING SHOCK HAZARD.

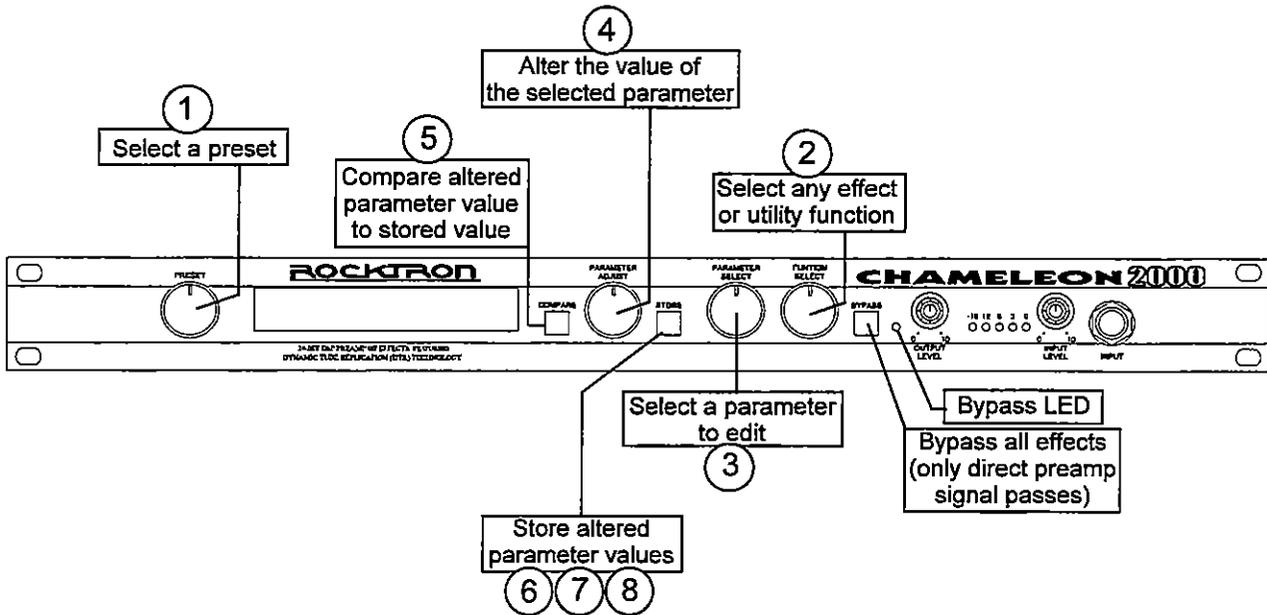
POWER REQUIREMENTS

This unit accepts power from the 9VAC/3.4A adaptor supplied with the unit. This 9 volt RMS AC voltage is internally processed by a voltage doubler which generates a bipolar ± 15 volts to maintain the headroom and sound quality of professional, studio quality equipment. Using an external power source such as this minimizes excessive noise and hum problems often associated with internal transformers, providing optimal performance for the user.

OPERATING TEMPERATURE

Do not expose this unit to excessive heat. This unit is designed to operate between 32° F and 104° F (0° C and 40° C). This unit may not function properly under extreme temperatures.

2. Quick Reference



Selecting a Preset

STEP 1 Turn the PRESET control to the desired preset.

Changing Preset Parameters

STEP 2 Turn the FUNCTION SELECT knob to the desired effect or utility function.

STEP 3 Turn the PARAMETER SELECT knob to the parameter you wish to alter under the selected effect or utility function.

STEP 4 Use the PARAMETER ADJUST knob to select the new parameter value.

STEP 5 The COMPARE button may be used to compare the sound of the altered value to the stored value.

Storing Changed Parameters

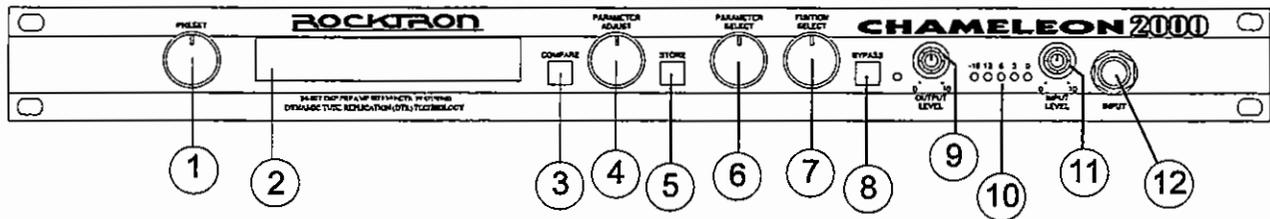
STEP 6 Press the STORE button to start the storing procedure.

STEP 7 If you wish to save the altered preset in the current preset location, press the STORE button a second time.

If you wish to store the altered preset in a different preset location, turn the PRESET control to the desired preset number, then press STORE a second time.

STEP 8 When storing into a different preset location, the Chameleon® 2000 will display "COPY TITLE TOO?". If you wish to copy the title from the previous preset, press STORE a third time. If you do not wish to copy the title, turn any knob to exit the storing procedure.

3. Front Panel



1 PRESET control

Turning this knob scrolls through the successive presets.

2 DISPLAY panel

The DISPLAY panel provides 16 characters consisting of 14 segments each.

3 COMPARE button

The COMPARE button may be used to compare an altered parameter value to its stored value. This button may also be used to compare between the altered and stored values of multiple parameters under the same function heading (i.e. "Reverb", "Mixer", etc.).

NOTE: If comparing an altered value to the stored value and the stored value is currently being viewed, turning a knob or pressing a button that changes the parameter value displayed will cancel the previous altered value. This will also occur if a MIDI Control change is received while viewing the stored value(s).

4 PARAMETER ADJUST control

This knob is used to adjust a displayed parameter value.

5 STORE button

This button is used to store values into the Chameleon® 2000 memory when altered. See "**Storing Changed Preset Parameters**" for more information on this procedure.

6 PARAMETER SELECT control

When adjusting parameter values, turning this knob will scroll through the available parameters under the current function heading. In the "Title Edit" function, this knob will scroll through the character locations to be edited.

7 FUNCTION SELECT control

This knob allows access to each function of the Chameleon® 2000, depending on which configuration is currently recalled.

8 EFFECT BYPASS button/LED

When lit, the Pre and Post effects are bypassed and only the Compressor/Preamp signal is passed to the Chameleon® 2000 outputs. This button does not affect the condition of the Speaker Simulator.

9 OUTPUT LEVEL control

This control is used to adjust the output level of the unit at the outputs.

10 INPUT LEVEL meter

These LEDs provide visual indication of the peak level of the input signal when in the Preset Select mode. For the optimal signal-to-noise ratio, it is best to adjust the input level so that the last LED (0dB) is rarely lit. This will guard against the possibility of overdriving the unit. These LEDs also display the final digital mixer output levels when any other functions are selected. This will help you to guard against clipping the output of the mixer at the digital-to-analog converter.

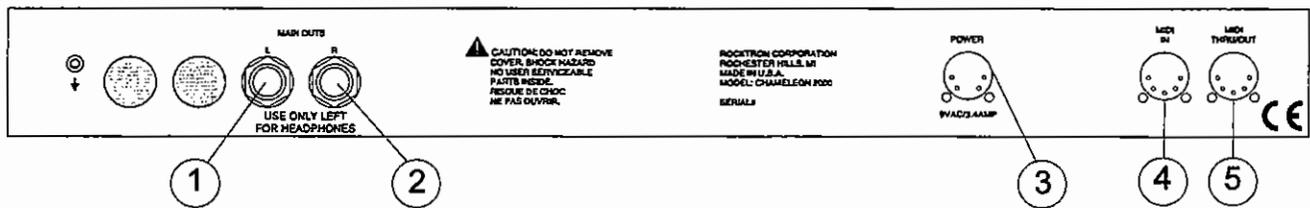
11 INPUT LEVEL control

This control adjusts the unit's gain to match the signal level at the input of the Chameleon® 2000 . Use the INPUT LEVEL meter to determine the setting of this control.

12 INPUT jack

This standard, mono 1/4" jack is used to provide input to the unit. It is front panel mounted for easy access.

4. Rear Panel



1 L OUTPUT jack

This 1/4" jack provides the left output of the Chameleon® 2000 for use with a guitar amplifier or rack system setup.

In addition, this jack also allows for the connection of stereo headphones (600ohms impedance or greater).

2 R OUTPUT jack

This 1/4" jack provides the right output of the Chameleon® 2000 for use with a guitar amplifier or rack system setup.

3 POWER jack

This 4-pin DIN connector accepts power from the 9VAC adaptor supplied with the unit.

4 MIDI IN jack

This 5-pin DIN connector must be connected to the MIDI OUT jack of the transmitting MIDI device via a standard MIDI cable, or to the MIDI THRU jack of the preceding device (if the Chameleon® 2000 is within a chain of MIDI devices).

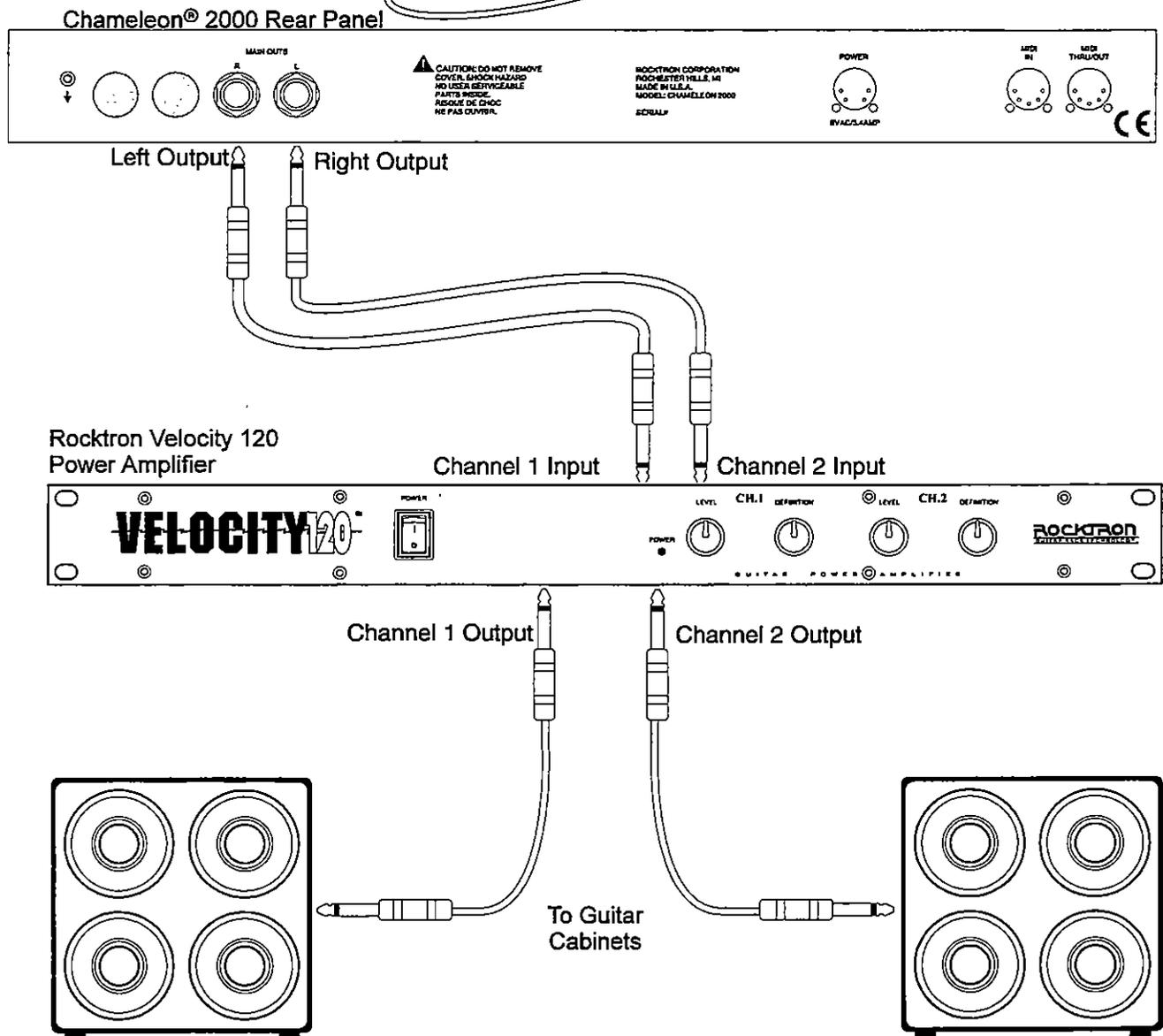
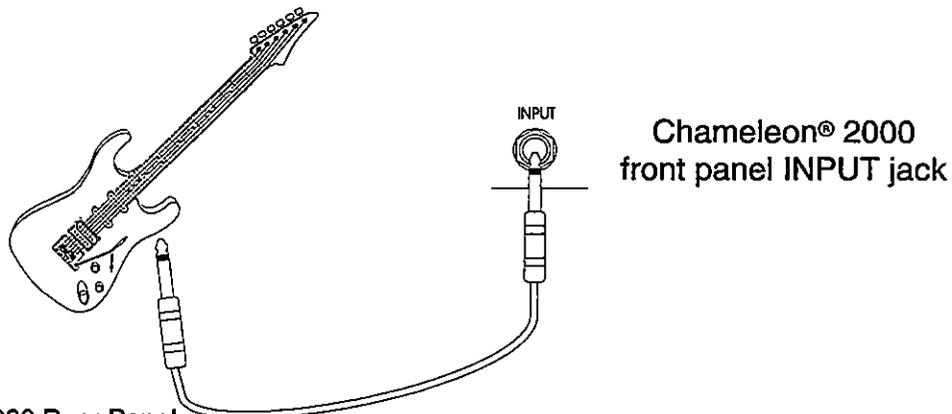
5 MIDI THRU/OUT jack

This standard 5-pin DIN connector can be connected to the MIDI IN jack of another device via a standard MIDI cable.

NOTE: Inherently in MIDI there is a limit to the number of devices which can be chained together (connected in series). With more than 3 devices, a slight distortion of the MIDI signal can occur (due to signal degradation) which can cause an error in MIDI signal transmission. Should this problem arise, a MIDI Thru box can be used which connects directly to the MIDI device which transmits MIDI information and has multiple connectors for the multiple devices receiving MIDI. MIDI cables should not exceed 50 feet (15 meters) in length.

5. Connections

Using the Chameleon® 2000 with a stereo power amp and guitar cabinets



6. Operating Format

The Chameleon® 2000 provides 254 stored sounds called presets. Any of the 254 presets can be called up at any time via the front panel PRESET knob, or by a remote MIDI footswitch.

The root of each preset's sound is its configuration. The configuration determines both the effects available for a given preset and the order in which those effects are executed. The Chameleon® 2000 provides 6 fixed configurations to achieve a wide array of preset sounds, any of which may be instantly called up at any time.

