## CHAPTER 5

## Description of Controls

Front Panel

## LCD Display

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


The MidiVerb 4's display is divided into 5 sections:
(1) Program Number. MidiVerb 4 Programs are numbered from 00 to 127. In this example the Program selected is number 01.
(2) Bank. The MidiVerb 4 has two Banks of 128 Programs: the Preset Bank and User Bank. The display will either say "PRESET" or "USER", depending on the current Bank. In this example we are in the Preset Bank.
(3) Program Name. Each Program has its own eight character name. This one is called Lrg Hall. The 128 User Programs can be renamed; the 128 Preset Programs are pre-programmed at the factory and cannot be renamed.
(4) Configuration. This tells us which effects are used by this Program, the order in which our input signal(s) will pass through them, and whether this is a Stereo or Dual Configuration (more about Configurations in Chapter 3). The Configuration for this Program is called CONCERT HALL.
(5) Level Meters. These peak style meters monitor the signal strength of the unprocessed inputs, and are used in much the same
way as the level meters on a standard tape recorder. The meters shown in this example are idle, indicating that there is no input signal activity. Normally, these are labeled as "L" and "R". However, when the selected Program uses a Dual type Configuration (two mono effects), these will be labeled as "CH1" and "CH2". For more information on Dual Configurations, see Chapter 3.

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

(1) Page Numbers. Depending on the Configuration, there will be up to four pages available in Edit mode. In this example, only three pages are available.
(2) Selected Page. The currently selected page will be indicated by a box around its number. In this example, page 1 is currently selected. Each time you press the [EDIT/PAGE] button, the display will advance to the next page.
(3) Parameter Name Strip. Each page in Edit mode contains up to four parameters. whose names will appear at the top of the display, above their value settings.
(4) Parameter Values and Bar Graphs. Each parameter in the selected page is shown with both a numerical value and a bargraph. As you adjust a parameter, both its numerical value and bargraph will change in relation to the [VALUE] knob's position. The type of units a parameter uses will be shown as well ( $\mathrm{dB}, \mathrm{mSec}, \mathrm{kHz}$, etc.).
(5) $\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}$ and EDITED Indicators. Each parameter in the selected page is designated by a letter (A, B, C or D), which indicates which button ([A], [B], [C] or $[\mathrm{D}]$ ) should be pressed to select the desired parameter for editing. Once a parameter has been edited, the word "EDITED" will appear below it.

## BYPASS LED Indicator

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

## VALUE Knob

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

## PROGram Button

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

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

## EDIT/PAGE Button

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

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

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

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

The [A], [B], [C] and [D] buttons also serve another function. When in Store mode ([STORE] button flashing), the [A], [B], [C] and [D] buttons are used to change the Program's name. Pressing [A/NAME] moves the cursor in the display to the first
character of the Program's name. The [C/<] and [D/>] buttons move the cursor left and right, respectively, through the eight character fields of the Program's name. To move the cursor back to the Program location number, press [B/ESC].

## UTILity Button

When the [UTIL] button is pressed, it will light and the display will be showing the last selected page. There are a total of 6 Utility pages, as indicated by the numbers 1 through 6 appearing in the lower-left corner of the display. You can advance through each page by pressing the [EDIT/PAGE] button. The currently selected page number will have a box around it. The Utility pages provide various functions which are not stored with the Effects Programs. These include:
Page 1: Footswitch and Dry Defeat. The Footswitch parameter selects the rear-panel [FOOTSWITCH] jack's mode. This can be set to one of three functions: to advance the Program number, to toggle Bypass mode on and off, or to control the delay time of a Delay effect using a technique called "tap tempo". Press the $[\mathrm{B}]$ button select the Footswitch parameter, and turn the [VALUE] knob to choose between Adv (Advance mode), bYP (Bypass mode) or ctL (Control mode). When set to Control mode, the footswitch can be used with tap tempo in two ways: 1) you can repeatedly press the footswitch down using a tempo you wish the delay time to match; or 2) you can hold down the footswitch and use the audio connected to the MidiVerb 4's input(s) to trigger the tap tempo function. Also, when Control mode is selected and the Lezlie effect is used, the footswitch toggles the Speed parameter between slow and fast. For more about tap tempo, see Chapter 3. For more about using a footswitch, see Chapter 2.

