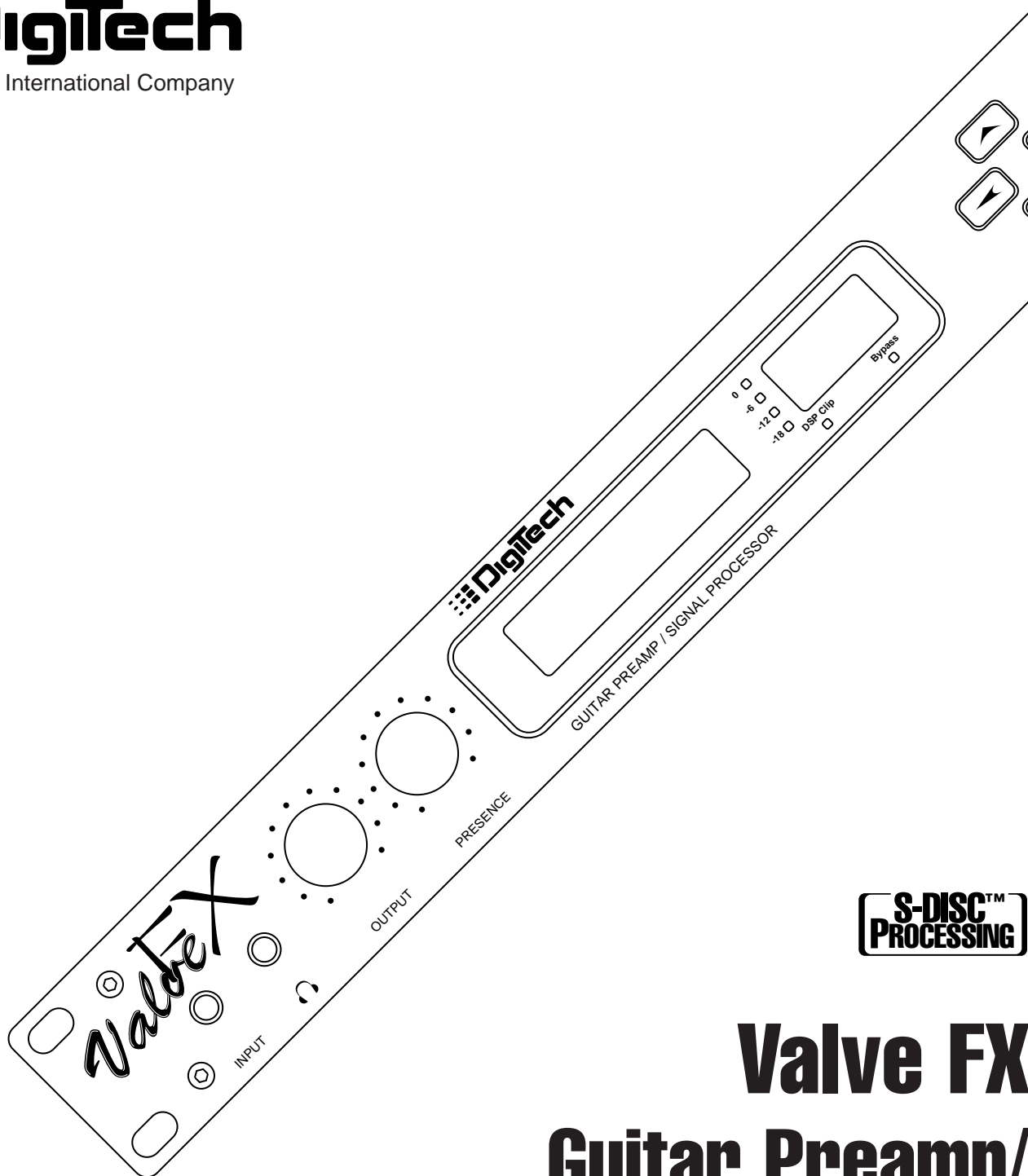




A Harman International Company



Valve FX Guitar Preamp/ Signal Processor

Owner's Manual

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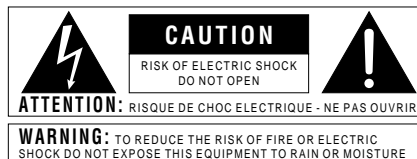
INTRODUCTION

Congratulations, and thank you for your purchase of the DigiTech Valve FX Guitar Preamp / Signal Processor. The Valve FX combines the world's most powerful digital signal processor, the S-DISC™ with real tube distortion or one of our three most popular solid state distortion types. These digital multi-effects are second to none, and when joined with the warmth and clarity of one of the best analog preamps on the market, the results are amazing. Special features of the Valve FX include:

- Full bandwidth effects (20-20kHz)
- 24-bit signal path, 48-bit internal data transmission
- Stereo processing
- Instant Module and Parameter access
- The Control One remote foot controller (optional)
- Programmable cabinet emulation for running direct to a mixing console (great for both studio and live applications)
- Front panel Presence control and headphone output
- Full MIDI implementation
- Built-in MIDI merging (MIDI output can act as a standard out or as a merged out)
- MIDI Transmit and Receive mapping
- All effects and parameters are available for MIDI continuous control with up to 10 CC links available per program

For the first time, all of your effects needs can be filled by a single unit with 16-bit digital clarity. This owner's manual is your key to understanding the powerful world of the Valve FX. Read it carefully. After you've had time to familiarize yourself with the unit, try experimenting with unusual effects settings. You may achieve some interesting results.

SAFETY PRECAUTIONS



The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the owner's manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the equipment during storms to prevent damage.

U.K. ONLY - A moulded mains plug that has been cut off from the cord is unsafe. Discard the mains plug at a suitable disposal facility. NEVER UNDER ANY CIRCUMSTANCES SHOULD YOU INSERT A DAMAGED OR CUT MAINS PLUG INTO A 13 AMP POWER SOCKET. Do not use the mains plug without the fuse cover in place. Replacement fuse covers can be obtained from your local retailer. Replacement fuses are 13 amps and MUST be ASTA approved to BS1362.