Chameleon® 2000 Configurations:

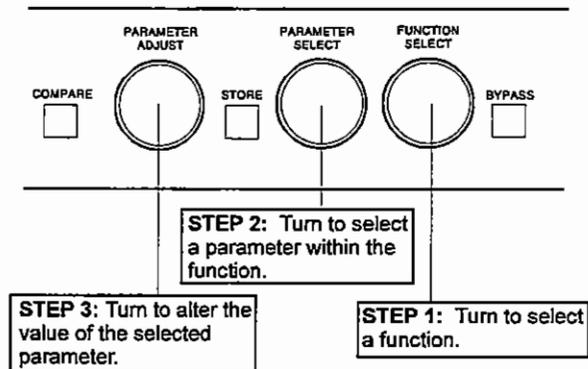
GAIN • CHORUS • DELAY • REVERB
GAIN • FLANGE • DELAY • REVERB
GAIN • TREMOLO • DELAY • REVERB
GAIN • PITCH SHIFT • DELAY • REVERB
WAH • GAIN • DELAY • REVERB
PHASER • GAIN • DELAY • REVERB

The configuration of each preset can be changed from within the desired preset. For more information on selecting a configuration, see *Selecting a Configuration* in the section titled "**Operating the Chameleon® 2000**".

Chameleon® 2000 Functions and Parameter Descriptions

Each Chameleon® 2000 preset is divided up into individual blocks called functions (such as "Mixer", "Reverb", etc.). Within each function of each configuration is a set of controls which allow you to manipulate various aspects of that function. These controls are called parameters. It is the setting of each of the parameters which determines the overall sound of each preset.

The Chameleon® 2000 is set up to allow you to first access each function (via the FUNCTION SELECT knob), then the parameter list for each function (via the PARAMETER SELECT knob) and finally the adjustable value for each parameter (via the PARAMETER ADJUST knob).



The functions available for each preset are dependent upon which configuration is currently recalled. The remainder of this section will describe each of the effect-based functions and the associated adjustable parameters they provide.

The remaining functions are utility-based, and are described in the section titled "**Operating the Chameleon® 2000**".

GLOBAL Function

The first function displayed after turning the FUNCTION SELECT knob is the Global function. The parameters provided in this function affect all presets (i.e. the settings stored for these parameters are the same for all presets).

The PARAMETER SELECT knob will allow you to access these Global parameters:

OUTPUT	The OUTPUT parameter determines whether the output of the Chameleon® 2000 is a stereo (left and right) signal or two mono signals.
SPKR SIM	<p>This SPEAKER SIMULATOR parameter under the Global function allows you to globally (all presets) lock the Speaker Simulator off (LOCKOFF) so that it will always be off for all presets - regardless of the status of the "SPKR SIM" parameter under the Speaker Simulator function. It may also be locked on for the left channel (LOCK L) or on for both channels (LOCK B).</p> <p>Note: The Chameleon® 2000 will only recognize the "SPKR SIM" parameter under the Speaker Simulator function when this parameter is stored as UNLOCK.</p>
HUSH OFFSET	The HUSH OFFSET parameter allows you to globally (all presets) adjust the HUSH® Expander Threshold. This means that if this parameter is altered from 0(dB) to +3(dB), the Expander Threshold will be 3dB higher for all presets. This feature can be useful when switching from a quiet guitar with passive electronics to a noisy guitar with active electronics, as the active guitar would require a higher Threshold level in all presets.
MUTE	The MUTE parameter allows you to mute the output of the Chameleon® 2000. This feature is especially useful when changing guitars during a live set.

MIXER Function

The next function displayed after turning the FUNCTION SELECT knob is the Mixer function. The Mixer function parameters are included in all presets – regardless of which configuration is currently recalled -- although the parameter values stored in this function are only for the currently recalled preset.

This digital mixer allows you to control most signal levels pertaining to each preset's configuration and stores these levels for each preset.

The PARAMETER SELECT knob will allow you to access these Mixer parameters:

VOLUME	The VOLUME parameter determines the overall signal level of the current preset.
LEFT OUT LVL	The LEFT OUT LEVEL parameter allows you alter the level of the left channel output of the current preset independent of the right channel.
RIGHT OUT LVL	The RIGHT OUT LEVEL parameter allows you alter the level of the right channel output of the current preset independent of the left channel.
MIX DIR/EFF	The DIR/EFF MIX parameter is used to define the ratio of direct signal level to effect (Chorus, Flange, Pitch Shift) signal level.
DIR PAN	The DIRECT PAN parameter allows you to pan the direct signal to the left or right.
DELAY LVL	The DELAY LEVEL parameter determines the overall level of the delayed signal at the output relative to the direct signal and other effect signals. This parameter can also be accessed from the Delay function parameter list.
REVERB LVL	The REVERB LEVEL parameter determines the level of the reverb signal at the output relative to the direct signal and other effect signals. This parameter can also be accessed from the Reverb function parameter list.

PREAMP Function

The PREAMP function is accessible in all configurations. The preamp stage offers 4 channel choices ranging from clean to high gain for maximum sustain and distortion.

The PARAMETER SELECT knob will allow you to access these PREAMP parameters:

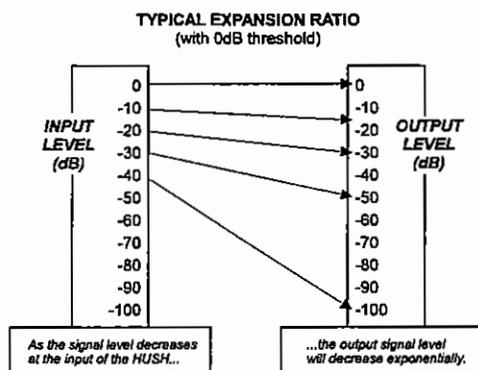
CHANNEL	The CHANNEL parameter chooses one of the four (4) PREAMP types: Clean, Texas, British, Mega.
GAIN	The GAIN parameter determines the gain value in the distortion stage.
VARIAC ADJUST	The VARIAC ADJUST parameter adjusts the level at which the preamp stage in the Chameleon® 2000 begins to distort. A Variac is a voltage attenuating device that plugs into an AC wall outlet and adjusts the voltage level to any device which is plugged into it. For years, many guitarists have plugged their amplifier heads into a Variac and reduced the voltage coming into the amplifier from the AC wall outlet. This allows the amplifier tubes to reach saturation at a lower input level and increases the gain produced. The VARIAC ADJUST parameter operates in a similar manner as a conventional Variac – where lowering the parameter value lowers the level at which saturation will take place.
BASS	The BASS parameter adjusts the amount of low frequency information at the output of each preset.
MID	The MID parameter adjusts the amount of mid frequency information at the output of each preset.
TREBLE	The TREBLE parameter adjusts the amount of high frequency information at the output of each preset.
PRESENCE	The PRESENCE parameter also adjusts the amount of high frequency information at the output of each preset.
BRIGHT	The BRIGHT parameter is displayed only when channel 1 (Clean) is active, and allows you to add extra brightness to the clean channel when switched on.
SCOOP	The SCOOP parameter is displayed only when Channel 4 (MEGA) is active, and provides a fixed scoop of the mid frequencies.
MASTER	The MASTER parameter determines the overall signal level coming out of the preamp section.

HUSH® Function

The HUSH® function is accessible in all presets - regardless of the configuration currently recalled.

HUSH is Hush Systems' patented single-ended noise reduction system. The HUSH system contained in the Chameleon® 2000, though modeled after the latest analog HUSH design, is a fully digital implementation achieved through Digital Signal Processing (DSP).

The low level expander of the HUSH system operates like an electronic volume control. The analog version of the HUSH utilizes a voltage-controlled amplifier (VCA) circuit which can control the gain between the input and the output from unity to 30, 40 or even 50(dB) of gain reduction. When the input signal is above the user preset threshold point, the VCA circuit remains at unity gain. (This means that the amplitude of the output signal will be equal to that of the input signal.) As the input signal level drops below the user preset threshold point, downward expansion begins. At this point the expander acts like an electronic volume control and gradually begins to decrease the output signal level relative to the input signal level. As the input signal drops further below the threshold point, downward expansion increases. A drop in the input level by 20(dB) would cause the output level to drop approximately 40(dB) (i.e., 20(dB) of gain reduction). In the absence of any input signal, the expander will reduce the gain so that the noise floor becomes inaudible.



The HUSH circuit is located after the A/D converter in the signal chain to reduce any noise generated from the guitar and the A/D converter. This ensures a quiet input signal to the preamp section. Because the preamp section of the Chameleon® 2000 is digital, it is virtually noise-free (even for the high-gain channels). Therefore, a quiet input signal to the preamp will result in a quiet output signal.

The PARAMETER SELECT knob will allow you to access these Hush parameters:

HUSH I/O

The HUSH I/O parameter simply determines whether the HUSH® circuit is active for the current preset.

HUSH THRESH

The HUSH THRESHOLD parameter determines the level at which downward expansion begins. For example, if the HUSH THRESHOLD was set at -20(dB) and the input signal dropped below -20(dB), downward expansion would begin.

COMPRESSOR Function

The COMPRESSOR function is available in all configurations. This function allows you to compress the signal prior to the distortion stage. Compression is often used to maintain an even level when using clean tones, and also to increase sustain when using distorted tones.

The PARAMETER SELECT knob will allow you to access these COMPRESSOR parameters:

COMPRESSOR I/O	The COMPRESSOR IN/OUT parameter determines whether the compressor is active for the current preset.
COMP THRESH	The COMPRESSOR THRESHOLD parameter determines the input level (in dB) at which compression will begin. Lower settings of this parameter will result in more compression.
COMP ATTACK	The COMPRESSOR ATTACK parameter determines the speed (in milliseconds) in which the compressor will reach its maximum compression level after the input signal has exceeded the threshold level (set by the COMPRESSOR THRESHOLD parameter).
COMP RELEASE	The COMPRESSOR RELEASE parameter determines the speed in which compression will cease after the input signal has dropped below the threshold level.

SPEAKER SIMULATOR Function

The SPEAKER SIMULATOR function is included in all presets and provides a realistic approximation of a miked speaker cabinet for applications involving connecting the Chameleon® 2000 directly to a mixing board, recording system or other full range system.

NOTE: *The parameters provided in this function are operational only when the SPKR SIM parameter under the GLOBAL FUNCTION is stored UNLOCK, LOCK L or LOCK B.*

The PARAMETER SELECT knob will allow you to access these SPEAKER SIMULATOR parameters:

SPKR SIM I/O	The SPEAKER SIMULATOR parameter allows you to select whether the Speaker Simulator is on for BOTH outputs, on for only the LEFT output or OFF.
SPKR TYPE	The SPEAKER TYPE parameter determines the type of speaker to be simulated. 15", 12", 10", 8" and full range speakers are available.
MIC PLACEMENT	The MIC PLACEMENT parameter simulates a microphone placed anywhere from the center of the speaker cone out to the edge of the cone. Positive parameter values simulate moving the microphone toward the center of the speaker, while negative values move it to the edge.
REACTANCE	The REACTANCE parameter simulates the characteristics of the interaction between a tube amplifier and a guitar speaker cabinet. The higher the parameter value selected, the more these characteristics will be apparent. Negative values of reactance can be used to simulate an open-back cabinet.

WAH-WAH Function

The WAH-WAH function is available only in configurations which display "WAH" in the configuration title.

The Chameleon® 2000 has an internal wah-wah which allows for an expression pedal to be used as a wah-wah pedal through continuous Control changes. Use of this feature eliminates the need to run long audio cables out to a conventional wah-wah pedal.

To use an expression pedal as a wah-wah pedal, connect it to a MIDI controller (such as a Rocktron MIDI Mate™) and set the controller's MIDI channel to correspond with the Chameleon® 2000's receiving MIDI channel. Then set the pedal's control number on the MIDI Mate to match the Wah Frequency parameter's control number on the Chameleon® 2000. This control number is set on the Chameleon® 2000 in the "CONTROLLER ASSIG" function. (See "Controller Assignments" for more information on assigning control numbers.)

The PARAMETER SELECT knob will allow you to access these WAH-WAH parameters:

WAH-WAH I/O	The WAH-WAH I/O parameter determines whether the wah-wah is active for the current preset.
WAH FREQ	The WAH FREQUENCY parameter allows you to manually sweep the frequency range of the wah-wah via the PARAMETER ADJUST control. Selecting a frequency for this parameter and storing the WAH-WAH parameter IN allows you to use the wah-wah as a fixed wah.
MIX DIR/EFF	The DIR/EFF MIX parameter is used to define the ratio of direct signal level to WAH-WAH signal level.

PHASER Function

The PHASER function is available only in configurations displaying "PHAS" in the configuration title.

Phase shifting involves splitting the input signal into two signals, then shifting the phase of different frequencies of one signal and mixing it back with the original signal.

The PARAMETER SELECT knob will allow you to access these PHASER parameters:

PHASER I/O	The PHASER IN/OUT parameter determines whether the Phaser is active for the current preset.
DEPTH	The DEPTH parameter determines the modulation depth of the phase shift effect. Higher parameter settings result in the sweep of the filtering effect occurring over a wider frequency range.
RATE	The RATE parameter determines the speed at which the phase shifted signal is modulated.
RESONANCE	The RESONANCE parameter adds feedback to the Phaser so that it has a more pronounced effect.
STAGES	The STAGES parameter determines how many stages of phase shift are to be active. A parameter setting of "4" produces a result similar to a vintage Phase 90, while a setting of "6" emulates other phaser pedals.
MIX DIR/EFF	The DIR/EFF MIX parameter is used to define the ratio of direct signal level to PHASER signal level.

FLANGER Function

The FLANGER function is available only in configurations displaying "FLAN" in the configuration title.

Flanging involves splitting the input signal into at least two individual delayed signals (Voice 1 and voice 2), then modulating these delayed signals so that, when summed back with the direct signal, phase cancellations will occur at some frequencies while peaks in the response will occur at others.

The PARAMETER SELECT knob will allow you to access these FLANGER parameters:

LEVEL 1	The LEVEL 1 parameter determines the volume of Voice 1 relative to Voice 2. <i>Tip: Keep the settings of these levels high and use the DIR/EFF mix parameter in the Mixer function to control the overall amount of flanged signal.</i>
PAN 1	The PAN 1 parameter allows you to pan Voice 1 to the left or right channel.
DEPTH 1	The DEPTH 1 parameter adjusts the amount of modulation of Voice 1. Lower DEPTH settings produce more subtle effects, while higher settings will result in a more drastic effect.
RATE 1	The RATE 1 parameter determines the speed at which Voice 1 is modulated.
LEVEL 2	The LEVEL 2 parameter determines the volume of Voice 2 relative to Voice 1.
PAN 2	The PAN 2 parameter allows you to pan Voice 2 to the left or right channel.
DEPTH 2	The DEPTH 2 parameter adjusts the amount of modulation of Voice 2. Lower DEPTH settings produce more subtle effects, while higher settings will result in a more drastic effect.
RATE 2	The RATE 2 parameter determines the speed at which Voice 2 is modulated.
REGEN	The REGENERATION parameter determines how much of the delayed output signal is fed back into the input. More regeneration produces a more pronounced "jet airplane" type of effect.

TREMOLO Function

The TREMOLO function is available only in configurations displaying "TREM" in the configuration title.

The Tremolo effect continuously varies the volume of the signal.