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

## Foostwitch Dry Defeat

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

## Dual Programs: Cascade

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

## MIDI: Chan Thru PChg

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

## Mod\#X AmpX Mod\#Y AmpY

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

## Program Tbl: MIDI User

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

## Program Tbl: MIDI Pset

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

## Send MIDI Sysex: All

## STORE Button

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

To store an edited Program:
(1) Press [STORE].

The [STORE] button will flash, and the display will read:

## Store as XXX (nnnnnnnn)?

...whereas XXX is a Program location number from 00-127 in the User bank, and nnnnnnnn is the Program's name.
(2) Use the [VALUE] knob to select which location (00-127) you wish to store the selected Program into.
You can only store Programs into the User bank. If you select a Program from the Preset bank and store it, you will automatically be taken into the User bank.
(3) If desired, change the Program's name.

See the section on the " $A / B / C / D$ Buttons", earlier in this chapter.
(4) Press [STORE] again.

The [STORE] button's LED will momentarily flash quickly, while the display reads:

## Program nnnnnnnn Stored!

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

## INPUT and OUTPUT Buttons

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

- If the currently selected Program uses a Stereo Configuration, you will be able to adjust both channels simultaneously, as indicated by the fact that only one parameter (STEREO) appears in the display.
- If the currently selected Program uses a Dual Configuration, the Ch. 1 and Ch. 2 levels can be adjusted separately, as indicated by the fact that two parameters ( Ch 1 and Ch 2 ) appear in the display. The currently selected channel's value will flash in the display. To select Ch. 1, press the [C] button. To select Ch. 2, press the [D] button.


## Auto Level

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

- To cancel the Auto Level function once it has been engaged, press any button on the front panel.
- To extend the Auto Level's listening time beyond the normal five second period, hold down the footswitch pedal (connected to the [FOOTSWITCH] jack) during the listening process. The Auto Level function will continue listening until the footswitch pedal is released.


## POWER Switch

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

## Rear Panel

## Power

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

## Bypass/Advance Footswitch

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

- When set to the Bypass function and the footswitch is pressed, the signal will bypass the effects chain allowing an instant comparison between the dry and wet signal. The red [BYPASS] LED on the front panel will illuminate.
- When set to the Advance function and the footswitch is pressed, the currently selected program number is advanced by one. When 127 is reached it will rollover to 00 .

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

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

## MIDI In

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

## MIDI Out/Thru

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

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

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

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

## Output (Left/Ch. 18 Right/Ch.2)

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

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

## Effect Parameters

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

| Configuration | Pg | A | B | C | D |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CONCERT HALL | 1 | Decay $!97-135^{\circ}$ | $\begin{aligned} & \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { PDly } \\ & 000-175 ® \end{aligned}$ | $\begin{aligned} & \hline \text { PMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 2 | Dens 000-100å | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 a ̊ \end{aligned}$ | LDamp $\text { OFF, } 059 f-3^{\wedge} 2 \partial$ | HDamp $059 f-3^{\wedge} 2 \partial$, OFF |
|  | 3 |  | $\begin{aligned} & \text { Gate } \\ & \text { OFF, 001-100å } \end{aligned}$ | Hold 000-500© | $\begin{aligned} & \text { Rel } \\ & 000-500 ® \end{aligned}$ |
|  | 4 |  | $\begin{aligned} & \hline \text { Swirl } \\ & 00-99 \end{aligned}$ |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |
| REAL ROOM | 1 | Decay $!00-7 \% 8^{\circ}$ | LPF <br> 059f-3^2д, OFF | $\begin{aligned} & \text { PDly } \\ & 000-250 ؟ \end{aligned}$ | $\begin{aligned} & \hline \text { PMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { Dens } \\ & 000-100 \text { å } \end{aligned}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ | $\begin{aligned} & \text { LDamp } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \end{aligned}$ | HDamp 059f-3^2д, OFF |
|  | 3 |  | $\begin{aligned} & \text { Gate } \\ & \text { OFF, 001-100å } \end{aligned}$ | Hold $000-500 \odot$ | $\begin{aligned} & \hline \text { Rel } \\ & 000-500 @ \end{aligned}$ |
|  | 4 |  | $\begin{aligned} & \text { Swirl } \\ & 00-99 \end{aligned}$ |  | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |
| AMBIENCE | 1 | Decay $650 @-2!2^{\circ}$ | $\begin{aligned} & \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { PDly } \\ & 000-250 \odot \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { PMx } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 2 | $\begin{array}{\|l\|} \hline \text { Dens } \\ 000-100 \text { à } \\ \hline \end{array}$ | $\begin{aligned} & \text { Diff } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { LDamp } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \end{aligned}$ | HDamp 059f-3^2д, OFF |
|  | 3 |  | $\begin{aligned} & \text { Gate } \\ & \text { OFF, 001-100a } \end{aligned}$ | Hold $000-500 ®$ | $\begin{aligned} & \text { Rel } \\ & 000-500 @ \end{aligned}$ |
|  | 4 |  | $\begin{aligned} & \hline \text { Swirl } \\ & 00-99 \end{aligned}$ |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |

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| PLATE REVERB | 1 | Decay $!59-6!2$ | LPF $059 f-3^{\wedge} 2 \partial, \text { OFF }$ | $\begin{aligned} & \hline \text { PDly } \\ & 000-75 ؟ \end{aligned}$ | $\begin{aligned} & \hline \text { PMx } \\ & 000-100 a ̊ \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | Dens 000-100å | $\begin{array}{\|l} \hline \text { Diff } \\ 000-100 a ̊ \\ \hline \end{array}$ | LDamp OFF, 059f-3^2д | HDamp $059 f-3^{\wedge} 2 \partial, O F F$ |
|  | 3 |  | Gate OFF, 001-100å | Hold $000-500 ®$ | $\begin{aligned} & \text { Rel } \\ & 000-500 @ \end{aligned}$ |
|  | 4 |  | $\begin{array}{l\|} \hline \text { Swirl } \\ 00-99 \\ \hline \end{array}$ |  | $\begin{aligned} & \text { Mix } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ |
| NONLINEAR | 1 | Time $100-600 ®$ | LPF <br> 059f-3^2д, OFF | $\begin{aligned} & \hline \text { PDly } \\ & 000-250 ؟ \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { PMx } \\ & 000-100 a ̊ \end{aligned}$ |
|  | 2 | Dir <br> For, rEv | Dens 000-100å | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ |
| MONO DELAY | 1 | Tap --- | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-12 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 \mathrm{a} \end{aligned}$ | $\begin{aligned} & \hline \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |
| STEREO DELAY | 1 | L: Tap | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-5 \end{aligned}$ | $\begin{aligned} & 10 \mathrm{~ms} \\ & 0-9 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { R: Tap } \\ & \hline--- \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline 100 \mathrm{~ms} \\ 0-5 \\ \hline \end{array}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 3 |  | $\begin{array}{\|l\|} \hline \text { LFdbk } \\ 00-99 a ̊ \end{array}$ |  | $\begin{aligned} & \hline \text { RFdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 4 |  | LoCut $\text { OFF, } 059 f-3^{\wedge} 2 \partial$ | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ |
| $\begin{aligned} & \hline \text { PING PONG } \\ & \text { DELAY } \end{aligned}$ | 1 | Tap | $\begin{array}{\|l\|} \hline 100 \mathrm{~ms} \\ 0-5 \\ \hline \end{array}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 \mathrm{a} \end{aligned}$ | LoCut OFF, 059f-3^2д | $\begin{aligned} & \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |


| MULTI TAP DELAY | 1 | $\begin{aligned} & \text { Time } 1 \\ & 000-250 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Lvl } 1 \\ 00-99 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { Pan 1 } \\ -50-50 \\ \hline \end{array}$ | $\begin{aligned} & \text { Fdbk 1 } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | $\begin{aligned} & \text { Time } 2 \\ & 000-250 \end{aligned}$ | $\begin{aligned} & \text { Lvl } 2 \\ & 00-99 \end{aligned}$ | $\begin{aligned} & \hline \text { Pan 2 } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } 2 \\ & 00-99 a ̊ \end{aligned}$ |
|  | 3 | $\begin{aligned} & \text { Time 3 } \\ & 000-250 \end{aligned}$ | $\begin{aligned} & \hline \text { Lvl } 3 \\ & 00-99 \end{aligned}$ | $\begin{array}{\|l} \hline \operatorname{Pan} 3 \\ -50-50 \end{array}$ | Fdbk 3 00-99å |
|  | 4 | $\begin{aligned} & \text { MFdbk } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { HiCut } \\ 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ \hline \end{array}$ | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |
| BPM MONO DELAY | 1 |  | Tempo <br> EcL, 050-250 | $\begin{array}{\|l\|} \hline \text { Note } \\ 4-32 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 |  | $\begin{aligned} & \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ |
| DELAY:DELAY | 1 | Tap | $\begin{array}{\|l\|} \hline 100 \mathrm{~ms} \\ 0-5 \end{array}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \text { å } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 3 | Tap | $\begin{array}{\|l} \hline 100 \mathrm{~ms} \\ 0-5 \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline 10 \mathrm{~ms} \\ 0-9 \\ \hline \end{array}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 4 | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ 00-99 \mathrm{a} \end{array}$ | $\begin{aligned} & \hline \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { HiCut } \\ 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
| STEREO <br> CHORUS | 1 |  | Rate $) 0 f-(9 f$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 |  | $\begin{array}{\|l\|} \hline \text { LPDly } \\ 000-255 ® \\ \hline \end{array}$ | $\begin{array}{\|l\|} \hline \text { RPDly } \\ 000-255 ® \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
| QUAD CHORUS | 1 |  | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-255 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{aligned} & \text { PDly 1 } \\ & 000-255 \bigcirc \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { PDly } 2 \\ & 000-255 ® \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { PDly } 3 \\ 000-255 © \\ \hline \end{array}$ | $\begin{aligned} & \text { PDly } 4 \\ & 000-255 @ \end{aligned}$ |
|  | 3 |  |  |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
| CHORUS: <br> CHORUS | 1 | $\begin{aligned} & \text { Rate } \\ & \text { ) } 0 f \text { - } 9 \mathrm{f} \end{aligned}$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ 00-99 \mathrm{a} \\ \hline \end{array}$ | $\begin{aligned} & \text { PDly } \\ & 000-255 @ \\ & \hline \end{aligned}$ |
|  | 2 |  | Wave Sin, tri |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 3 | Rate $) 0 f-(9 f$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \end{aligned}$ | Fdbk $00-99 \mathrm{a}$ | $\begin{aligned} & \hline \text { PDly } \\ & 000-255 \text { © } \\ & \hline \end{aligned}$ |
|  | 4 |  | Wave Sin, tri |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |


| STEREO <br> FLANGE | 1 | Rate $\text { ) } 0 f \text {-(9f }$ | $\begin{aligned} & \text { Depth } \\ & 000-250 \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & -99-99 a ̊ \end{aligned}$ | $\begin{aligned} & \text { Thru0 } \\ & \text { OFF, On } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | Trig 0fffffffFF, L, r, Lr | Attck $000-255$ | $\begin{aligned} & \text { Rel } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |
| FLANGE: FLANGE | 1 | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \text { Depth } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & -99-99 a ̊ \\ & \hline \end{aligned}$ | Wave Sin, tri |
|  | 2 | Trig 0ffffffffF, L, r, Lr | Attck $000-255$ | Thru0 OFF, On | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |
|  | 3 | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \text { Depth } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ \text {-99-99å } \\ \hline \end{array}$ | Wave Sin, tri |
|  | 4 | Trig 0fffffffFF, L, r, Lr | Attck 000-255 | Thru0 OFF, On | Mix 000-100å |
| LEZLIE\}ROOM | 1 | Motor <br> OFF, On | Speed SLo, FSt | $\begin{aligned} & \hline \text { HiRot } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 2 | Decay $946 \bigcirc-4 \# 4{ }^{\circ}$ | $\begin{aligned} & \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Dens } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Diff } \\ & 000-100 \text { à } \end{aligned}$ |
|  | 3 | $\begin{array}{\|l\|} \hline \text { Gate } \\ \text { OFF, 001-100å } \\ \hline \end{array}$ | Hold $000-500 ®$ | $\begin{aligned} & \text { Rel } \\ & 000-500 ® \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { RMix } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ |
| STEREOPITCHSH FT | 1 | $\begin{array}{\|l} \hline \text { SemiL } \\ -12-12 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FineL } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline \text { SemiR } \\ -12-12 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { FineR } \\ & -50-50 \end{aligned}$ |
|  | 2 | $\begin{array}{\|l} \hline \text { PDlyL } \\ 000-250 @ \\ \hline \end{array}$ | FdbkL $00-99 a ̊$ | $\begin{array}{\|l} \hline \text { PDlyR } \\ 000-250 @ \\ \hline \end{array}$ | $\begin{aligned} & \text { FdbkR } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{array}{\|l\|} \hline \text { LvlL } \\ 00-99 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { PanL } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { LvlR } \\ 00-99 \\ \hline \end{array}$ | $\begin{aligned} & \text { PanR } \\ & -50-50 \\ & \hline \end{aligned}$ |
|  | 4 |  | $\begin{aligned} & \hline \text { LoCut } \\ & \text { OFF, 059f-3^2д } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |
| PITCH:PITCH | 1 | $\begin{array}{\|l\|} \hline \text { Semi } \\ -12-12 \\ \hline \end{array}$ | $\begin{aligned} & \text { Fine } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { PDly } \\ & 000-250 ® \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 |  | LoCut OFF, 059f-3^2д | HiCut 059f-3^2д, OFF | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{aligned} & \hline \text { Semi } \\ & -12-12 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fine } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { PDly } \\ 000-250 ® \\ \hline \end{array}$ | Fdbk $00-99 \mathrm{a}$ |
|  | 4 |  | LoCut OFF, 059f-3^2д | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ |
| AUTO PAN | 1 | $\begin{aligned} & \text { Rate } \\ & \text { ) } 0 f-2 \% 5 f \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Dir } \\ \mathrm{Lr}, \mathrm{rL}, \mathrm{ALt} \\ \hline \end{array}$ | $\begin{aligned} & \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 \partial \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ & \hline \end{aligned}$ |
|  | 2 | Trig OfffffffFF, L, r, Lr | $\begin{aligned} & \text { Attck } \\ & 0-255 \end{aligned}$ | Hold 0-990® | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 a ̊ \end{aligned}$ |