LITHIUM BATTERY WARNING

CAUTION! This product contains a lithium battery. There is danger of explosion if battery is incorrectly replaced. Replace only with an Eveready CR 2032 or equivalent. Make sure the battery is installed with the correct polarity. Discard used batteries according to manufacturer's instructions.

ADVARSEL! Lithiumbatteri - Eksplosjonsfare. Ved utskifting benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

ADVARSEL! Lithiumbatteri - Eksplosjonsfare ved feilagtig håndtering. Utskiftning må kun ske med batteri av samme fabrikat og type. Levér det brukte batteri tilbake til leverandøren.

VAROITUS! Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

WARNING! Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

WARRANTY

1. The warranty registration card must be mailed within ten days after purchase date to validate this warranty.
2. DigiTech warrants this product, when used solely within the U.S., to be free from defects in materials and workmanship under normal use and service.

3. DigiTech liability under this warranty is limited to repairing or replacing defective materials that show evidence of defect, provided the product is returned to DigiTech WITH RETURN AUTHORIZATION, where all parts and labor will be covered up to a period of one year. A Return Authorization number may be obtained from DigiTech by telephone. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.
4. Proof-of-purchase is considered to be the burden of the consumer.
5. DigiTech reserves the right to make changes in design or make additions to or improvements upon this product without incurring any obligation to install the same on products previously manufactured.
6. The foregoing is in lieu of all other warranties, expressed or implied, and DigiTech neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of this product. In no event shall DigiTech or its dealers be liable for special or consequential damages or from any delay in the performance of this warranty due to causes beyond their control.

DigiTech™, S-DISC™, Whammy™ and Silencer™ are registered trademarks of DOD Electronics Corporation.

The information contained in this manual is subject to change at any time without notification. Some information contained in this manual may also be inaccurate due to undocumented changes in the product or operating system since this version of the manual was completed. The information contained in this version of the owner's manual supersedes all previous versions.

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SECTION 1 - STARTUP

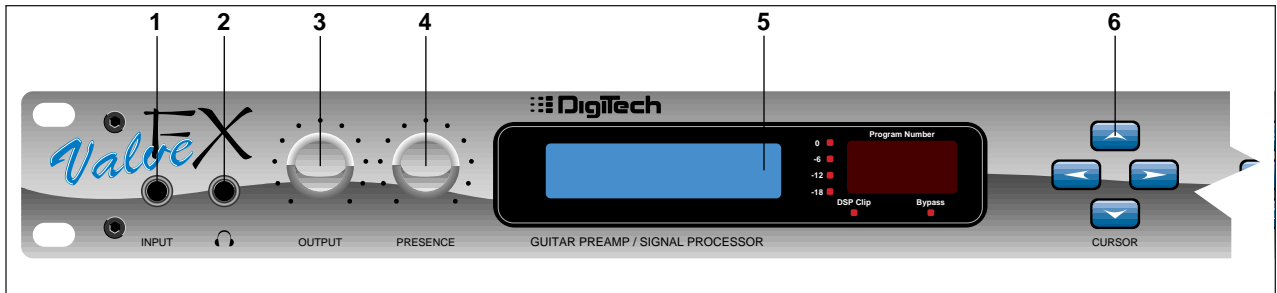
SUPPLYING POWER

Line Conditioning - The Valve FX, like any piece of computer hardware, is sensitive to voltage drops, spikes, and surges. Interference such as lightning or power “brownouts” can seriously, and in extreme cases, permanently damage the circuitry inside the unit. Here are some ways to avoid this type of damage:

- Spike/Surge Suppressors - This is an inexpensive solution to all but the severest of AC line conditions. Surge protected power strips usually cost only slightly more than unprotected strips, making them a worthy investment for protection of all your valuable gear.
- AC Line Conditioners - This is the best way to go for total protection from improper line voltages, albeit the more expensive way. Line conditioners constantly monitor for excessively high or low voltages and adjust accordingly, thus delivering consistent power levels.

FRONT PANEL CONTROLS

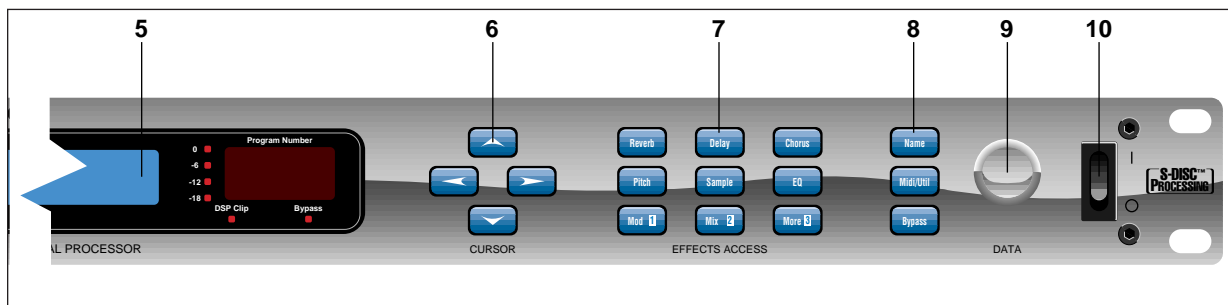
The front panel controls and functions of the Valve FX are as follows (refer to diagram):






- 1) Input** - Plug your instrument in here. The front panel input is a 1/4" unbalanced tip-sleeve connector. When using the front panel input, the rear panel input is automatically disengaged.
- 2) Headphone Output** - 1/4" stereo plug for headphones (do not use a mono 1/4" plug). The headphone level is controlled by the main output level knob.
- 3) Main Output Level** - Controls the overall output level of the Valve FX. Also controls the overall level of the headphones.
- 4) Presence Control** - Controls the overall brightness of the output signal. Turn it up for bright, sparkling high-end response or down for a dark, mellow tone. Frequency center for this control is 10 kHz.