The PARAMETER SELECT knob will allow you to access these TREMOLO parameters:

TREMOLO I/O	The TREMOLO IN/OUT parameter determines whether the Tremolo is active or bypassed for the current preset.
LOCATION	The LOCATION parameter determines whether the Tremolo is located Pre-Reverb or Post-Reverb. Most vintage amplifiers configured the Tremolo (or vibrato) Post-Reverb.
DEPTH	The DEPTH parameter determines the amount of modulation for the Tremolo signal. Lower DEPTH settings produce more subtle tremolo effects, while higher settings will result in a more extreme tremolo effect.
RATE	The RATE parameter determines the speed at which the tremolo signal modulates (or increases and decreases in volume).
SHAPE	The SHAPE parameter determines the waveshape of the tremolo signal. Selecting a different waveshape produces a different tremolo effect.

PITCH SHIFT Function

The PITCH SHIFT function is available only in configurations displaying "PSHF" in the configuration title.

Pitch Shifting is used to change the pitch of the input signal to produce a harmony note based on the input signal. The harmony voice may be of any fixed interval—up to one octave above the input signal to two octaves below—and is selected in 20-cent increments. Fine adjustment can be made in one cent (1/ 100th semitone) increments.

The PARAMETER SELECT knob will allow you to access these PITCH SHIFT parameters:

PITCH SHIFT I/O	The PITCH SHIFT IN/OUT parameter determines whether the Pitch Shifter is active or bypassed for the current preset.
LEVEL	The LEVEL parameter determines the volume of the pitch shifted signal. The DIR/EFF MIX parameter in the Mixer function also affects this volume.
PAN	The PAN parameter allows you to pan the shifted signal to the left or right channel.
PITCH	<p>The PITCH parameter selects what harmony note the Chameleon® 2000 will produce based on the input note. The value displayed for this parameter represents the number of cents that the signal will be shifted (adjustable in 20-cent increments). Each 100 cents (or five 20-cent steps) above or below "0" represents the number of half-steps the shifted signal will be from the input signal.</p> <p>This parameter is adjustable from "-2400" to "+1200", where "-2400" = two octaves below the input signal, "0" = unison and "+1200" = one octave above the input signal. Refer to the table below to determine the cent value for each fixed interval.</p>
FINE	The FINE parameter allows for adjustment in 1-cent steps for fine adjustment of the harmony note.
SPEED	The SPEED parameter determines the amount of time delay used in the shifting process. SLOW results in the longest delay and the highest quality shifted signal (especially at larger amounts of pitch shift), FAST results in the least delay, but the lowest quality shifted signal. This setting should only be used for slight amounts of pitch shift.

PITCH SHIFT INTERVALS

PARAMETER VALUE	CORRESPONDING INTERVAL
+1200	1 Octave
+1100	Major 7th
+1000	minor 7th
+900	Major 6th
+800	minor 6th
+700	perfect 5th
+600	diminished 5th
+500	perfect 4th
+400	Major 3rd
+300	minor 3rd
+200	Major 2nd
+100	minor 2nd
0	unison
-100	Major 7th
-200	minor 7th
-300	Major 6th
-400	minor 6th
-500	perfect 5th
-600	diminished 5th
-700	perfect 4th
-800	Major 3rd
-900	minor 3rd
-1000	Major 2nd
-1100	minor 2nd
-1200	1 octave
-1300	1 octave plus a Major 7th
-1400	1 octave plus a minor 7th
-1500	1 octave plus a Major 6th
-1600	1 octave plus a minor 6th
-1700	1 octave plus a perfect 5th
-1800	1 octave plus a diminished 5th
-1900	1 octave plus a perfect 4th
-2000	1 octave plus a Major 3rd
-2100	1 octave plus a minor 3rd
-2200	1 octave plus a Major 2nd
-2300	1 octave plus a minor 2nd
-2400	2 octaves

Voices above the input signal

Equal to the input signal

Voices below the input signal

NOTE: There are 5 steps of the parameter adjust control between each of the intervals shown above (each step equals 20 cents). This allows for smooth pitch change when an expression controller (such as a volume pedal or MIDI Mate™ foot controller) is assigned to the PITCH parameter to change the pitch by remote means.

CHORUS Function

The CHORUS function is available only in configurations displaying "CRS" in the configuration title.

The Chorus effect in the Chameleon® 2000 is produced by using two delayed signals (Voice 1 and Voice 2), detuning these delayed signals (slightly changing their pitch), then modulating the detune effect so that the amount of pitch detune is constantly varying. Using different detune amounts, modulation rates, modulation depths and pan settings for each delayed signal will produce a greater perceived spaciousness.

The PARAMETER SELECT knob will allow you to access these CHORUS parameters:

CHORUS I/O	The CHORUS I/O parameter determines whether the Chorus is active or bypassed for the current preset.
LEVEL 1	The LEVEL 1 parameter determines the volume of Voice 1 in relation to Voice 2. The DIR/EFF MIX parameter in the Mixer function also determines the Chorus level.
PAN 1	PAN 1 parameter allows you to pan Voice 1 to the left or right channel.
DEPTH 1	The DEPTH 1 parameter adjusts the amount of modulation of the Voice 1 signal. A lower depth setting will produce a more subtle detune effect, while a higher setting will produce a more extreme detuning of Voice 1.
RATE 1	The RATE 1 parameter determines the sweep speed (or the speed at which Voice 1 is modulated). Lower parameter settings will result in slower speeds, while higher settings will result in faster speeds.
DELAY 1	The DELAY 1 parameter allows you to select the minimum delay time (in milliseconds) for Voice 1. This delayed signal (along with Voice 2) is detuned and modulated to produce the chorus effect. Using shorter delay times will result in a tighter sounding chorused signal, while longer delay times will produce a larger ambient effect.
LEVEL 2	The LEVEL 2 parameter determines the volume of Voice 2 in relation to Voice 1.

PAN 2 PAN 2 parameter allows you to pan Voice 2 to the left or right channel.

DEPTH 2 The DEPTH 2 parameter adjusts the amount of modulation of the Voice 2 signal. A lower depth setting will produce a more subtle detune effect, while a higher setting will produce a more extreme detuning of Voice 2.

RATE 2 The RATE 2 parameter determines the sweep speed (or the speed at which Voice 2 is modulated). Lower parameter settings will result in slower speeds, while higher settings will result in faster speeds.

DELAY2 The DELAY 2 parameter allows you to select the minimum delay time (in milliseconds) for Voice 2. It is this delayed signal (along with Voice1) that is detuned and modulated to produce the chorus effect. Using shorter delay times will result in a tighter sounding chorused signal, while longer delay times will produce a larger ambient effect.

DELAY Function

The DELAY function is available in all presets.

Delay is a reproduction of the input signal, occurring at a prescribed time (usually expressed in milliseconds) following the input signal. The Chameleon® 2000 provides two discrete delays (Delay 1 and Delay 2), each of which has its own parameters to determine its particular characteristics.

The PARAMETER SELECT knob will allow you to access these DELAY parameters:

DELAY	The DELAY parameter determines whether the Delay is active or muted for the current preset.
MUTE TYPE	<p>The MUTE TYPE parameter allows for muting the delay at its input (PRE), its output (POST) or BOTH.</p> <p>Muting the input (PRE) of the delay will not allow any signal to enter the delay section until the delay is switched in. When using a moderate amount of regeneration, switching out the delay with the input muted will allow you to generate a non-delayed signal which will play over the decaying regenerated signal which continues on after the delay is switched out.</p> <p>Muting the output (POST) of the delay will result in the delayed signal being immediately turned off when the delay is switched out. This means that delays and regeneration will not continue when the delay is switched out. If the output were not muted, signals that were input before the delay was switched out would be allowed to regenerate, even after switching out the delay.</p> <p>It is also possible to mute both the input and the output (BOTH) so that no signal enters or exits the Delay section when it is not switched in.</p>
DELAY LVL	The DELAY LEVEL parameter determines the overall level of the delayed signal at the output relative to the direct signal and other effect signals. This parameter can also be accessed from the Delay function parameter list.
MIX	<p>The MIX parameter is used to define the ratio of Source 1 signal to Source 2 signal to be input to the Delay section. Source 1 is the Voice 1 output from the previous effect in the signal chain (chorus, flanger, pitch shifter, etc.), while Source 2 may be the Voice 2 output from the previous effect in the signal chain or the direct signal (selectable via the SOURCE 2 parameter).</p> <p>In configurations where there is no effect immediately preceding the delay, Source 1 and Source 2 will be the preamp output (direct) signal.</p>

SOURCE 2	The SOURCE 2 parameter is used to select whether the Source 2 input will be the VOICE 2 output from the previous effect in the signal chain or the direct signal (DIR).
DLY HF DAMP	The DELAY HIGH FREQUENCY DAMPING parameter controls the amount of high frequency content in the delayed and regenerated signals. Higher amounts of damping will result in less high frequency information in the delayed signal.
OUT LEVEL 1	The OUTPUT LEVEL 1 parameter determines the volume of Delay 1 relative to Delay 2.
PAN 1	The PAN 1 parameter allows you to pan the Delay 1 signal to the left or right channel.
DLY TIME 1	The DELAY TIME 1 parameter determines the length of time (in milliseconds) after the input signal that the Delay 1 signal will begin. The DELAY TIME can be adjusted via the ADJUST control, MIDI controller changes or via the Tap Delay feature (see "Operating the Chameleon" for detailed descriptions of each).
REGEN 1	The REGENERATION 1 parameter determines the number of times the Delay 1 signal will repeat itself. This is achieved by feeding the delayed output back into the input. Higher parameter settings will result in more repeats. The displayed value represents the attenuation (in dB) that the regeneration signal is subjected to at each repeat.
OUT LEVEL 2	The OUTPUT LEVEL 2 parameter determines the volume of Delay 2 relative to Delay 1.
PAN 2	The PAN 2 parameter allows you to pan the Delay 2 signal to the left or right channel.
DLY TIME 2	The DELAY TIME 2 parameter determines the length of time after the input signal that the Delay 2 signal will begin. This length of time is measured in milliseconds.
REGEN 2	The REGENERATION 2 parameter determines the number of times the Delay 2 signal will repeat itself. This is achieved by feeding the delayed output back into the input. Higher parameter settings will result in more repeats.

** The Delay features a regeneration limiter, since setting both REGEN parameters to high levels would result in louder and louder echoes until a severe overload occurs. The limiter senses when this condition would occur and automatically turns down both REGEN levels to avoid such an instability. This is especially important when REGEN levels are being adjusted in real-time, via MIDI control change messages, during a performance.*

The regeneration levels can be reset by recalling the preset or by accessing the REGEN 1 and REGEN 2 parameters and turning the ADJUST control.

REVERB Function

The REVERB function is available in all presets.

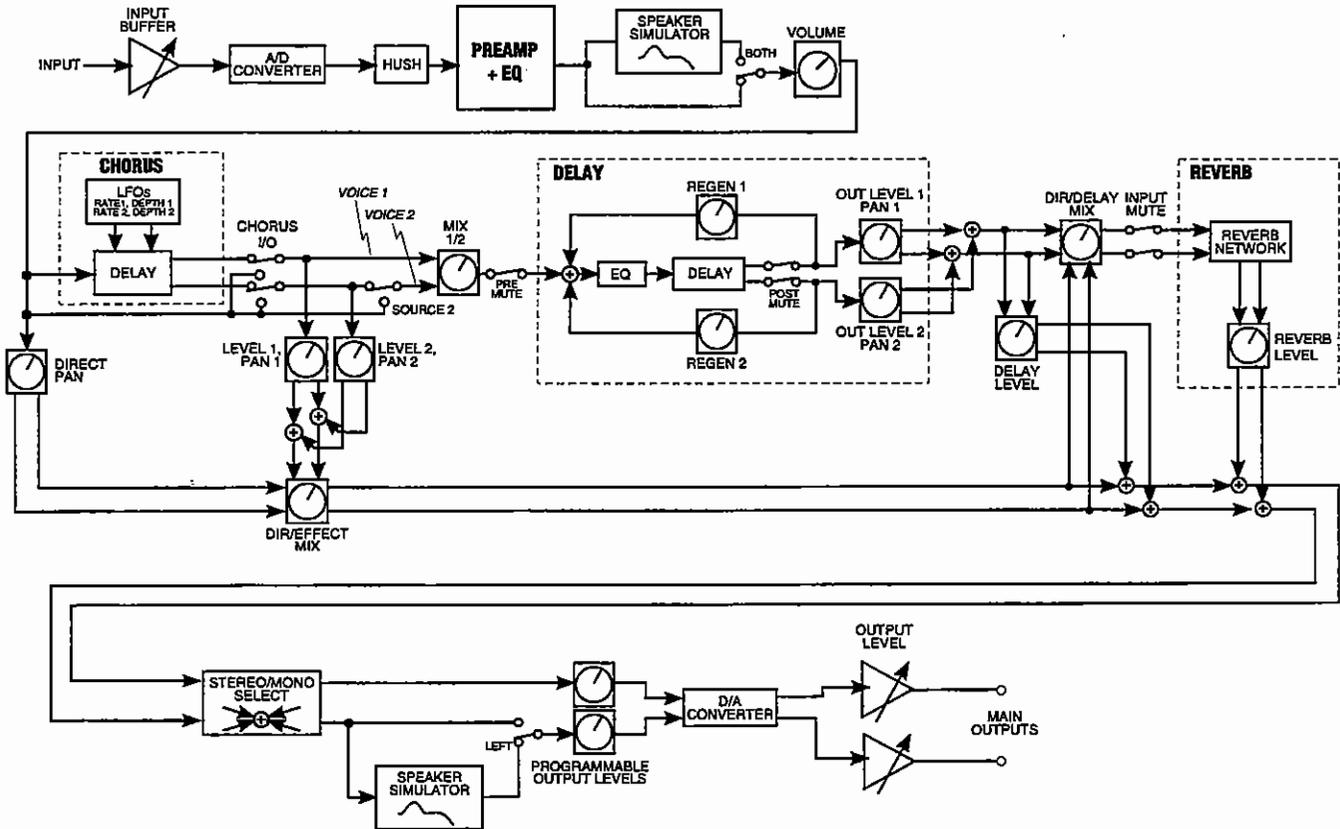
Reverb is a multitude of echoes spaced so close together that, to the human ears seem as a single continuous sound. These echoes gradually decrease in intensity until they are ultimately absorbed by the boundaries and obstacles within a room. As the sound waves from the sound source strike the boundaries of a room, a portion of the energy is reflected away from the obstacle while another portion is absorbed into it - thereby causing both the continuance of sound as well as the decaying or "dying out" of the sound.

The PARAMETER SELECT knob will allow you to access these REVERB parameters:

REV INPUT	The REVERB INPUT parameter determines whether the input to the Reverb section is ACTIVE (passing a signal) or MUTED (will not pass a signal).
MIX DIR/DLY	The MIX DIRECT/DELAY parameter is used to define the ratio of direct signal to delayed signal to be input to the reverb section.
REVERB LVL	The REVERB LEVEL parameter allows you to control the level of the reverb signal at the output in relation to the direct signal and other effect signals. This parameter is also accessible from the Mixer function.
REV DECAY	The REVERB DECAY parameter determines the length of time that the reverb signal will sound before it has completely died out.
REV HF DAMP	The REVERB HIGH FREQUENCY DAMPING parameter is used to control the decay rate of high frequency information in the reverb signal. Higher parameter settings will result in a faster decay of high frequency information.