| $\begin{aligned} & \text { DELAY\} } \\ & \text { REALROOM } \end{aligned}$ | 1 | Tap | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-7 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline 10 \mathrm{~ms} \\ 0-9 \end{array}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 |  | Fdbk $00-99 a ̊$ | HiCut 059f-3^2д, OFF | $\begin{aligned} & \hline \text { DMix } \\ & 000-100 a ̊ \end{aligned}$ |
|  | 3 | Decay $!0-7 \% 8^{\circ}$ | $\begin{aligned} & \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Dens } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 4 | $\begin{array}{\|l\|} \hline \text { Gate } \\ \text { OFF, 001-100å } \\ \hline \end{array}$ | Hold $000-500 \bigodot$ | $\begin{aligned} & \text { Rel } \\ & 000-500 \odot \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { RMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
| CHORUS $\}$ REALROOM | 1 | $\begin{aligned} & \text { Rate } \\ & \text { R0f-(9f } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ 00-99 \mathrm{a} \\ \hline \end{array}$ | $\begin{aligned} & \text { CDly } \\ & 000-255 ® \\ & \hline \end{aligned}$ |
|  | 2 |  | Wave Sin, tri |  | $\begin{aligned} & \text { CMix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{aligned} & \text { Decay } \\ & !0-7 \% 8 . \end{aligned}$ | LPF <br> 059f-3^2д, OFF | $\begin{aligned} & \text { PDly } \\ & 000-250 ® \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { PMix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 4 | $\begin{array}{\|l\|} \hline \text { Dens } \\ 000-100 \mathrm{a} \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ | $\begin{aligned} & \text { Gate } \\ & \text { OFF, 010-500® } \\ & \hline \end{aligned}$ | RMix 000-100å |
| FLANGE $\}$ <br> REALROOM | 1 | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ -99-99 a ̊ \\ \hline \end{array}$ | Wave Sin, tri |
|  | 2 | Trig 0fffffffFF, L, r, Lr | Attck $000-255$ | $\begin{aligned} & \text { Rel } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \hline \text { FMix } \\ & 000-100 a ̊ \end{aligned}$ |
|  | 3 | Decay $!0-7 \% 8$ | LPF <br> 059f-3^2д, OFF | $\begin{array}{\|l} \text { PDly } \\ 000-250 ® \\ \hline \end{array}$ | $\begin{aligned} & \text { PMix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 4 | Dens $000-100 \text { å }$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ | Gate <br> OFF, 010-500© | $\begin{aligned} & \text { RMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
| REALROOM\} FLANGE | 1 | Decay $!0-7 \% 8$ | $\begin{aligned} & \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { PDly } \\ 000-250 ® \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { PMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{array}{\|l} \text { Dens } \\ 000-100 a ̊ \\ \hline \end{array}$ | $\begin{aligned} & \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ | Gate OFF, 010-500© | $\begin{aligned} & \text { RMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 3 | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ -99-99 a ̊ \\ \hline \end{array}$ | Wave Sin, tri |
|  | 4 | Trig 0ffffffffF, L, r, Lr | Attck $000-255$ | $\begin{aligned} & \text { Rel } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \text { FMix } \\ & 000-100 \text { å } \end{aligned}$ |