5) Display Window - The display window shows all current operating and programming information and is comprised of several parts: the LCD display, the input level meter, the Program number indicator, and the Bypass and DSP Clip indicator LEDs. The LCD display shows all Program names, Parameters and Parameter values, and is the communication interface between you and the Valve FX. The input level meter monitors the level of the signal before it enters the analog to digital converter. In the Program number indicator window you will find the currently selected Program number. This changes as you scroll through the available Programs. The functions of the Input Level Meter, Bypass and DSP Clip indicator LEDs are as follows:

- Input Level Meter - Displays the strength of the incoming signal in 6 dB steps before it enters the analog to digital converter.
- Bypass Indicator - Indicates (when lit) that all effects have been bypassed using either the Bypass button or the optional Control One foot controller. To exit bypass mode, simply press the Bypass button on the front panel or on the foot controller.
- DSP Clip - Indicates digital information overflow in the processor. When lit, distortion may be heard in the output signal. The guideline for this indicator is **let your ears be the judge**. If this indicator lights occasionally and no audible distortion is present, it can be ignored. If distortion is audible in the output signal, the EQ levels or perhaps one of the internal digital effects levels of the Program must be turned down to eliminate the problem.



6) Cursor Keys - The Cursor keys perform several different functions depending on your location in the menu. When the Program title is displayed, the <UP> and <DOWN> Cursor keys scroll through Programs, while the <LEFT> and <RIGHT> Cursor keys move through Parameters. The Algorithm selection screen is one screen to the right of the Program title screen. On this screen, the <UP> and <DOWN> Cursor keys select the Algorithm you want to use with the Program. On any other screen, the <UP> and <DOWN> keys increment or decrement through Parameter values.

7) Effects Access - This group of buttons allows you to jump directly to the first Parameter of Modules in the currently selected Algorithm. The buttons in this group are: <EXIT>, <CMP/DIST>, <EQ>, <REVERB>, <DLY/SMP>, <PITCH>, <MOD>, <MIX>, and <MORE>. Also included in this section and sharing buttons with the <MOD>, <MIX>, and <MORE> buttons are the Function keys (indicated by , , and ) which act as menu selection keys in the Utility menus. The <EXIT> key is used for backing out of multi-level submenus one level at a time or returning to the title screen (depending where you currently are in the menus).

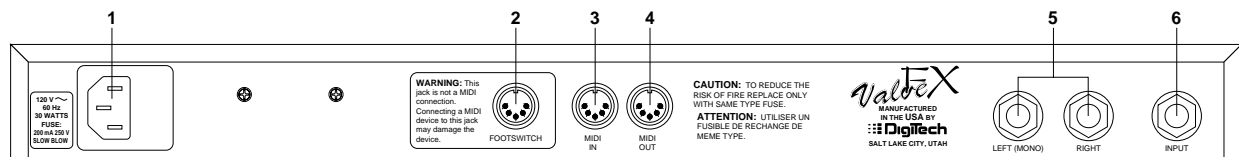
8) Global Buttons - Buttons in this group are: <STORE>, <UTILITY>, and <BYPASS>. These buttons perform global functions, including those required for storing Programs, Utility functions such as LCD contrast and footswitch setup, MIDI setups (including transmit and receive maps), and global bypass.

9) Data Wheel - Increments (clockwise) or decrements (counter-clockwise) through Programs, Algorithms, or Parameter values.

10) Power Switch - Turns the unit on or off.

REAR PANEL CONNECTIONS

The Valve FX rear panel connectors and functions are as follows:



1) AC Line Input - This is the power cord receptacle.

2) Foot Controller - This 5-pin DIN plug is for connecting the optional DigiTech Control One foot controller. THIS IS NOT A MIDI PORT. CONNECTING A DEVICE OTHER THAN THE DIGITECH CONTROL ONE FOOT CONTROLLER TO THIS JACK MAY DAMAGE THE DEVICE. A standard MIDI-type 5-pin DIN connector was chosen for the Control One foot controller connector because cables are so readily available.

3) MIDI In - The MIDI In port allows the Valve FX to respond to incoming MIDI messages, including Program Change, Continuous Control, and System Exclusive data.