7. Chameleon[®] 2000 Configurations

GAIN, CRS, DLY, REV Configuration



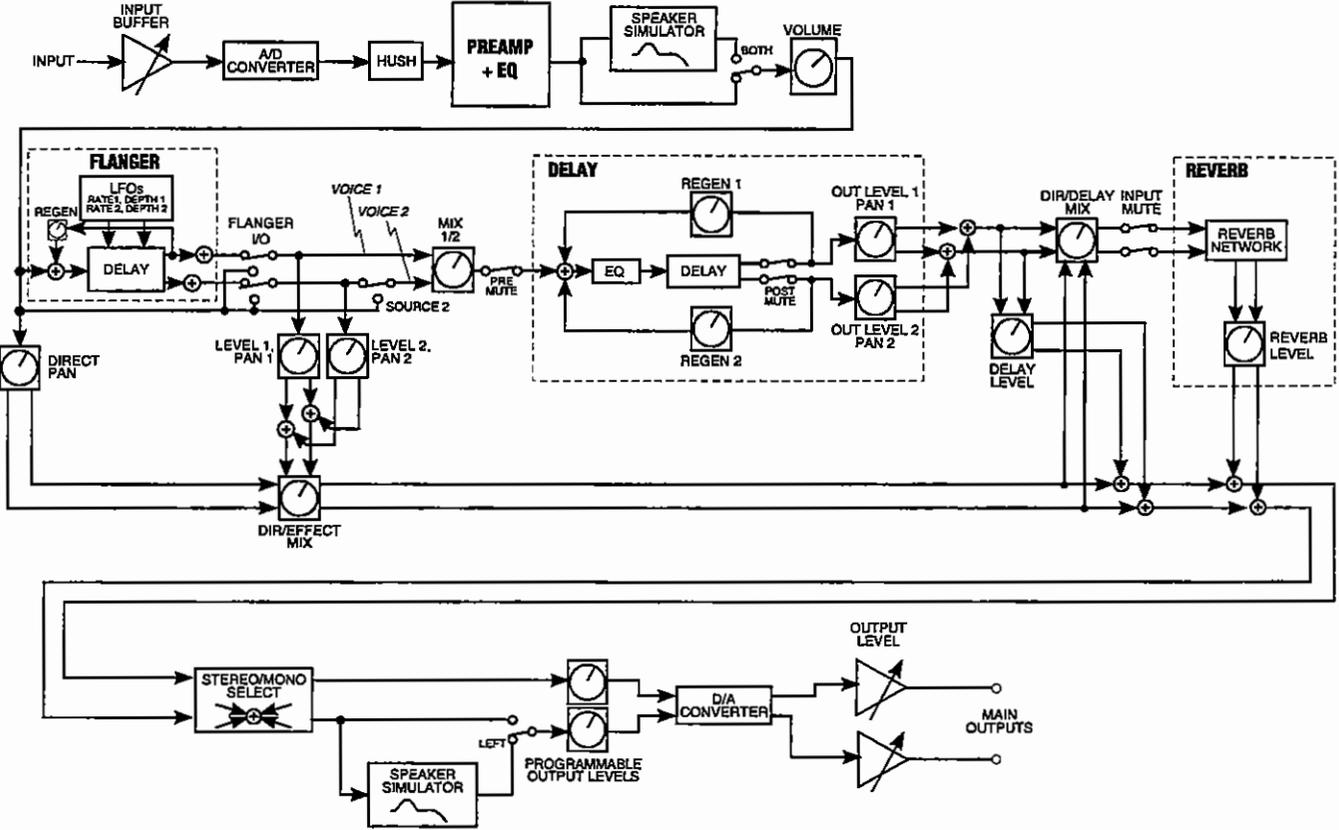
GAIN, CRS, DLY, REV Parameter List

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)
CHORUS	CHORUS (Chorus In/Out Status) LEVEL 1 (Voice 1 Level) PAN 1 (Voice 1 Panning) DEPTH 1 (Voice 1 Modulation Depth) RATE 1 (Voice 1 Modulation Rate) DELAY 1 (Voice 1 Delay Length) LEVEL 2 (Voice 2 Level) PAN 2 (Voice 2 Panning) DEPTH 2 (Voice 2 Modulation Depth) RATE 2 (Voice 2 Modulation Rate) DELAY 2 (Voice 2 Delay Length)	Out, In -∞ to 0(dB) L <0 to 100> R 0 to 100 0 to 254 2ms to 40ms -∞ to 0(dB) L <0 to 100> R 0 to 100 0 to 254 2ms to 40ms

GAIN, CRS, DLY, REV Parameter List (cont'd.)

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
DELAY	DELAY (Delay Status)	Muted, Active
	MUTE TYPE (Mute Type Status)	Pre, Post, Both
	DELAY LVL (Delay Level)	-∞ to 0(dB)
	MIX (Source 1/Source 2 Mix Level)	S1 <0 to 100> S2
	SOURCE 2 (Source 2 Select)	Dir, Voice 2
	DLY HF DAMP (Delay High Frequency Damping)	0 to 99
	OUT LEVEL 1 (Delay 1 Level)	-∞ to 0(dB)
	PAN 1 (Delay 1 Panning)	L <0 to 100> R
	DLY TIME1 (Delay 1 Length)	0 to 2000ms
	REGEN 1 (Delay 1 Regeneration)	-∞ to 0(dB)
	OUT LEVEL 2 (Delay 2 Level)	-∞ to 0(dB)
	PAN 2 (Delay 2 Panning)	L <0 to 100> R
	DLY TIME2 (Delay 2 Length)	0 to 2000ms
	REGEN 2 (Delay 2 Regeneration)	-∞ to 0(dB)
REVERB	REV INPUT (Reverb Input Status)	Muted, Active
	MIX (Direct/Delay Mix Level)	Dir <0 to 100> Dly
	REVERB LVL (Reverb Signal Level)	-∞ to 0(dB)
	REV DECAY (Reverb Decay Length)	0 to 99
	REV HF DAMP (Reverb High Frequency Damping)	0 to 99

GAIN, FLAN, DLY, REV Configuration



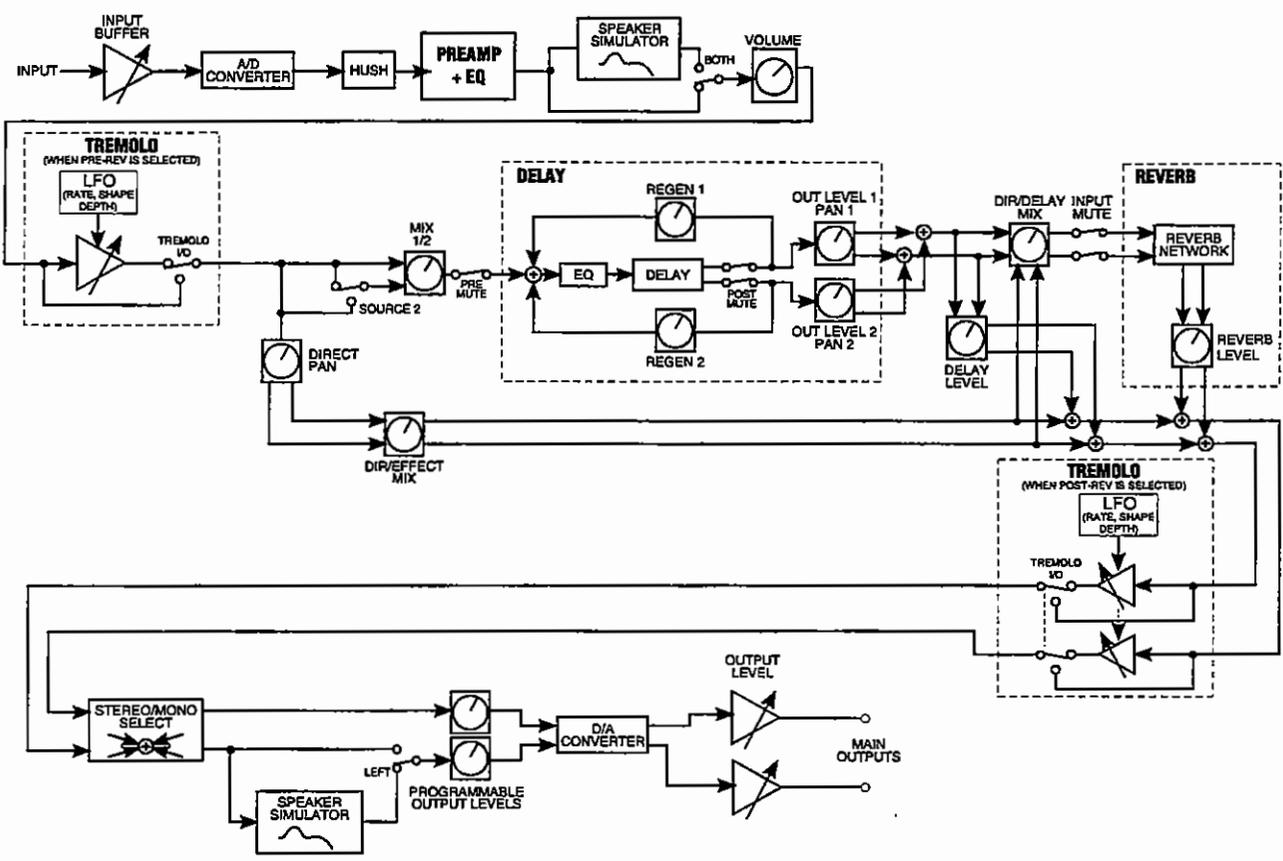
GAIN, FLAN, DLY, REV Parameter List

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)
FLANGER	FLANGER (Flanger In/Out Status) LEVEL 1 (Voice 1 Level) PAN 1 (Voice 1 Panning) DEPTH 1 (Voice 1 Modulation Depth) RATE 1 (Voice 1 Modulation Rate) LEVEL 2 (Voice 2 Level) PAN 2 (Voice 2 Panning) DEPTH 2 (Voice 2 Modulation Depth) RATE 2 (Voice 2 Modulation Rate) REGEN (Flanger Regeneration Level)	Out, In -∞ to 0(dB) L <0 to 100> R 0 to 100 0 to 254 -∞ to 0(dB) L <0 to 100> R 0 to 100 0 to 254 -∞ to 0(dB)

GAIN, FLAN, DLY, REV Parameter List (cont'd.)

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
DELAY	DELAY (Delay Status) MUTE TYPE (Mute Type Status) DELAY LVL (Delay Level) MIX (Source 1/Source 2 Mix Level) SOURCE 2 (Source 2 Select) DLY HF DAMP (Delay High Frequency Damping) OUT LEVEL 1 (Delay 1 Level) PAN 1 (Delay 1 Panning) DLY TIME1 (Delay 1 Length) REGEN 1 (Delay 1 Regeneration) OUT LEVEL 2 (Delay 2 Level) PAN 2 (Delay 2 Panning) DLY TIME2 (Delay 2 Length) REGEN 2 (Delay 2 Regeneration)	Muted, Active Pre, Post, Both -∞ to 0(dB) S1 <0 to 100> S2 Dir, Voice 2 0 to 99 -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB) -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB)
REVERB	REV INPUT (Reverb Input Status) MIX (Direct/Delay Mix Level) REVERB LVL (Reverb Signal Level) REV DECAY (Reverb Decay Length) REV HF DAMP (Reverb High Frequency Damping)	Muted, Active Dir <0 to 100> Dly -∞ to 0(dB) 0 to 99 0 to 99

GAIN, TREM, DLY, REV Configuration



GAIN, TREM, DLY, REV Parameter List

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)
TREMOLO	TREMOLO (Tremolo In/Out Status) LOCATION (Pre or Post Reverb Location) DEPTH (Modulation Depth) RATE (Modulation Rate) SHAPE (Wave Shape)	Out, In Pre-Rev, Post-Rev 0 to 100 0 to 254 Triangle, Square
DELAY	DELAY (Delay Status) MUTE TYPE (Mute Type Status) DELAY LVL (Delay Level) MIX (Source 1/Source 2 Mix Level) SOURCE 2 (Source 2 Select) DLY HF DAMP (Delay High Frequency Damping) OUT LEVEL 1 (Delay 1 Level) PAN 1 (Delay 1 Panning) DLY TIME1 (Delay 1 Length) REGEN 1 (Delay 1 Regeneration) OUT LEVEL 2 (Delay 2 Level) PAN 2 (Delay 2 Panning) DLY TIME2 (Delay 2 Length) REGEN 2 (Delay 2 Regeneration)	Muted, Active Pre, Post, Both -∞ to 0(dB) S1 <0 to 100> S2 Dir, Voice 2 0 to 99 -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB) -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB)

GAIN, TREM, DLY, REV Parameter List (cont'd.)