Chapter 5 - Description of Controls

| $\begin{aligned} & \text { CHORUS\}DLY\} } \\ & \text { ROOM } \end{aligned}$ | 1 | $\begin{array}{\|l\|} \hline \begin{array}{l} \text { Rate } \\ \text { Of-(9f } \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-255 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 a ̊ \end{aligned}$ | $\begin{aligned} & \hline \text { CMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | $\begin{aligned} & \hline \text { Time } \\ & 000-500 \end{aligned}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 a ̊ \end{aligned}$ | $\begin{aligned} & \hline \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{aligned} & \hline \text { DMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{array}{\|l} \hline \begin{array}{l} \text { Decay } \\ !0-7 \% 8 . \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{array}{\|l\|} \hline \begin{array}{l} \text { Dens } \\ 000-100 a ̊ \end{array} \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |
|  | 4 | $\begin{aligned} & \hline \text { Gate } \\ & \text { OFF, 001-100a } \end{aligned}$ | $\begin{aligned} & \hline \text { Hold } \\ & 000-500 ؟ \end{aligned}$ | $\begin{aligned} & \hline \text { Rel } \\ & 000-500 \odot \end{aligned}$ | $\begin{aligned} & \hline \text { RMix } \\ & 000-100 \end{aligned}$ |
| FLANGE\}DLY\} ROOM | 1 | $\begin{aligned} & \hline \text { Rate } \\ & \text { )0f-(9f } \end{aligned}$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-250 \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ -99-99 a ̊ \end{array}$ | $\begin{aligned} & \hline \text { FMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { Tap } \\ & 000-500 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 a ̊ \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { HiCut } \\ 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { DMix } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{array}{\|l\|} \hline \text { Decay } \\ !0-7 \% 8 . \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Dens } \\ 000-100 \mathrm{a} \end{array}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \end{aligned}$ |
|  | 4 | $\begin{array}{\|l\|} \hline \text { Gate } \\ \text { OFF, 001-100å } \end{array}$ | $\begin{aligned} & \text { Hold } \\ & 000-500 ؟ \end{aligned}$ | $\begin{aligned} & \hline \text { Rel } \\ & 000-500 @ \end{aligned}$ | $\begin{aligned} & \text { RMix } \\ & 000-100 \end{aligned}$ |
| $\begin{aligned} & \hline \text { REALROOM }+ \\ & \text { DELAY } \end{aligned}$ | 1 | $\begin{array}{\|l} \hline \text { Decay } \\ !0-7 \% 8 \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { LPF } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \end{aligned}$ | $\begin{array}{\|l\|} \hline \text { Dens } \\ 000-100 a ̊ \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{aligned} & \hline \text { Gate } \\ & \text { OFF, 001-100a } \end{aligned}$ | $\begin{aligned} & \hline \text { Hold } \\ & 000-500 ؟ \end{aligned}$ | $\begin{aligned} & \hline \text { Rel } \\ & 000-500 \odot \end{aligned}$ | $\begin{aligned} & \hline \text { RMix } \\ & 000-100 \\ & \hline \end{aligned}$ |
|  | 3 | Tap | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-7 \end{aligned}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 4 | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 a ̊ \end{aligned}$ | HiCut $059 f-3 \wedge 2 \partial$, OFF |  | $\begin{aligned} & \hline \text { DMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
| REALROOM + CHORUS | 1 | $\begin{array}{\|l\|} \hline \text { Decay } \\ !0-7 \% 8 \\ \hline \end{array}$ | LPF <br> 059f-3^2д, OFF | $\begin{array}{\|l\|} \hline \text { PDly } \\ 000-250 @ \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { PMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 | $\begin{array}{\|l\|} \hline \text { Dens } \\ 000-100 a ̊ \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { Diff } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ | $\begin{array}{\|l} \hline \text { Gate } \\ \text { OFF, 000-500@ } \end{array}$ | $\begin{aligned} & \hline \text { RMix } \\ & 000-100 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 3 | $\begin{aligned} & \hline \text { Rate } \\ & \text { ) } 0 f \text {-(9f } \end{aligned}$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & 00-99 a ̊ \end{aligned}$ | $\begin{aligned} & \text { CMix } \\ & 000-100 \text { å } \end{aligned}$ |
|  | 4 |  | Wave Sin, tri |  | $\begin{aligned} & \hline \text { CMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |


| REALROOM + FLANGE | 1 | Decay $!0-7 \% 8$ | LPF <br> 059f-3^2д, OFF | $\begin{array}{\|l\|} \hline \text { PDly } \\ 000-250 ؟ \\ \hline \end{array}$ | $\begin{aligned} & \hline \text { PMix } \\ & 000-100 \mathrm{a} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2 | Dens $000-100 a ̊$ | Diff $000-100 a ̊$ | Gate OFF, 000-500© | $\begin{aligned} & \hline \text { RMix } \\ & 000-100 \text { å } \end{aligned}$ |
|  | 3 | Rate $\text { ) } 0 f \text {-(9f }$ | $\begin{aligned} & \hline \text { Depth } \\ & 000-250 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & -99-99 \text { å } \\ & \hline \end{aligned}$ | Wave Sin, tri |
|  | 4 | Trig 0fffffffFF, L, r, Lr | Attck $000-255$ | $\begin{aligned} & \hline \text { Rel } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \hline \text { FMix } \\ & 000-100 a ̊ \end{aligned}$ |
| CHORUS: DELAY | 1 | Rate $\text { ) } 0 f-(9 f$ | $\begin{aligned} & \text { Depth } \\ & 000-255 \end{aligned}$ | $\begin{aligned} & \hline \text { Fdbk } \\ & 00-99 \mathrm{a} \text { a } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { PDly } \\ & 000-250 ؟ \\ & \hline \end{aligned}$ |
|  | 2 |  | Wave Sin, tri |  | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |
|  | 3 | Tap --- | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-5 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline 10 \mathrm{~ms} \\ & 0-9 \end{aligned}$ | $\begin{aligned} & \hline 1 \mathrm{~ms} \\ & 0-9 \end{aligned}$ |
|  | 4 | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ | LoCut OFF, 059f-3^2д | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ |
| FLANGE: DELAY | 1 |  | Rate $) 0 f-(9 f$ | Depth $000-250$ | $\begin{aligned} & \text { Fdbk } \\ & \text {-99-99å } \\ & \hline \end{aligned}$ |
|  | 2 |  | Wave Sin, tri |  | $\begin{aligned} & \hline \text { Mix } \\ & 000-100 \text { å } \end{aligned}$ |
|  | 3 | Tap | $\begin{aligned} & 100 \mathrm{~ms} \\ & 0-5 \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \mathrm{~ms} \\ & 0-9 \end{aligned}$ | $\begin{aligned} & 1 \mathrm{~ms} \\ & 0-9 \end{aligned}$ |
|  | 4 | $\begin{array}{\|l\|} \hline \text { Fdbk } \\ 00-99 a ̊ \\ \hline \end{array}$ | $\begin{aligned} & \text { LoCut } \\ & \text { OFF, } 059 f-3^{\wedge} 2 д \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { HiCut } \\ & 059 f-3^{\wedge} 2 \partial, \text { OFF } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Mix } \\ & 000-100 a ̊ \\ & \hline \end{aligned}$ |
| PITCH: <br> DELAY | 1 | $\begin{aligned} & \hline \text { Semi } \\ & -12-12 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fine } \\ & -50-50 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { PDly } \\ & 000-250 ® \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \mathrm{a} \\ & \hline \end{aligned}$ |
|  | 2 |  | LoCut OFF, 059f-3^2д | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { à } \\ & \hline \end{aligned}$ |
|  | 3 | Tap --- | $\begin{aligned} & \hline 100 \mathrm{~ms} \\ & 0-5 \\ & \hline \end{aligned}$ | $\begin{array}{\|l\|} \hline 10 \mathrm{~ms} \\ 0-9 \\ \hline \end{array}$ | $\begin{aligned} & \hline 1 \mathrm{~ms} \\ & 0-9 \\ & \hline \end{aligned}$ |
|  | 4 | $\begin{aligned} & \text { Fdbk } \\ & 00-99 \text { å } \end{aligned}$ | LoCut OFF, 059f-3^2д | HiCut 059f-3^2д, OFF | $\begin{aligned} & \text { Mix } \\ & 000-100 \text { å } \\ & \hline \end{aligned}$ |