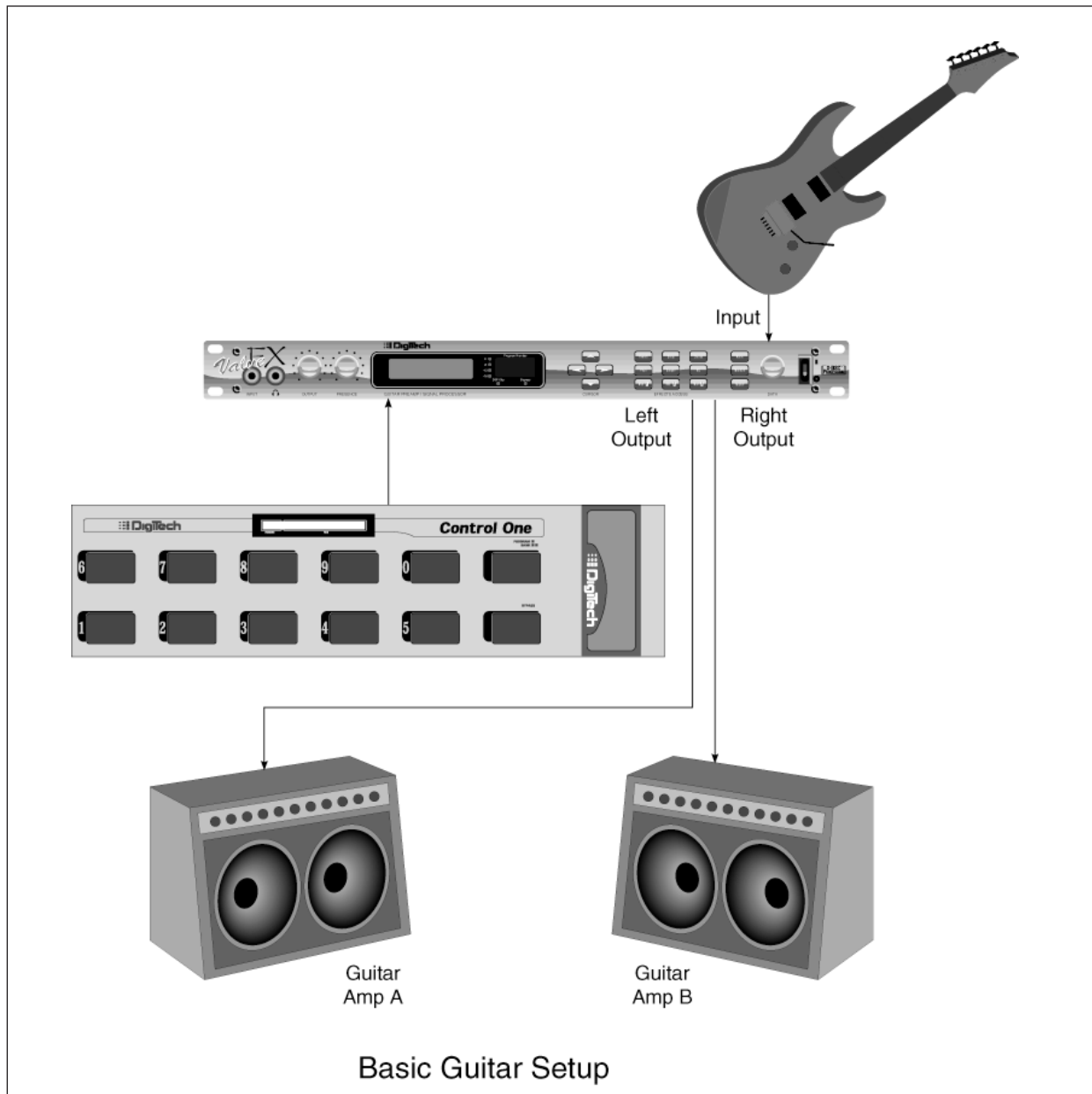
4) MIDI Out - Sends out MIDI data generated by the Valve FX to other devices. It can also pass MIDI data received by the Valve FX's MIDI In to other devices.

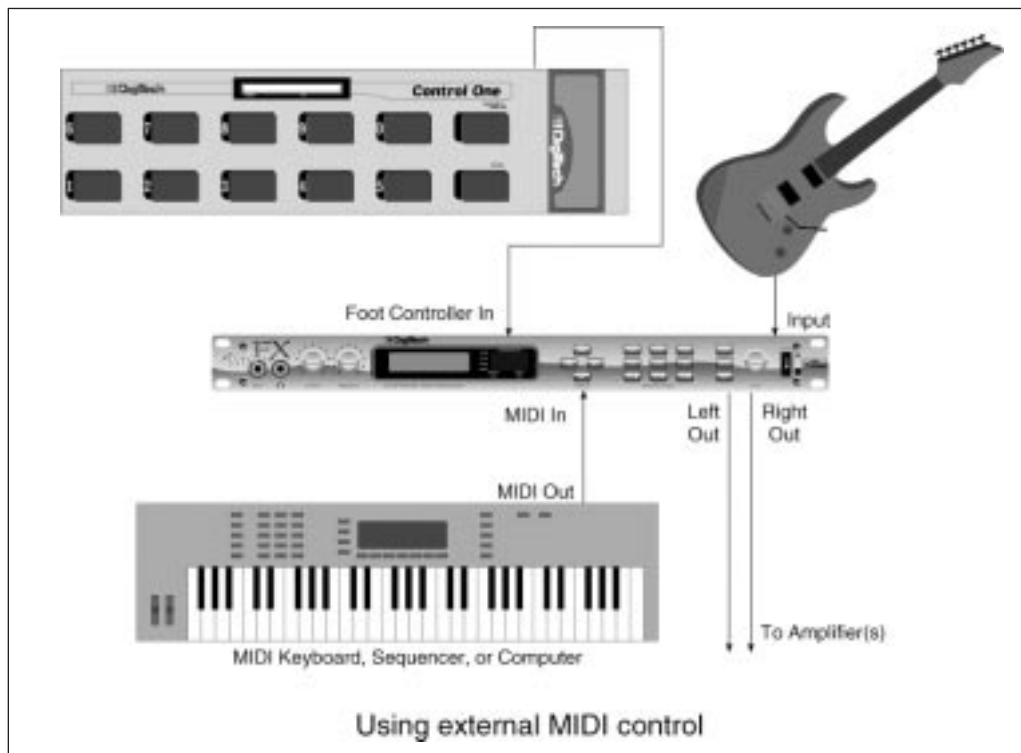
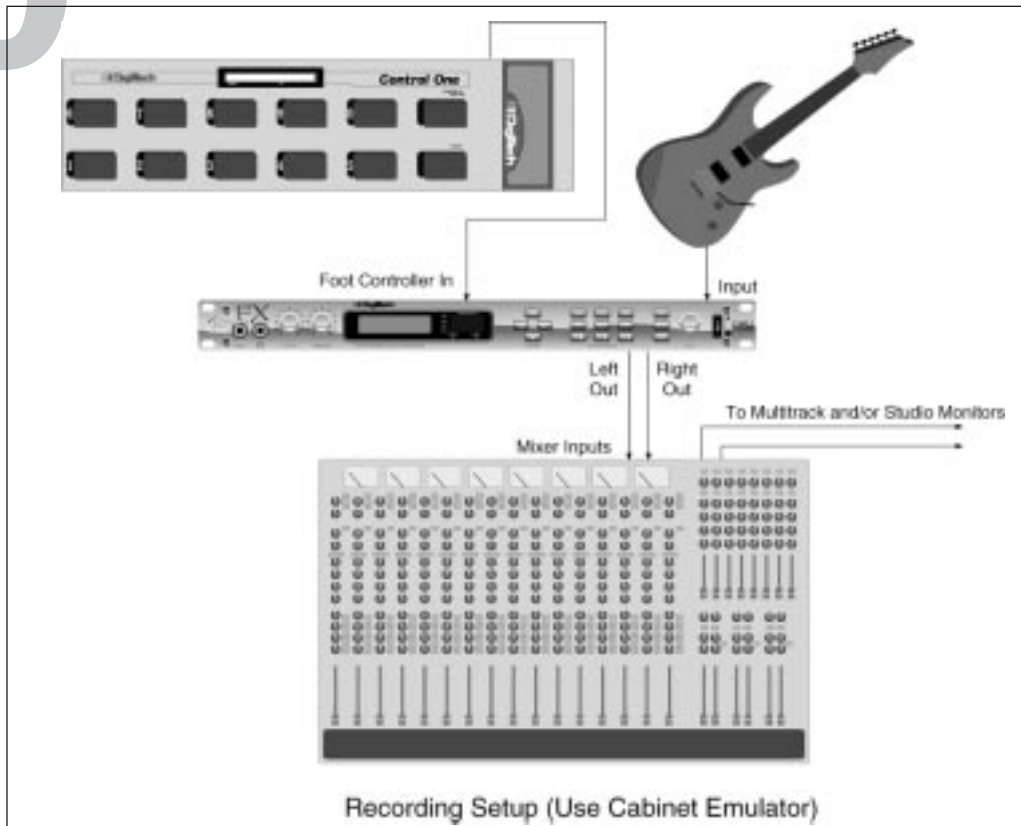
5) Outputs - These are the main left and right audio outputs of the Valve FX. Use both outputs when possible since Programs are set up to take advantage of stereo effects. When the Output mode is set to mono, either output can be used.