FUNCTION

(via FUNCTION SELECT)

PARAMETER LIST

(via PARAMETER SELECT)

RANGE

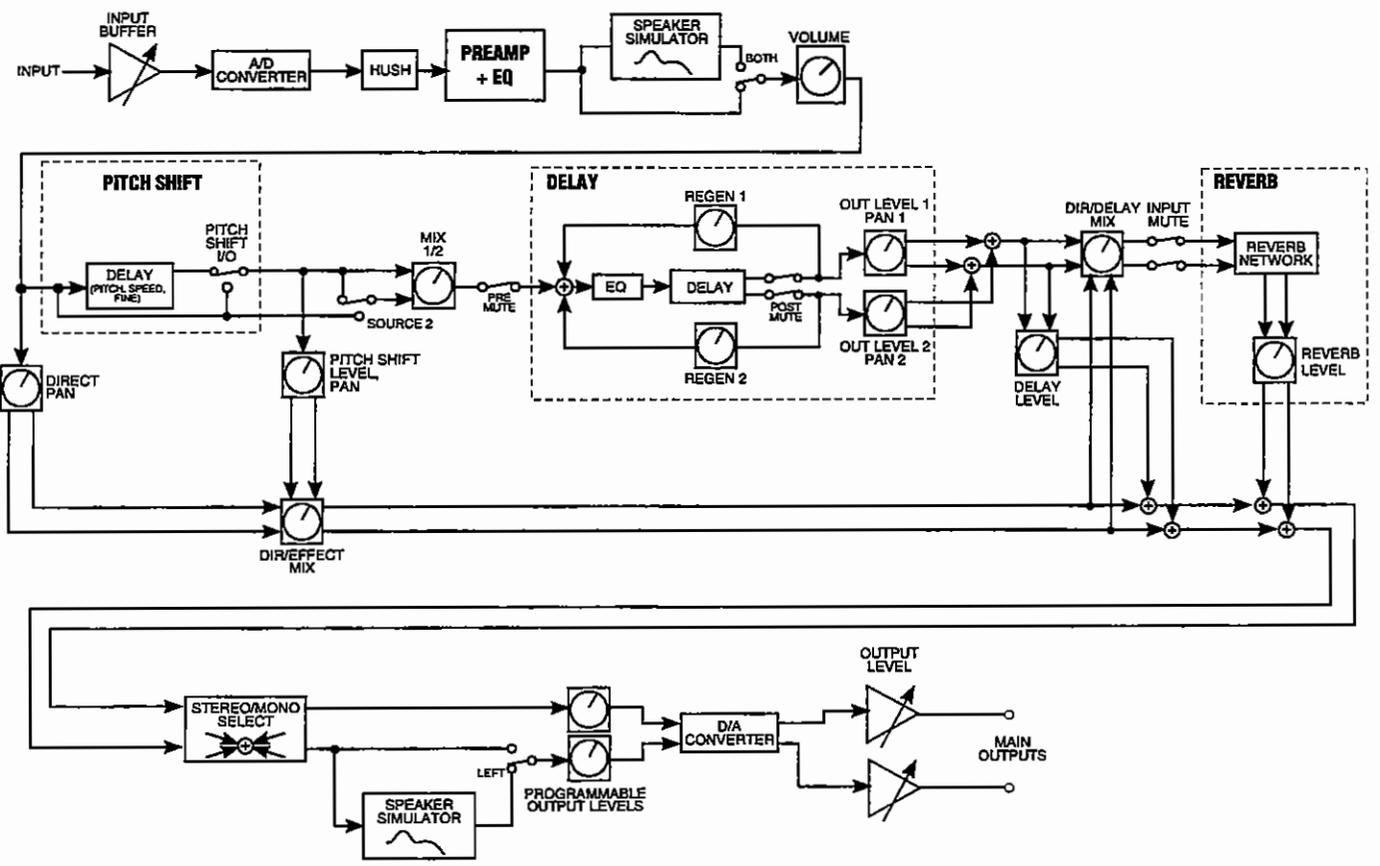
(via PARAMETER ADJUST)

REVERB

REV INPUT (Reverb Input Status)
MIX (Direct/Delay Mix Level)
REVERB LVL (Reverb Signal Level)
REV DECAY (Reverb Decay Length)
REV HF DAMP (Reverb High Frequency Damping)

Muted, Active
Dir <0 to 100> Dly
-∞ to 0(dB)
0 to 99
0 to 99

GAIN, PSHF, DLY, REV Configuration



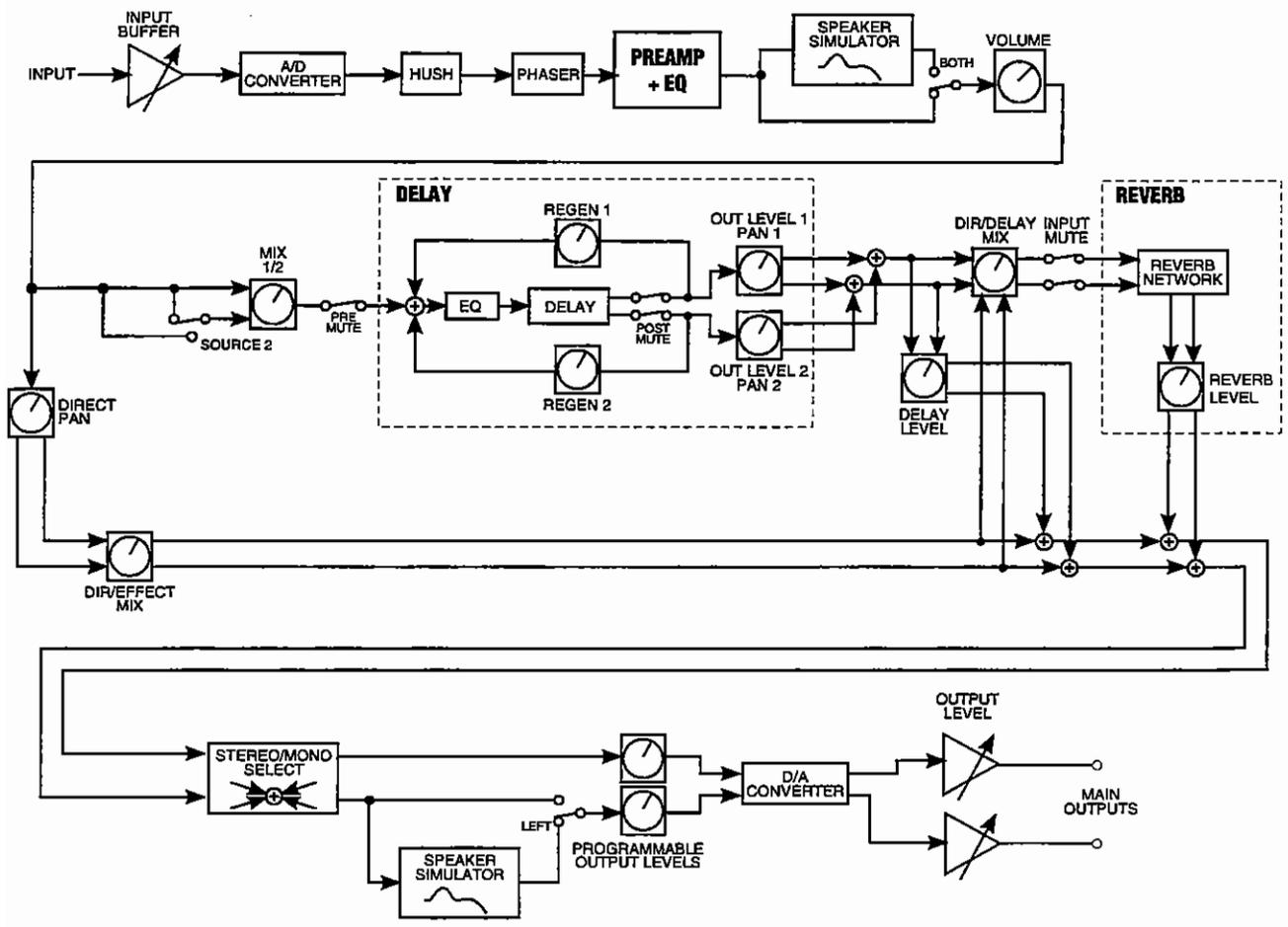
GAIN, PSHF, DLY, REV Parameter List

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)
PITCH SHIFT	PITCH SHIFT (Pitch Shift In/Out Status) LEVEL (Pitch Shift Signal Level) PAN (Pitch Shift Signal Panning) PITCH (Pitch Shift in 20-Cent Steps) FINE (Pitch Shift in 1-Cent Steps) SPEED (Pitch Shift Signal Speed)	Out, In -∞ to 0(dB) L <0 to 100> R -2400 to +1200 -20 to +20 Slow, Medium, Fast

GAIN, PSHF, DLY, REV Parameter List (cont'd.)

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
DELAY	DELAY (Delay Status) MUTE TYPE (Mute Type Status) DELAY LVL (Delay Level) MIX (Source 1/Source 2 Mix Level) SOURCE 2 (Source 2 Select) DLY HF DAMP (Delay High Frequency Damping) OUT LEVEL 1 (Delay 1 Level) PAN 1 (Delay 1 Panning) DLY TIME1 (Delay 1 Length) REGEN 1 (Delay 1 Regeneration) OUT LEVEL 2 (Delay 2 Level) PAN 2 (Delay 2 Panning) DLY TIME2 (Delay 2 Length) REGEN 2 (Delay 2 Regeneration)	Muted, Active Pre, Post, Both -∞ to 0(dB) S1 <0 to 100> S2 Dir, Voice 2 0 to 99 -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB) -∞ to 0(dB) L <0 to 100> R 0 to 2000ms -∞ to 0(dB)
REVERB	REV INPUT (Reverb Input Status) MIX (Direct/Delay Mix Level) REVERB LVL (Reverb Signal Level) REV DECAY (Reverb Decay Length) REV HF DAMP (Reverb High Frequency Damping)	Muted, Active Dir <0 to 100> Dly -∞ to 0(dB) 0 to 99 0 to 99

WAH, GAIN, DLY, REV Configuration



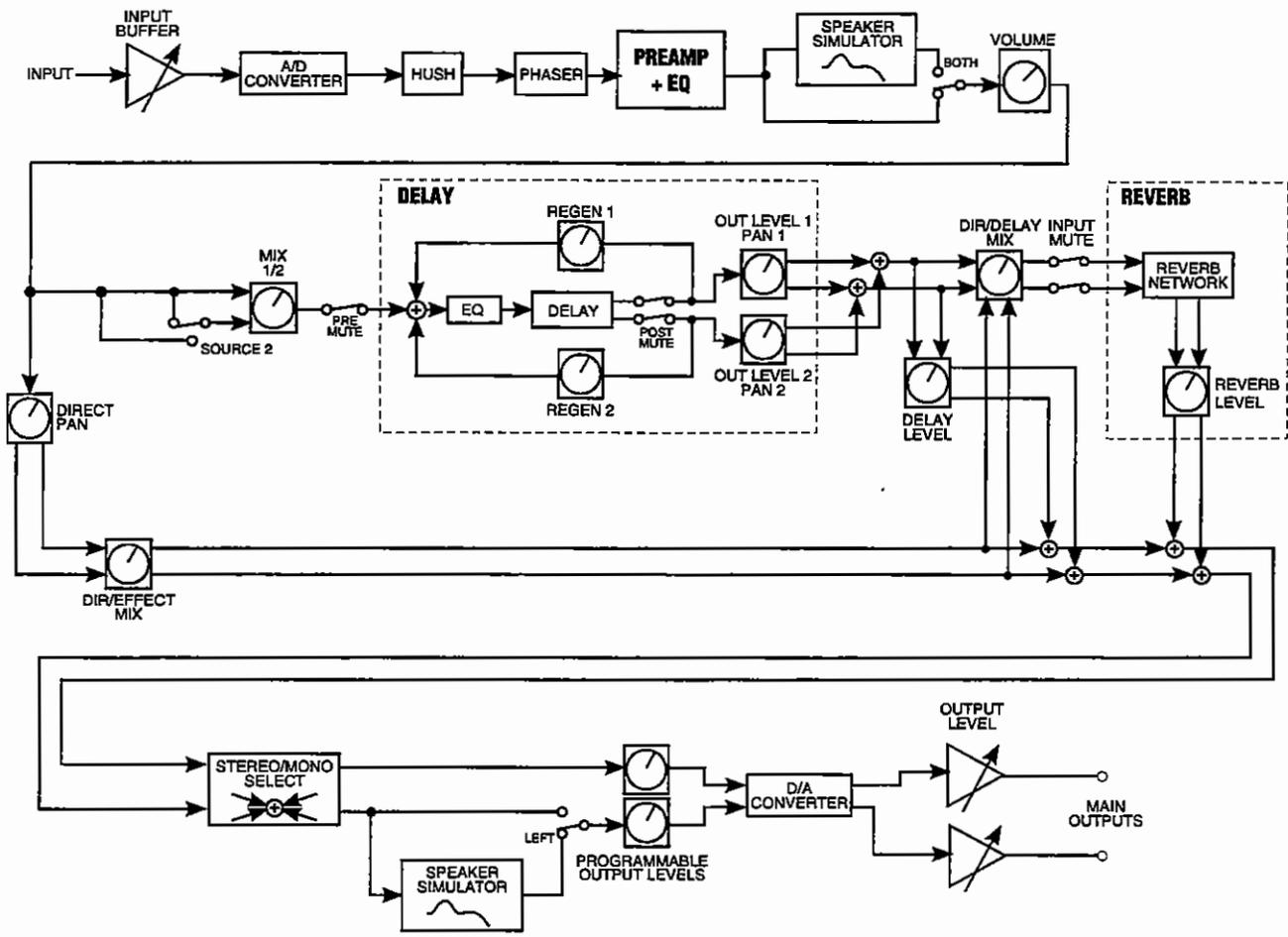
WAH, GAIN, DLY, REV Parameter List

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)
WAH-WAH	WAH-WAH (Wah-Wah In/Out Status) WAH FREQ (Wah Frequency) DIR/EFF MIX	Out, In 310Hz to 2.6kHz DIR <0 to 100> EFF

WAH, GAIN, DLY, REV Parameter List (cont'd.)

FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
DELAY	DELAY (Delay Status)	Muted, Active
	MUTE TYPE (Mute Type Status)	Pre, Post, Both
	DELAY LVL (Delay Level)	-∞ to 0(dB)
	MIX (Source 1/Source 2 Mix Level)	S1 <0 to 100> S2
	SOURCE 2 (Source 2 Select)	Dir, Voice 2
	DLY HF DAMP (Delay High Frequency Damping)	0 to 99
	OUT LEVEL 1 (Delay 1 Level)	-∞ to 0(dB)
	PAN 1 (Delay 1 Panning)	L <0 to 100> R
	DLY TIME1 (Delay 1 Length)	0 to 2000ms
	REGEN 1 (Delay 1 Regeneration)	-∞ to 0(dB)
	OUT LEVEL 2 (Delay 2 Level)	-∞ to 0(dB)
	PAN 2 (Delay 2 Panning)	L <0 to 100> R
	DLY TIME2 (Delay 2 Length)	0 to 2000ms
REGEN 2 (Delay 2 Regeneration)	-∞ to 0(dB)	
REVERB	REV INPUT (Reverb Input Status)	Muted, Active
	MIX (Direct/Delay Mix Level)	Dir <0 to 100> Dly
	REVERB LVL (Reverb Signal Level)	-∞ to 0(dB)
	REV DECAY (Reverb Decay Length)	0 to 99
	REV HF DAMP (Reverb High Frequency Damping)	0 to 99

PHAS, GAIN, DLY, REV Configuration



PHAS, GAIN, DLY, REV Parameter List

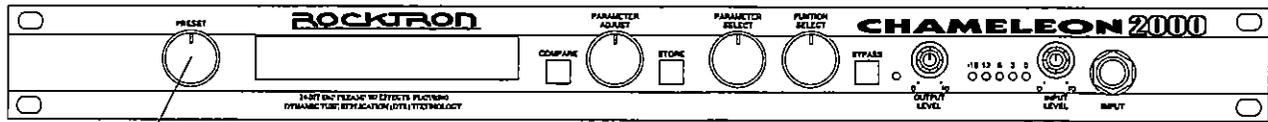
FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
GLOBAL	OUTPUT (Output Level) SPKR SIM (Speaker Simulator Lock) HUSH OFFSET MUTE	Stereo, Mono Unlock, Lock Off, Lock L, Lock B -10(dB) to +30(dB) ON, OFF
MIXER	VOLUME (Volume Level) LEFT OUT LVL (Left Channel Output Level) RIGHT OUT LVL (Right Channel Output Level) MIX (Direct/Effect Mix Level) DIR PAN (Direct Signal Panning) DELAY LVL (Delay Signal Level) REVERB LVL (Reverb Signal Level)	0 to 127 -∞ to +12(dB) -∞ to +12(dB) DIR <0 to 100> EFF L <0 to 100> R -∞ to 0(dB) -∞ to 0(dB)
PREAMP	CHANNEL GAIN (Gain Level) VARIAC ADJUST (Variac Level Adjustment) BASS (Bass Level) MID (Midband Level) TREBLE (Treble Level) PRESENCE (Presence Level) BRIGHT SCOOP MASTER	Clean, Texas, British, Mega 0 to 10 -6(dB) to 0(dB) 0 to 10 0 to 10 0 to 10 0 to 10 Out, In (Clean Channel Only) Out, In (MEGA Channel Only) 0 to 10
HUSH	HUSH (Hush In/Out) EXP THRESH (Expander Threshold Level)	Out, In -90(dB) to -27(dB)
SPEAKER SIM	SPKR SIM (Speaker Simulator Status) SPKR TYPE (Speaker Type) MIC POSITION (Microphone Position) REACTANCE (Reactance Level)	Off, Left, Both 15, 12, 10, 8, Full -15(dB) to +15(dB) -15(dB) to +15(dB)

PHAS, H-GAIN, DLY, REV Parameter List (cont'd.)

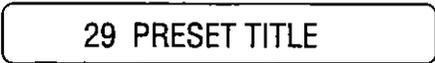
FUNCTION <small>(via FUNCTION SELECT)</small>	PARAMETER LIST <small>(via PARAMETER SELECT)</small>	RANGE <small>(via PARAMETER ADJUST)</small>
PHASER	PHASER (Phaser In/Out Status)	Out, In
	DEPTH (Amount of Modulation)	0 to 100
	RATE (Rate of Modulation)	0 to 254
	RESONANCE (Amount of Feedback)	0 to 100
	STAGES (Number of Stages)	4, 6
	DIR/EFF MIX	DIR <0 to 100> EFF
DELAY	DELAY (Delay Status)	Muted, Active
	MUTE TYPE (Mute Type Status)	Pre, Post, Both
	DELAY LVL (Delay Level)	-∞ to 0(dB)
	MIX (Source 1/Source 2 Mix Level)	S1 <0 to 100> S2
	SOURCE 2 (Source 2 Select)	Dir, Voice 2
	DLY HF DAMP (Delay High Frequency Damping)	0 to 99
	OUT LEVEL 1 (Delay 1 Level)	-∞ to 0(dB)
	PAN 1 (Delay 1 Panning)	L <0 to 100> R
	DLY TIME1 (Delay 1 Length)	0 to 2000ms
	REGEN 1 (Delay 1 Regeneration)	-∞ to 0(dB)
	OUT LEVEL 2 (Delay 2 Level)	-∞ to 0(dB)
	PAN 2 (Delay 2 Panning)	L <0 to 100> R
	DLY TIME2 (Delay 2 Length)	0 to 2000ms
REGEN 2 (Delay 2 Regeneration)	-∞ to 0(dB)	
REVERB	REV INPUT (Reverb Input Status)	Muted, Active
	MIX (Direct/Delay Mix Level)	Dir <0 to 100> Dly
	REVERB LVL (Reverb Signal Level)	-∞ to 0(dB)
	REV DECAY (Reverb Decay Length)	0 to 99
	REV HF DAMP (Reverb High Frequency Damping)	0 to 99

8. Operating the Chameleon® 2000

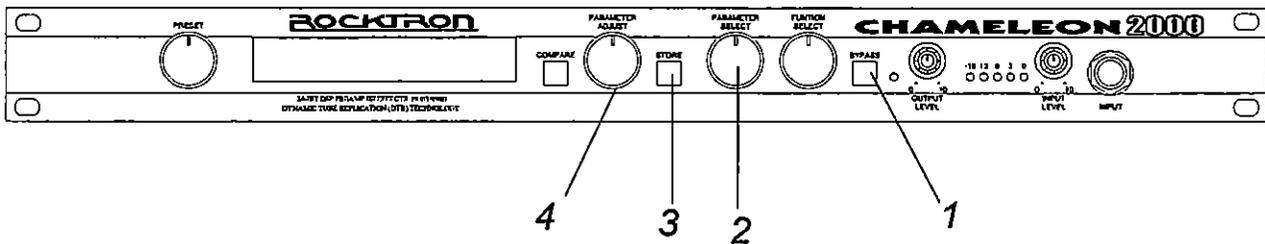
Selecting a preset:



Step 1 Turn the PRESET knob to the desired preset you wish to recall. The display will show the selected preset number.



Changing preset parameters:



Step 1 Turn the FUNCTION SELECT knob to select the function heading which contains the parameter(s) you wish to change.



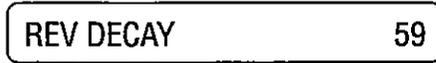
Step 2 Turn the PARAMETER SELECT knob to the specific parameter you wish to change.



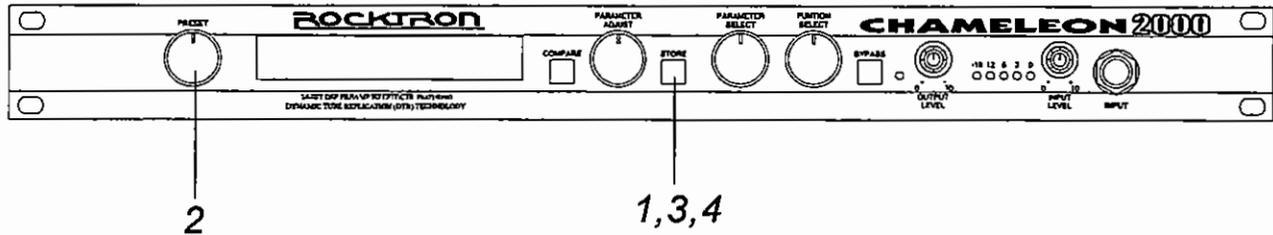
Step 3 Turn the PARAMETER ADJUST knob to alter the parameter value.



Step 4 The COMPARE button may now be pressed to compare the sound of the stored parameter value to the sound of the altered parameter value.



Storing changed preset parameters:



- Step 1** While viewing a function or parameter title, press the STORE button to start the store procedure. The display will now alternate between the destination preset number and title and "STORE AT PRESET".



- Step 2** Turn the PRESET knob to select the desired preset number to store the new parameter values into. (If you wish to store the new parameter values into the current preset number, this step is not necessary.) The display will now alternate between the new preset number and "STORE AT PRESET".



- Step 3** Press the STORE button a second time to store the new values into the selected preset number. The display will briefly flash "STORED" before displaying the new preset number and title. (Turning the PARAMETER ADJUST knob before completing this step will cancel the store procedure.)



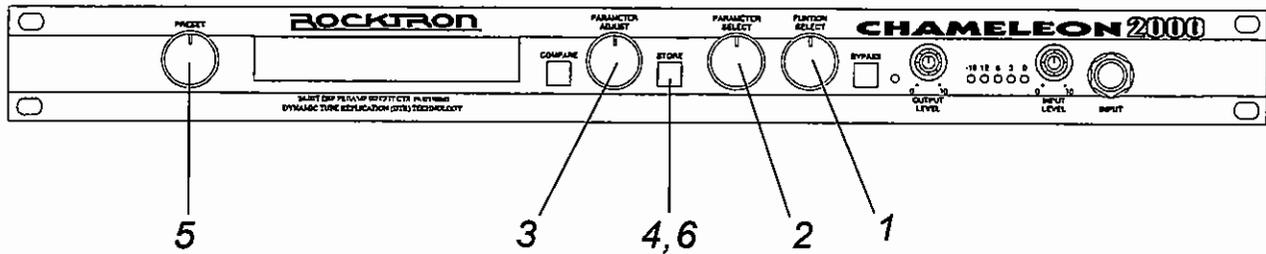
NOTE: If a preset with altered parameters is exited before completing Step 3, all edited parameter values will be lost. When saving altered parameters, make sure the display flashed "STORED" before exiting the store procedure.

- Step 4** After the parameter values have been stored, the Chameleon® 2000 will display "COPY TITLE TOO?". This message is displayed only when storing into a new preset number and allows you to copy the title from the altered preset into the new preset location. To copy the title from the altered preset, press the STORE button a third time and the display will again flash "STORED".



NOTE: If you do not wish to copy the title from the altered preset, skip Step 4 and turn the PRESET or FUNCTION SELECT knob to exit the store procedure.

Selecting a configuration:



- Step 1** To select a new configuration, turn the FUNCTION SELECT knob clockwise until the Chameleon® 2000 displays "CONFIG SELECT".

CONFIG SELECT

- Step 2** Turn the PARAMETER SELECT knob clockwise to display the current configuration.

GAIN,CRS,DLY,REV

- Step 3** Use the PARAMETER ADJUST control to select the desired configuration.

WAH,GAIN,DLY,REV

Note: The new configuration will not take effect until it is stored.

- Step 4** Press the STORE button to initiate the store procedure. The Chameleon® 2000 display will alternate between the current preset number/title and "STORE AT PRESET".

29 PRESET TITLE



STORE AT PRESET

- Step 5** Turn the PRESET knob to select the preset you wish to store the new configuration into. (If you want to store the selected configuration into the current preset, skip this step.)

86 PRESET TITLE



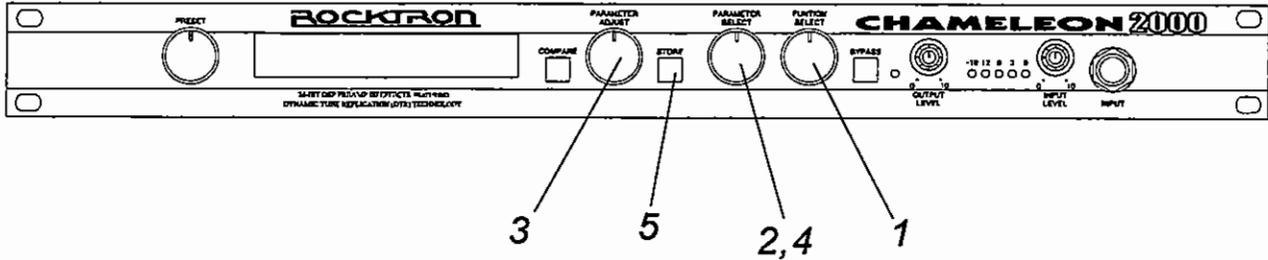
STORE AT PRESET

- Step 6** Press the STORE button a second time to store the selected configuration into the selected preset. The Chameleon® 2000 will display "STORED" briefly.

STORED

When a new configuration is stored into a preset, each of the parameters contained in the new configuration that were contained in the previous configuration will retain the same values. All new configuration parameters that were not contained in the old configuration will be set to their default value (or their lowest value).

Editing a preset title:



- Step 1** To begin the Title Edit function, turn the FUNCTION SELECT knob clockwise until the Chameleon® 2000 displays "TITLE EDIT".

** TITLE EDIT **

- Step 2** Turn the PARAMETER SELECT knob clockwise to initiate the Title Edit mode. Turning this knob will also select the character location to be edited. A flashing decimal will follow the character currently selected.

57 P.RESET TITLE

(Flashing decimal)

- Step 3** Use the PARAMETER ADJUST knob to select the desired character for the current position (flashing decimal).

57 M.RESET TITLE

- Step 4** To edit the character in the next position, turn the PARAMETER SELECT knob one step clockwise. The flashing decimal will move to the next character.

57 MR.ESET TITLE

(Flashing decimal)

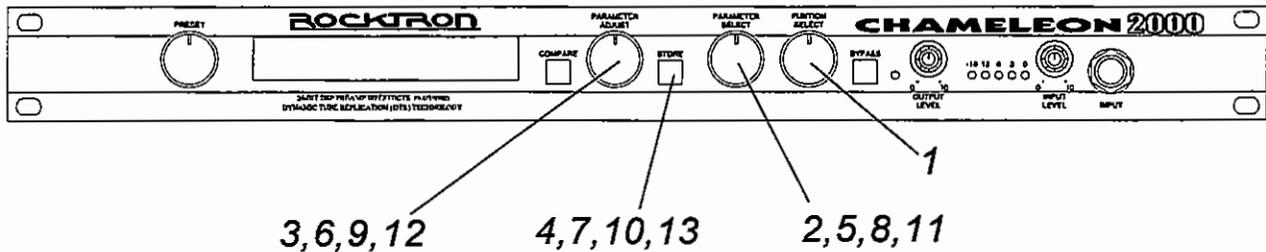
- Step 5** After all the characters have been edited as needed, press the STORE button to save the new title memory. The Chameleon® 2000 will flash "STORED" briefly.

STORED

NOTE: The STORE button must be pressed to save the new title. Exiting the Title Edit function before pressing the STORE button will erase any editing that was done in Title Edit. Also, after flashing "STORED", the Chameleon® 2000 will remain in the Title Edit mode. You may either (a) turn the PRESET control to display and edit other preset titles without exiting and reentering Title Edit, or (b) turn the FUNCTION SELECT control to exit the Title Edit mode.

Controller Assignments

The Controller Assignment function allows for specific Chameleon® 2000 adjustable parameters to be mapped (or assigned) to a MIDI controller for real-time control by an expression pedal. The Controller Assignment option also lets you store an upper and lower parameter value limit which the controller cannot exceed. For example, when using an expression pedal to send continuous control changes to control the "PITCH" parameter, an upper limit of +300 can be set and a lower limit of -200 can be set — even though the actual parameter range is from +1200 to -2400. When the expression pedal is at its heel position in this example, the "PITCH" parameter will be at -200, while at its toe position it will be at +300. Up to eight controllers can be assigned for each individual preset.



Step 1 To access the Controller Assign function, turn the FUNCTION SELECT knob clockwise to "CONTROLLER ASSIG".

CONTROLLER ASSIG

Step 2 Turn the PARAMETER SELECT knob for the first parameter of the Controller Assign function. This parameter allows you to select a controller number for the NUMB 1 parameter to respond to.

NUMB 1 XXX

NOTE: This parameter (NUMB 1 only) also gives you the option of selecting "ADJ". When "ADJ" is selected, the parameter assigned to the first controller (PARA 1) can be instantly accessed by turning the PARAMETER ADJUST knob when the preset title is displayed. This allows you to access a parameter that you adjust frequently without paging through function headings and parameters.

Step 3 Use the PARAMETER ADJUST knob to select the controller number to be assigned to the PARA 1 parameter. Any number from 0 to 120 may be selected, as well as OFF (will not respond to MIDI control changes). Match the number selected for this parameter with the controller number on the MIDI transmitter.

NUMB 1 7

Step 4 After selecting the desired controller number, press the STORE button to save the number for the NUMB 1 parameter. "STORED" will flash briefly on the display.

STORED

Step 5 Turn the PARAMETER SELECT knob one step clockwise to display the parameter that is currently mapped to the NUMB 1 control number.

PARA1 OUTPUT

Step 6 Turn the PARAMETER ADJUST knob to scroll through the available parameters for the current configuration.

PARA1 REVERB LVL

Step 7 After selecting the parameter that you wish to assign to a controller, press the STORE button to save it. The Chameleon® 2000 will flash "STORED" briefly.

STORED

NOTE: The Chameleon® 2000 allows you to select an upper and lower value limit which the parameter cannot exceed. For example, if a parameter has a value range from $-\infty$ to 0dB, yet you would like the range of the parameter to vary from only -12dB to -2dB, you may set a lower limit of -12 and an upper limit of -2 via the Upper and Lower Limit parameters. When a parameter is stored in the Controller Assign function (Step 7), the maximum parameter value is automatically stored as the upper limit, while the minimum value is stored as the lower limit.