6) Input - This is the audio input to the Valve FX. Plug your instrument in here. This input is disengaged when the front panel input is used.

MIDI AND AUDIO SETUPS

The following diagrams show possible MIDI and audio routing setups for the Valve FX.





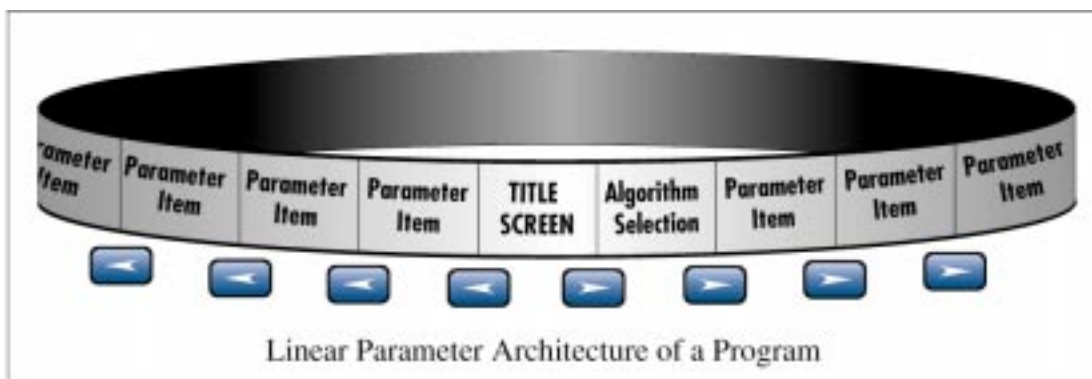
SECTION 2 - BASIC OPERATIONS

MAIN OPERATING MODE

After the Valve FX powers-up, the current Program title screen is displayed. This is the main operating mode for the Valve FX from which any of the operating Parameters can be easily reached and modified.

PARAMETER ARCHITECTURE

The Program's Parameter architecture in the Valve FX has been designed to be a linear series of items rather than a multiple-level menu (see diagram). In other words, instead of including several sub-menus, or levels, under a single Parameter heading, all Parameters and functions are included in a single level, and are accessed using the <LEFT> and <RIGHT> Cursor keys. This makes access to specific Parameters of a Program quick and easy, and provides a much clearer picture of exactly where you are in the menu.



The diagram above shows the linear arrangement of Parameters in the Valve FX. Notice that if you press the <RIGHT> Cursor key from the last item in the list (the Parameter item to the left of the title screen), the display jumps, or “wraps around to” the first item in the menu (in this case, the title screen).

Likewise, if the <LEFT> Cursor key is pressed from the title screen, the display will wrap to the last Parameter in the list. This wraparound menu feature is provided so that Parameters that appear near the end of a long list of items can be just as easily reached as items near the beginning of the menu. If you press and hold either the <LEFT> Cursor key or the <RIGHT> Cursor key, the Valve FX will begin scrolling at high speed through the available Parameters in the Parameter menu.

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ACCESSING FACTORY PROGRAMS There are four methods for recalling Programs. The first method uses the <UP> and <DOWN> Cursor keys. The procedure is as follows:

- From the title screen, press the <UP> Cursor key. Note that the Program shown in the display changes and the number shown in the LED display increments by one each time the <UP> Cursor key is pressed. Pressing the <DOWN> Cursor key causes the reverse to occur: the Valve FX decrements through the Programs in memory.
- To scroll at high speed through the Programs in memory, press and hold either the <UP> or <DOWN> Cursor key.

The second method for changing Programs is the same as the first, except that instead of using the Cursor <UP> and <DOWN> keys, turn the Data wheel. Turning the Data wheel clockwise from the title screen increments through Programs, while turning it counter-clockwise decrements through Programs.

The third method uses the optional Control One foot controller.

NOTE: When you send a Program change to the Valve FX using the optional Control One foot controller, any unstored modifications you have made will be lost.

The procedure is as follows:

- Press the Select switch (in the upper right corner of the Control One foot controller) once. The foot controller display reads:




PROGRAM NUMBER

- Using the numbered foot switches, enter the number of the Program you want to recall. If the Program number is only two digits long, press the Select switch again to accept the selected Program number.

The fourth method is through the use of MIDI. This method will be covered later in the Utilities section of this manual, pg. 44.

SECTION 3 - PROGRAMMING

USING THE FUNCTION KEYS

The Valve FX has three Function keys that perform several functions in different menus. They are located in the bottom row of the Effects Access keys and they share buttons with the <MOD >, <MIX >, and <MORE > options. Each Function key is numbered and performs several functions in the Utility mode (depending on the selected menu screen). These keys are also used in the Program naming process (see Storing / Naming Programs, pg. 17). For more on the Utility and MIDI Menus, see pg. 44.



Indicates that Function key 1 performs the function shown in the display.



Indicates that Function key 2 performs the function shown in the display.



Indicates that Function key 3 performs the function shown in the display.

MORE SPECIAL CHARACTERS

There are several special characters that the Valve FX uses to tell you at a glance exactly what it is doing. All special characters in the Valve FX (except CC) are in inverted type, that is, reversed out of a black background, and they will usually appear in the upper right-hand corner of the display.



Indicates that the Cabinet Emulator is currently active.



Indicates that a MIDI continuous controller is linked to the Parameter.



Characters from this group are used for distinguishing between redundant Modules in a single Algorithm. This special character will immediately follow the Module name rather than appear in the corner of the display.

14

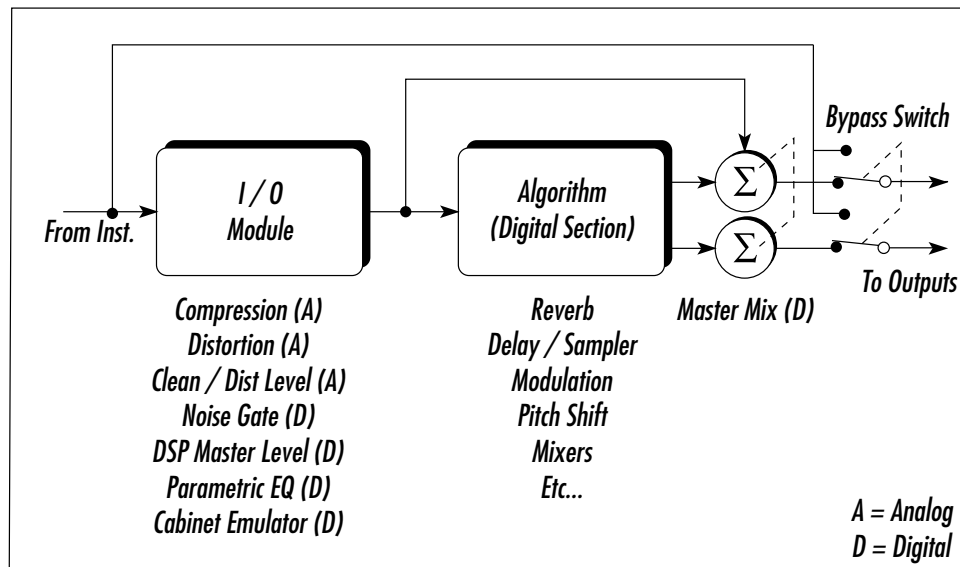
THE EFFECTS ACCESS KEYS

The Effects s are used to jump to specific places in menus. For example, if a Program contains several delays and you want to change the delay time on only one of them, you could press the <DLY/SMP> Effects Access button from Program's title screen and you would be jumped to the first Parameter of the first delay in the Algorithm. Press the button again, and you are taken to the first Parameter of the next delay in the Algorithm, and so on.

ABOUT THE I/O MODULE

Each Program in the Valve FX is equipped with Compression, Distortion, Clean / Distortion Level, Noise Gate, DSP Master Level, Parametric EQ, and Cabinet Emulator controls. These items are permanent residents of every Algorithm in the unit.

This group of items is called the Input / Output Module (or I/O Module) because they are always a part of both the input and output audio paths of the Valve FX. The following diagram shows how the I/O Module affects the signal as it flows through the unit.



The Valve FX's Compression, Distortion, and Clean / Distortion Level are analog for warmth and power. The Noise Gate, DSP Master Level, Parametric EQ, and Cabinet Emulator are all accomplished in the digital realm for absolute flexibility and precision.

MODIFYING FACTORY PROGRAMS

After you've had time to familiarize yourself with the Valve FX, you may find that there are several factory Programs that are very close to what you're looking for, but that need a few small tweaks to get them perfect. The effects used in each Program are arranged as Algorithms and are explained in more detail on page 15.

Program 105 (Infusion) has a Whammy™, a chorus, and a 200 millisecond stereo delay. Let's suppose that in order to work in your application, it needs to have a 425 millisecond delay. Using this Program as an example for Program modification, the procedure for changing the delay time is as follows:

- From the Program title screen, scroll to Program 105 using the <UP> and <DOWN> Cursor keys or the Data wheel. The display reads:

```
Infusion
Wah→Wham→Cho→Dly
```

- Using the <RIGHT> or <LEFT> Cursor keys, scroll to the DELAY TIME Parameter. The display reads:

```
Delay Time Tap 1
(0.200)
```

NOTE: By pressing the <DLY/SMP> key you can skip directly to the first Parameter of the Delay effect in the Algorithm and continue scrolling with the <RIGHT> Cursor key to the desired Parameter.

The cursor appears under the 2 and the entire number is enclosed in parenthesis indicating that this is the stored value for that Parameter.

IMPORTANT: Delay Time Parameters in the Valve FX are editable in two different ranges, giving the most flexibility and accuracy in the least amount of scrolling time. In this example Parameter, the cursor appears under the 2 in 0.200. The 2 resides in the hundred milliseconds position. In other words, if you press the <UP> Cursor key when the cursor is in this position, you will increase the delay time by 100 milliseconds. If you press the <RIGHT> Cursor key, the cursor will move to the third position to the right of the decimal point (0.200), or milliseconds position. Each press of the <UP> Cursor key from this position increases the delay time in single millisecond steps. Using this method of ranging allows you to scroll rapidly to large-value delay times without having to wait for the unit to scroll to it in single millisecond steps.