Step 8 Turn the PARAMETER SELECT knob one step clockwise to display the Upper Limit parameter (for PARA 1).

ULIM C1 XXX

Step 9 Use the PARAMETER ADJUST knob to choose the highest value that the parameter is not to exceed through MIDI control changes.

ULIM C1 -2

Step 10 After selecting a value for the upper limit, press the STORE button to save it. "STORED" will flash briefly on the display.

STORED

Step 11 Turn the PARAMETER SELECT knob one step clockwise to access the Lower Limit parameter (for PARA 1).

LLIM C1 $-\infty$

Step 12 Use the PARAMETER ADJUST knob to select the lowest value which the parameter is not to fall below through MIDI control changes.

LLIM C1 -12

Step 13 After selecting a value for the lower limit, press the STORE button to save it. "STORED" will flash briefly on the display.

STORED

Selecting a lower limit value that is greater than the upper limit value will invert the response of the controller - i.e. the toe position of the expression controller will provide the minimum value, while the heel position will provide the maximum value.

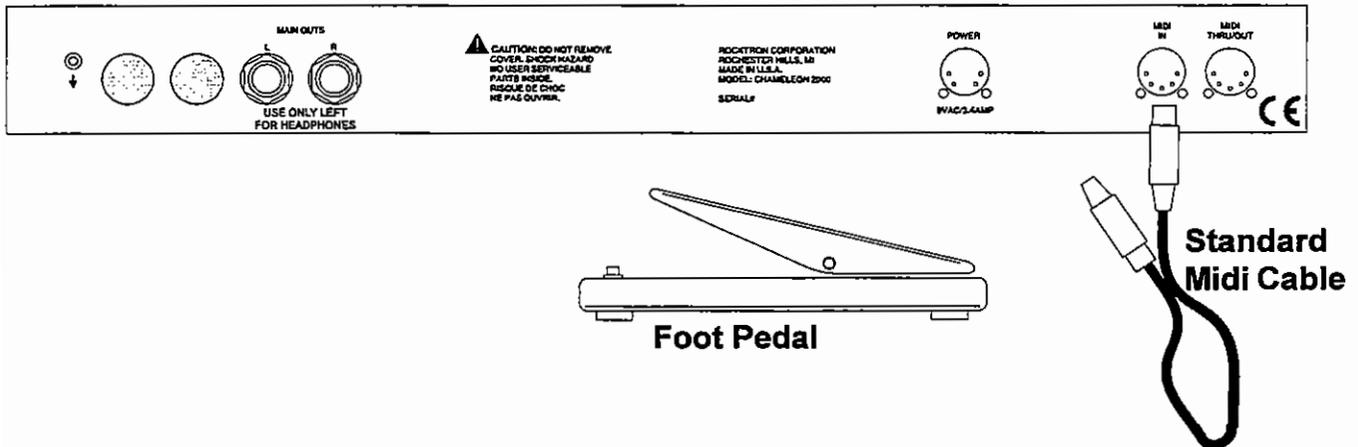
NOTE: Steps 1-13 are repeated seven times for a total of eight controllers. To exit Controller Assign at any time, turn either the PRESET or FUNCTION SELECT knob. Only changes that have been stored will be saved after exiting the Controller Assign function.

MIDI Volume

The MIDI Volume is for use with an expression pedal and a MIDI controller (such as a Rocktron MIDI Mate®). By setting the RUN STAT parameter to ON, the Chameleon® 2000 will track the position of a connected pedal and vary the preset volume accordingly. The MIDI VOLUME parameter displays the current preset volume as determined by the pedal position.

NOTE: When the RUN STAT parameter is set to OFF, the Chameleon® 2000 will ignore any incoming volume changes from the pedal.

Chameleon® 2000 Rear Panel



Step 1 Connect an expression pedal/MIDI controller to the MIDI IN jack of the Chameleon® 2000.

Step 2 Turn the FUNCTION SELECT knob clockwise until MIDI VOLUME is displayed.

MIDI VOLUME

Step 3 Turn the PARAMETER SELECT knob one step clockwise to the RUN STAT parameter.

RUN STAT

OFF

Step 4 Turn the PARAMETER ADJUST knob to select ON for the RUN STAT parameter.

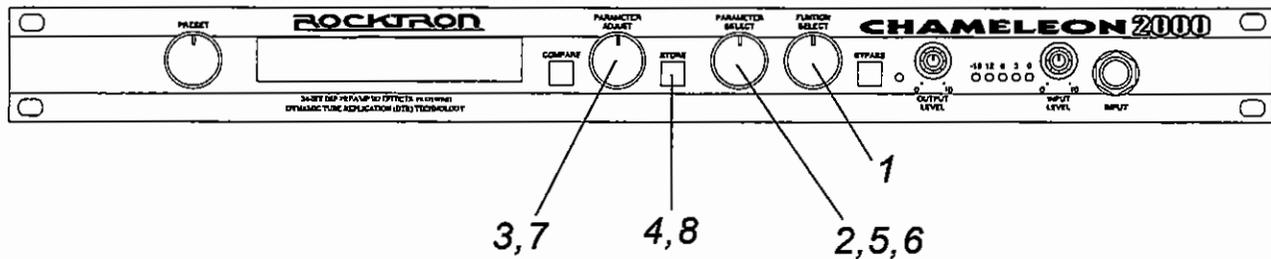
RUN STAT

ON

Program Changes

Program Changes allow for different MIDI program numbers to be assigned to Chameleon® 2000 preset numbers. For example, MIDI program #58 can be mapped to Chameleon® 2000 preset #34. Then, when program #58 is selected from a MIDI transmitting device, preset #34 will be recalled on the Chameleon® 2000.

The Program Changes Map table is shipped from Rocktron at a one-to-one correspondence (i.e. MIDI program #1 is mapped to Chameleon® 2000 preset #1, 2 to 2, 3 to 3, etc.).



- Step 1** To access MIDI Program Mapping, turn the FUNCTION SELECT knob clockwise until the Chameleon displays "PROGRAM CHANGES".

PROGRAM CHANGES

- Step 2** Turn the PARAMETER SELECT knob one step clockwise to display the current Program Change On/Map/Off status.

PROG CHANGES ON

PROGRAM CHANGES STATUS OPTIONS

ON - Execute MIDI program changes as received by a MIDI controller

MAP - Use mapping table when a program change is received

OFF - Do not execute MIDI program changes

- Step 3** Turn the PARAMETER ADJUST knob to select the desired Program Changes status setting.

PROG CHANGES MAP

- Step 4** Press the STORE button to save the status selection. "STORED" will flash briefly on the display.

STORED

Step 5 Turn the PARAMETER SELECT knob one step clockwise to display the current Program Changes mapping assignments.

MAP XXX TO XXX

Step 6 The number on the left of the display is the MIDI program number (or the number sent via a MIDI footswitch or other MIDI transmitter). Turn the PARAMETER SELECT control to select the MIDI program number to map to a preset.

MAP 58 TO 58

MIDI Program Number

Step 7 The number on the right of the display is the preset number to map to (or the preset number that will be recalled when the MIDI program number on the left is received). Turn the PARAMETER ADJUST knob to select the preset number to map to.

MAP 58 TO 58

Chameleon® 2000 Preset Number

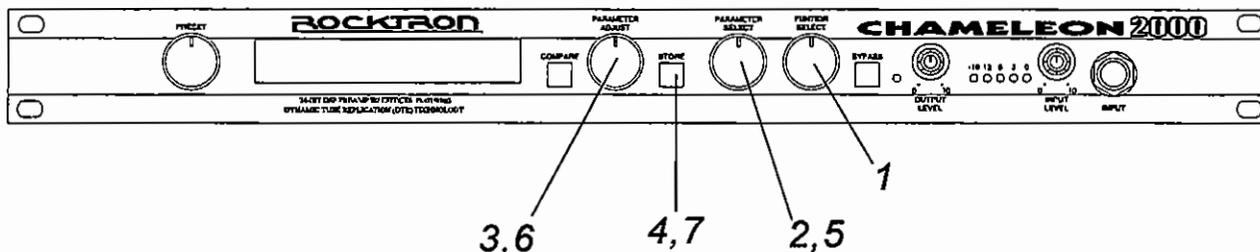
** The preset number to map to can also be set to "OFF"—
thereby not responding to that program change command.*

Step 8 After selecting both the MIDI program number and the preset number, press the STORE button to save the change for each altered mapping. "STORED" will flash briefly on the display.

STORED

MIDI Channels

The Chameleon® 2000 can receive MIDI commands from other MIDI transmitting devices, as well as transmit MIDI program changes to other MIDI-based equipment when a preset is recalled on the Chameleon® 2000 via the front panel RECALL button. The MIDI Channels function allows you to select the MIDI channels that the Chameleon® 2000 will receive and transmit MIDI information on.



Step 1 Turn the FUNCTION SELECT knob clockwise until the Chameleon® 2000 displays "MIDI CHANNELS".

MIDI CHANNELS

Step 2 Turn the PARAMETER SELECT knob one step clockwise to display the current MIDI Receive channel.

RECEV CHANL 1

Step 3 Turn the PARAMETER ADJUST knob to select the desired MIDI channel. You may select channels 1-16, OMNI (all channels) or OFF (will not receive MIDI commands).

RECEV CHANL OMNI

Step 4 Press the STORE button to save the new MIDI Receive channel. "STORED" will flash briefly on the display.

STORED

Step 5 Turn the PARAMETER SELECT knob one step further to access the MIDI Transmit Channel status.

TRANS CHANL OFF

Step 6 Turn the PARAMETER ADJUST knob to select the channel that the Chameleon® 2000 will transmit a MIDI program change on. You may select channels 1-16 or OFF (will not transmit a MIDI program change).

TRANS CHANL 1

Step 7 Press the STORE button to save the new MIDI Transmit channel. "STORED" will flash briefly on the display.

STORED

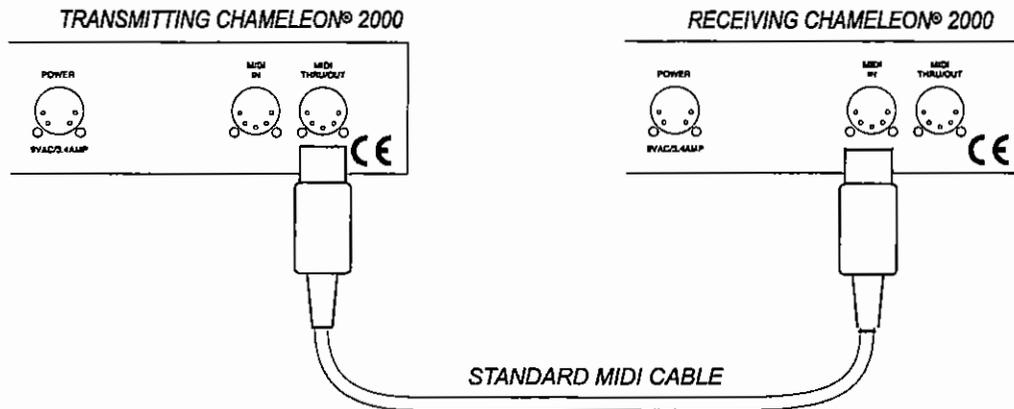
MIDI Dump/Load

Any or all of the Chameleon® 2000 presets may be dumped to a sequencer or another Chameleon® 2000 via system exclusive messages. The information exchanged when performing a MIDI Dump consists of parameter values, title characters and controller assignment/limit information. When dumping a single preset into another Chameleon® 2000, the dumped preset may be loaded into any preset location on the receiving Chameleon® 2000.

To dump a single Chameleon® 2000 preset into another Chameleon® 2000:

- Step 1** Connect a standard MIDI cable from the MIDI OUT of the transmitting Chameleon® 2000 to the MIDI IN on the receiving Chameleon® 2000.

IMPORTANT: Do not allow a looping connection from the MIDI OUT/THRU of the receiving Chameleon® 2000 back to the MIDI IN of the transmitting Chameleon® 2000.



- Step 2** Turn the FUNCTION SELECT knob on both the transmitting and receiving Chameleon® 2000s until "MIDI DUMP/LOAD" is displayed on each.

MIDI DUMP/LOAD

MIDI DUMP/LOAD

- Step 3** Turn the PARAMETER SELECT knob on each unit one step clockwise to "PR DUMP/LOAD".

1 PR DUMP/LOAD

1 PR DUMP/LOAD

Step 4 Turn the PRESET knob on the transmitting Chameleon® 2000 to the preset that is to be dumped into the receiving Chameleon® 2000. As the PRESET knob is turned, the preset number will be displayed in the first three characters of the display.

32 PR DUMP/LOAD

Step 5 Use the PRESET knob on the receiving Chameleon® 2000 to select the preset location to store the received preset. The preset currently stored at the selected location will be lost when the new preset is received, therefore caution should be used when selecting a preset location.

122 PR DUMP/LOAD

Step 6 To initiate the dump, press the STORE button on the transmitting Chameleon® 2000. The transmitting Chameleon® 2000 will display the preset number being dumped and "DUMPED". The receiving Chameleon® 2000 will display the preset location being stored to and "RECEIVING..." while it receives and stores the preset parameters and title.

32 DUMPED

122 RECEIVEING...

After all the information for the dumped preset is stored, the receiving Chameleon® 2000 will display "LOADED". The receiving Chameleon® 2000 also recalls the loaded preset at this time so that it may be verified.

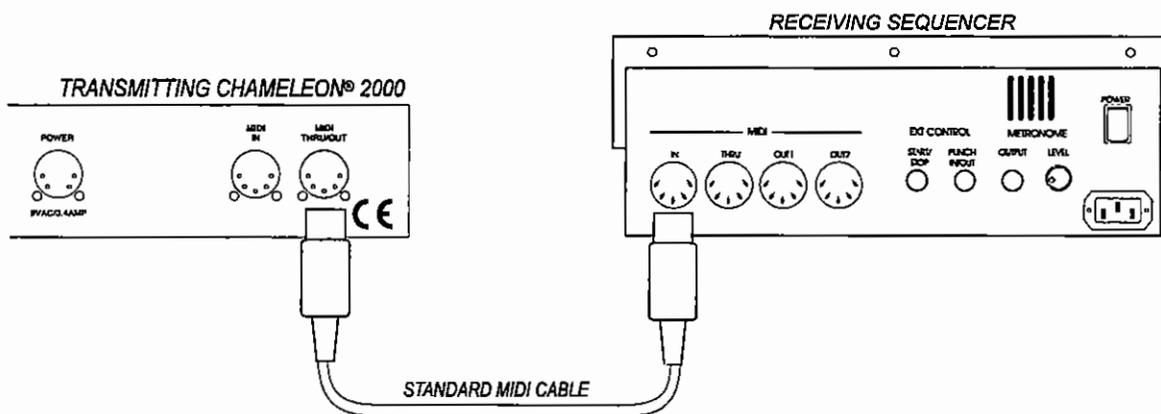
32 LOADED

NOTE: *If there is an error in transmission, the unit will display "RECEIVE ERROR". Should this occur, check connections and try again. If other errors occur, check the Error Messages chart in the Appendix.*

To dump the Chameleon® 2000 memory into a sequencer:

Step 1 Connect a standard MIDI cable from the MIDI OUT of the transmitting Chameleon® 2000 to the MIDI IN on the receiving sequencer.