- Using the <UP> Cursor key, scroll upward until the hundreds position shows a 4. The display reads:

```
Delay Time
0.400
```

- Press the <RIGHT> Cursor key once. The cursor moves to the milliseconds position.
- Using the <UP> Cursor key, scroll until the last two digits of the delay time read 25. The delay time is now set at .425 seconds.

If you change Programs at this point, either through MIDI or via the front panel, any modifications that you have made to the Program will be lost. In order for the Valve FX to remember the changes that you have made, you must store the Program in memory. The procedure for storing Programs is covered in more detail in Section 3, pg. 17.

BASIC PROGRAM CREATION

There are several requirements for creating a Program on the Valve FX. The first is that an Algorithm needs to be assigned to the Program; second, Parameters must be modified to your liking, and third, the Program must be stored in memory in order to be recalled for later use.

SELECTING AN ALGORITHM

The Algorithm you choose for a Program determines the basic function of the Program. It is therefore necessary to choose an Algorithm that contains all the Modules you want to use in an appropriate configuration. For a complete list of the available Algorithms in the Valve FX, see Section 6 on page 69. The Algorithm selection screen for all Programs in the Valve FX is one screen to the right of the title screen.

The Algorithm selection screen works in conjunction with the LED display to show the Algorithm number. When in the Algorithm selection screen, the LCD display looks something like this:

```
Wham→2TD1y→Reverb
Comp Dist MVol→
```

Press the <UP> or <DOWN> Cursor keys from the Algorithm selection screen, the LED display to the right of the screen shows an **A** followed by the Algorithm's number. To select an Algorithm for a Program, the procedure is as follows:

- From the title screen, press the <RIGHT> Cursor key once. This is the Algorithm selection screen. The name of the currently selected Algorithm is shown on the top line of the display, while the bottom line shows the effects in the Algorithm.

NOTE: When there are more effects in the Algorithm than will fit on a single line of the display, an arrow will appear in the first and/or last character of the bottom line of the display. These arrows indicate that there is more information about the effects that could not be displayed on a single screen. To see the remaining information, simply press the <RIGHT> or <LEFT> Cursor key (depending on the arrow direction indicated in the display).

- Use the <UP> and <DOWN> Cursor keys to select the Algorithm you want to use with the Program. The LED display now shows the Algorithm number as you scroll up or down.
- Use the <RIGHT> and <LEFT> Cursor keys to begin modifying the Parameters of the currently selected Algorithm to suit your purpose.

NOTE: When you change the currently selected Algorithm, the default Parameters selected for the new Algorithm are taken from the first Program in memory that uses it.

Once you have selected the Algorithm you want to use and modified its Parameters, an asterisk appears in the upper right corner of the title screen. This asterisk indicates that the Program has been modified and any changes you have made will be lost if not stored in the Valve FX's memory.

STORING / NAMING PROGRAMS

In order for modified Programs to be available for later recall, you must store them in memory. This is accomplished using the <STORE> key. The Valve FX also allows you to give your Programs custom names up to 15 characters in length. The naming procedure uses the <UP> and <DOWN> Cursor keys, the Function keys, and/or the data wheel to make Program naming extremely quick and easy. The <MOD []> key changes the character from upper to lower case and back. The <MIX []> key places a space into the Program name, and the <MORE []> key instantly jumps you to the numbers section of the character set. The complete procedure for storing and naming a Program is as follows:

- After you have made all the necessary modifications to the Algorithm, press the <STORE> button once. The Valve FX is now in Name mode. The display shows:

```
[PROGRAM NAME]
[CAPS [ ] SPC [ ] NUM [ ]
```

The blocked numbers preceding each option on the bottom line indicate the Function key that will perform the function shown.

- Using the <UP>/<DOWN> Cursor keys or the Data wheel, scroll to the character you want to use, or press one of the Function keys. When you have selected the character you want, press the <RIGHT> Cursor key. Note that the cursor moves to the next character. Repeat this procedure until the Program name is satisfactory.

Unique to the Valve FX naming process are several special naming

functions. The <REV> and <PITCH> keys allow you bump an entire name or section of a name either left or right in one-space increments. The procedure is as follows:

- In Name mode, use the <RIGHT> and <LEFT> Cursor keys to place the cursor underneath the character to be moved.
- Press the <REV> or <PITCH> keys to move the characters either left or right.

The <CMP/DIST> key copies the character under which the cursor sits into memory. This allows you to place a copy of that character (using the <DLY/SMP> key) anywhere else in the name that you want. The procedure is as follows:

- In Name mode, use the <RIGHT> / <LEFT> Cursor keys to place the cursor under the character to be copied.
- Press the <CMP/DIST> key. The selected character is copied into memory.
- Move the cursor to the location into which you want to place a copy of the character and press the <DLY/SMP> key. A copy of the character appears in the location you selected.
- When the Program name appears as you want it, press the <STORE> key. The display reads:

```
Store To Prg ##
[PROGRAM NAME]
```

This screen allows you to select the location in which you want to store the new Program.

- Using the <UP>/<DOWN> Cursor keys, scroll to the Program number location in which you want to store the new Program.
- To store the Program in the selected location, press the <STORE> key again. The display briefly reads:

```
***Storing***
```

after which you will be returned to the previous mode. To abort the command, press <EXIT>.

The Store function can also be used to copy Programs from one memory location to another. If no changes have been made to the selected Program and the <STORE> key is pressed, the Valve FX is placed in Name mode; press the <STORE> key a second time and the display reads:

```
Copy To Prg ##  
[PROGRAM NAME]
```

Select the memory location in which you want to place a copy of the selected Program using the <UP>/<DOWN> Cursor keys, and press <STORE> again. The display briefly reads:

```
***Copying***
```

after which you will be returned to the previous mode. To abort the command and return to the naming screen, press <EXIT>.