IMPORTANT: Do not allow a looping connection from the MIDI OUT/THRU of the receiving Chameleon® 2000 back to the MIDI IN of the transmitting Chameleon® 2000.



Step 2 Turn the FUNCTION SELECT knob on the transmitting Chameleon® 2000 until "MIDI DUMP/LOAD" is displayed.

MIDI DUMP/LOAD

Step 3 Turn the PARAMETER SELECT knob on the transmitting Chameleon® 2000 until "BULK DUMP/LOAD" is displayed.

BULK DUMP/LOAD

Step 4 Start the sequencer recording.

RECORD

Step 5 Press the STORE button on the Chameleon® 2000 to initiate the data dump. As the Chameleon® 2000 performs the dump, it will display "XXX DUMPED" - where "XXX" = the number of the data string currently transmitting (i.e. strings 1-254 are presets, titles, controller information and 2-tap delay information; string 255 contains program mapping information; and string 256 contains miscellaneous information).

XXX DUMPED

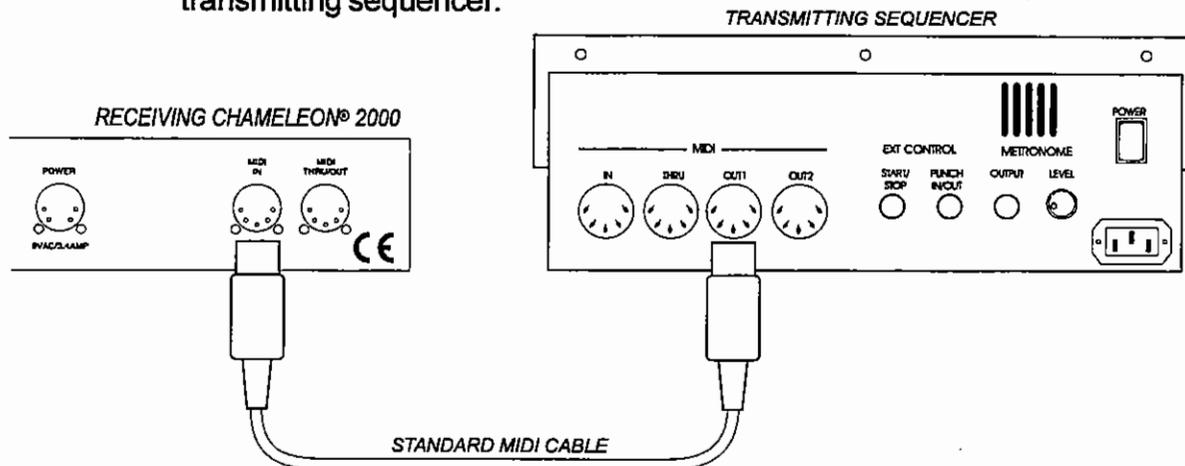
Step 6 After the Chameleon® 2000 displays "TRANS COMPLETE", stop the sequencer. The sequencer should have recorded all of the data that was dumped from the Chameleon® 2000. Keep this data stored on a disk in a safe place. Turn the PARAMETER SELECT knob to continue.

STOP

To reload user data from a sequencer:

Step 1 Connect a standard MIDI cable from the MIDI OUT of the transmitting sequencer to the MIDI IN on the receiving Chameleon® 2000.

IMPORTANT: Do not allow a looping connection from the MIDI OUT/THRU of the receiving Chameleon® 2000 back to the MIDI IN of the transmitting sequencer.



Step 2 Turn the FUNCTION SELECT knob on both the receiving Chameleon® 2000 until "MIDI DUMP/LOAD" is displayed.

MIDI DUMP/LOAD

Step 3 Turn the PARAMETER SELECT knob on the receiving Chameleon® 2000 until "BULK DUMP/LOAD" is displayed.

BULK DUMP/LOAD

Step 4 Play back the data stored on the sequencer. The Chameleon® 2000 will display the data strings as it is storing them. Each data string will appear with the word "LOADED". After all the user data has been loaded, the Chameleon® 2000 will display "LOAD COMPLETE". Do not play back the data from the sequencer faster than it was loaded, as errors may occur (errors may also occur if any knob is turned or any button is pressed before the message "LOAD COMPLETE" appears).

LOAD COMPLETE

NOTES: If errors occur during transmission, the unit will display "RECEIVE ERROR" for transmission errors and "XMEM ERROR" for internal hardware errors. Errors occurring in transmission do not indicate that all of the received data is corrupted. Only the transmission string where the error occurred is corrupted.

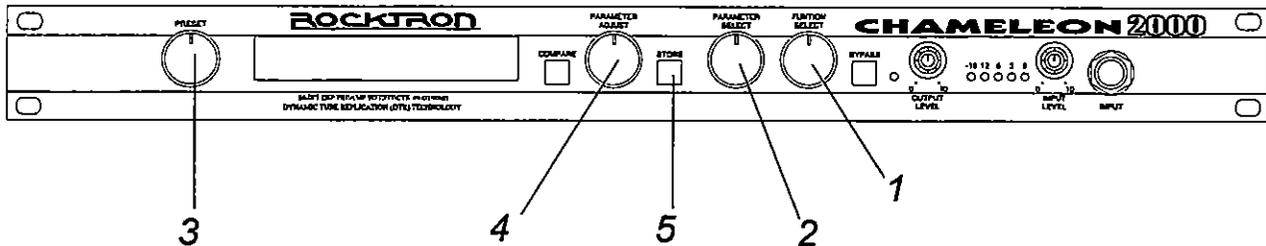
When receiving a Bulk Load, it is important that the data loaded to the Chameleon® 2000 is not transmitted faster than it was originally dumped from the Chameleon® 2000. If information is sent too fast to the Chameleon® 2000, an error will occur.

When dumping information from a data storage device, such as an Alesis Data Disk, it is necessary to perform the dump in sequence mode rather than sysx mode. Sequence mode will dump the information back to the Chameleon® 2000 at the same rate as it was received from the Chameleon® 2000. The Chameleon® 2000 can receive a data dump at about 65Hz (or about 1 byte every 15 milliseconds).

Factory Restore

The Factory Restore function allows you to restore altered Chameleon® 2000 presets to their original condition as shipped from the factory. Either the entire Chameleon® 2000 memory can be restored, a single preset can be restored to any preset location, or the controller information alone can be restored.

Restoring a single factory preset:



Step 1 Turn the FUNCTION SELECT knob clockwise to "FACTORY RESTORE".

FACTORY RESTORE

Step 2 Turn the PARAMETER SELECT knob one step clockwise to "RESTR 1 TO 1". The number on the left is the original factory preset number to be restored. The number on the right is the preset location that the preset will be stored into.

RESTR 1 TO 1

Factory preset
to be restored

Preset location
to store into

Step 3 Turn the PRESET knob to select the factory preset to be restored.

RESTR 98 TO 1

Step 4 Turn the PARAMETER ADJUST knob to select the preset location to store the restored preset into.

RESTR 98 TO 22

!! CAUTION !!

Pressing the STORE button at this time will overwrite the current preset with the displayed factory preset.

Step 5 Press the STORE button to begin restoring the selected preset into the selected location. After the process is completed, the display should read "ERRORS 0". This represents the number of bytes that the Chameleon® 2000 found did not initialize properly. Any number of errors other than "0" means that the Chameleon® 2000 may not have initialized properly and the process should be repeated.

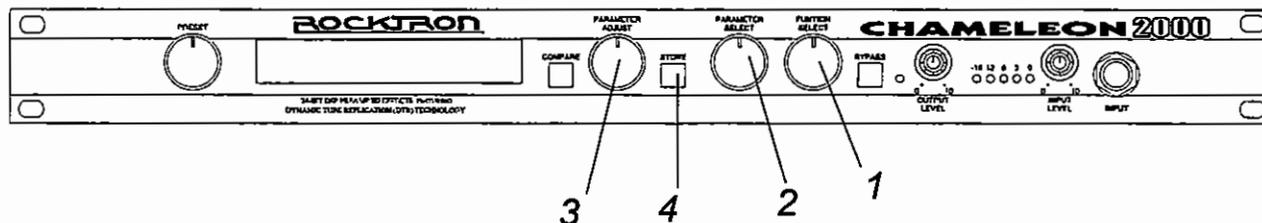
ERRORS 0

The Chameleon® 2000 will remain in this condition until the FUNCTION SELECT knob is turned to exit the Factory Restore function. The preset currently recalled will be the preset most recently restored into the current location.

Restoring all factory presets

!! CAUTION !!

This procedure will permanently erase all user presets (1-254) and replace them with the original factory presets. If you have altered and stored presets which you do not want to erase, do not perform the following procedure.



Step 1 Turn the FUNCTION SELECT knob clockwise to "FACTORY RESTORE".

FACTORY RESTORE

Step 2 Turn the PARAMETER SELECT knob 2 steps clockwise to "ALL RESTORE 0".

ALL RESTORE 0

Step 3 A specific code number must be entered to restore the Chameleon® 2000 memory. Use the PARAMETER ADJUST knob to enter the number "243".

ALL RESTORE 243

!! WARNING !!

Pressing the STORE button at this time will permanently erase all user presets and replace them with the original factory presets. If you have altered and stored presets which you do not want to erase, turn the FUNCTION SELECT control to exit this function.

Step 4 Press the STORE button at this time to initiate the All Restore procedure and erase all current Chameleon® 2000 presets, replacing them with the original factory presets. The Chameleon® 2000 will display "INITIALIZING" as the Chameleon® 2000 memory is restored.

INITIALIZING

After the All Restore process is completed, the display should read "ERRORS 0". This is the number of bytes that the Chameleon® 2000 found that did not initialize properly. Any number of errors other than "0" means that the Chameleon® 2000 may not have initialized properly and the process should be



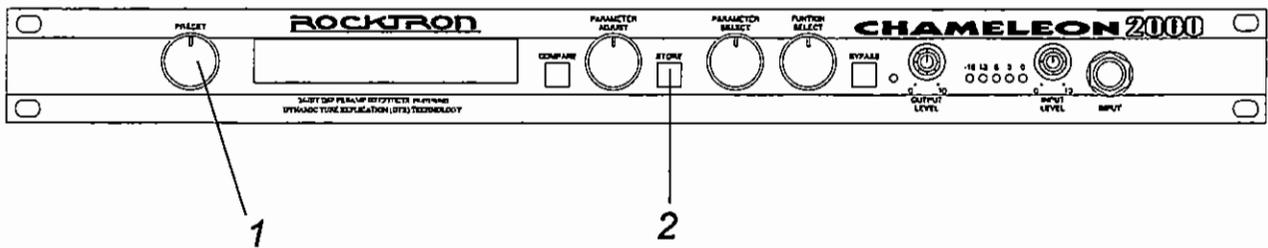
The Chameleon® 2000 will remain in this condition until the FUNCTION SELECT control is turned to exit the Factory Restore function. The preset currently recalled will be the preset most recently restored into the current location.

Restoring the Chameleon® 2000 controller assignments:

The controller assignments for the Chameleon® 2000 can also be reinitialized without affecting presets and other stored information. To reinitialize only the controller assignments, enter the code number "244" at Step 3 above.

Selecting a Power on Preset:

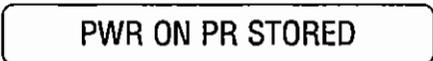
The Chameleon 2000® allows you to store a Power On preset which will always be recalled when the unit is turned on.



Step 1 Turn the PRESET knob to the preset number you wish to be recalled each time the unit is turned on.



Step 2 Press the STORE button while viewing the preset number and title to save it as the Power On preset.



9. Appendix

Error Messages

Message	Possible Reason	Corrective Action
EXT MEMORY ERROR	CODE BYTE IS NOT CORRECT IN EEPROM MEMORY.	MAKE SURE WITHIN CORRECT OPERATING TEMPERATURE. DO FACTORY RESTORE.
DUMP ERROR	MIDI INFORMATION IS BEING RECEIVED AT THE MIDI IN AT THE SAME TIME INFORMATION IS BEING DUMPED.	DISCONNECT MIDI CORD AT MIDI IN OF TRANSMITTING UNIT.
RECEIVE ERROR	MIDI SYSTEM EXCLUSIVE INFORMATION WAS NOT RECEIVED CORRECTLY.	BULK LOAD WAS TRANSMITTED TOO FAST. CHECK SUM BYTE WAS NOT CORRECT. DATA STRINGS NOT CORRECT LENGTH. DATA STRINGS OUT OF ORDER.
XMEM ERROR	EEPROM MEMORY IS NOT BEING STORED TO CORRECTLY.	MAKE SURE EEPROM IS TIGHT IN THE SOCKET. MAKE SURE WITHIN THE CORRECT OPERATING TEMPERATURE.
LOAD ERRORS	MIDI SYSTEM EXCLUSIVE INFORMATION WAS NOT RECEIVED CORRECTLY OR STORED CORRECTLY.	CHECK RECEIVE ERROR AND XMEM ERROR.

MIDI Implementation

Chameleon® 2000

Date: January 20, 1999

Version 1.0

	<u>FUNCTION</u>	<u>TRANSMITTED</u>	<u>RECOGNIZED</u>	<u>REMARKS</u>
BASIC CHANNEL	DEFAULT	1-16	1-16	May be saved in non-volatile memory
	CHANGED	1-16	1-16	
MODE	DEFAULT	X	X	
	MESSAGES	X	X	
	ALTERED	X	X	
NOTE NUMBER	TRUE VOICE	X	X	
VELOCITY	NOTE ON	X	X	
	NOTE OFF	X	X	
AFTER TOUCH	KEY'S	X	X	
	CHANNEL	X	X	
PITCH BEND		X	X	
CONTROL CHANGE**		X	O	
PROGRAM CHANGE*	TRUE NUMBER	O	O	
SYSTEM EXCLUSIVE		O	O	For Bulk Dump/Load and Preset Dump/Load
SYSTEM COMMON	SONG POSITION	X	X	
	SONG SELECT	X	X	
	TRUE REQUEST	X	X	
SYSTEM REAL TIME	CLOCK	X	X	
	COMMANDS	X	X	
AUXILIARY MESSAGES	LOCAL ON/OFF	X	X	
	ALL NOTES OFF	X	X	
	ACTIVE SENSING	X	X	
	SYSTEM RESET	X	X	

O=YES

X=NO

* Actual MIDI program value sent is 0-253, corresponding to presets 1-254.

** The control number may be from 0-120, or OFF. An upper and lower range may also be specified for most parameters.

Specifications

Input Impedance	<i>470 kΩ</i>
Maximum Input Level	<i>+10 dBu</i>
Input Jack	<i>¼" mono</i>
Output Impedance	<i>< 150Ω</i>
Maximum Output Level	<i>+20 dBu</i>
Output Jacks	<i>¼" Left and Right. Left jack can drive stereo headphones of 600Ω or more.</i>
MIDI In	<i>5-pin DIN</i>
MIDI Thru/Out	<i>5-pin DIN</i>
Power Requirements	<i>9VAC / 3.4A</i>
Dimensions	<i>19" x 7" x 1¾"</i>



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