SECTION 4 - EFFECTS AND PARAMETERS

ABOUT THE EFFECTS LIBRARY

The Effects Library consists of all the effects Modules you can find in the Valve FX. Broken down into individual categories, specific Modules and their abbreviated library names are as follows:

Analog Effects

Module Name	Module Abbrv.	Description
<i>Compressor</i>	<i>Compr</i>	<i>Analog compressor tailored for instruments</i>
<i>Distortion</i>	<i>Distr</i>	<i>Analog distortion (3 tube or 3 solid-state types)</i>

The analog section of the Valve FX includes the compressor and the distortion section. These two items are always available in all Programs.

COMPRESSOR

The Valve FX's compressor is a high-quality, low-noise circuit specially designed for guitars. Compression can be used to increase sustain and to tighten up guitars, and is particularly useful on clean sounds. Parameters of the Valve FX compressor are as follows:

Comp On / BypassTurns the Module on or off. When Modules are bypassed their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

Comp AmountControls the amount of compression applied to the signal. Higher settings yield a tighter, more focused sound, while lower settings allow better dynamics. Ranges from 0 to 31.

Comp LevelSets the output level of the compressor before feeding to the distortion. Higher settings send more signal level into the distortion, yielding extra gain and drive. Varies from 1 to 7.

DISTORTION

The distortion section of the Valve FX provides six distinctly different types of distortion. There are three tube-driven (12AX7) voicings and three are solid-state distortion sounds ranging from a light overdrive tone to a screaming grunge. The Overdrive and Heavy Sustain settings offer classic distortion sounds while the Grunge setting provides extremely high-gain distortion, without the mush and tonal sacrifices found in other manufacturers' products. The Tube distortions give you the added warmth, touch, power, and grind that only a tube can produce for a lethal combination of tube power with the programmability of digital control.

The Distortion Parameters are as follows:

- Dist On / Bypass Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.
- Distortion Type Selects the type of distortion to be used in the Program. Options are: SATURATED TUBE - Hot, loud, and thoroughly modern grind of the best tube amps and guitar rigs. Capable of generating extremely high gain, but remains quiet enough for use in any studio. DISTORTED TUBE - Great for heavy rhythms or gritty leads. CLEAN TUBE - For sparkling, breathy clean sounds. OVERDRIVE - Solid-state overdrive with extra punch. HEAVY SUSTAIN - Smooth, warm distortion sound with lots of sustain. GRUNGE - Tons of solid-state gain. Tight and highly focused for powerful rhythms and leads.
- Distortion Gain Controls the amount of distortion produced by the Valve FX. High settings produce greater gain and drive for effortless soloing, while low settings offer better control of playing nuances and touch. Ranges from 0 to 11.
- Dist/Clean Level This Parameter allows two separate levels to be set. If the Distortion is turned on, the Distortion level can be adjusted. If the Distortion is turned off, the Clean level can be adjusted. Both level settings are saved when the Program is stored. Settings include MUTE or ranging from -60dB to +12dB.

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Equalizers

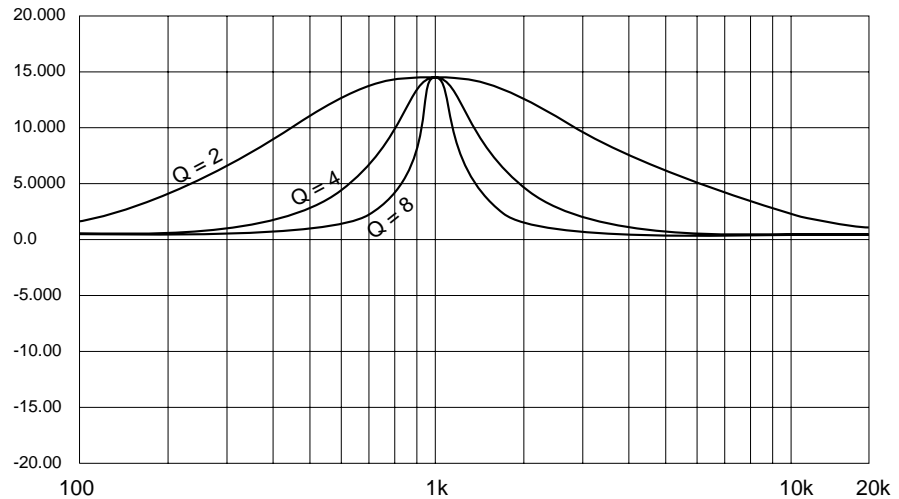
Module Name	Module Abbrev.	Description
<i>10 Band GEQ</i>	<i>GEQ10</i>	<i>Full bandwidth 10-band graphic equalizer</i>
<i>4Bnd ParamtrcEQ</i>	<i>PEQ4</i>	<i>4-band parametric equalizer w/adjustable Q</i>
<i>Cabinet Emulator</i>	<i>CabEm</i>	<i>Full-bore stack sound direct-to-console</i>

4-BAND PEQ / 10-BAND GEO

The equalizer Modules provided in the Valve FX offer superb noise performance, and allow accurate tonal shaping of many different types of sound sources. There is a standard 4-band parametric equalizer with adjustable Q available in all Algorithms. The Valve FX also features a 10-band graphic equalizer in select Algorithms. All equalizer Modules offer silent, hyper-accurate (double-precision) for tonal shaping.

Adjustable Q equalizers offer the ability to control the bandwidth of the boost/cut ranges. High Q settings yield extremely narrow bandwidth, where boost and cut have minimal effect on adjacent frequencies of the program material. Low Q settings affect a wider number of frequencies when the selected band is boosted or cut.

DigiTech Audio Precision STD AMPL (dBr) vs FREQ (Hz)



With a Q setting of 2, you can see that a large number of frequencies are affected by boosting the center frequency. Now take a look at the middle and lower curves in the diagram, and notice the much narrower bandwidth of the curves with a Q setting of 4 and 8.

CABINET EMULATOR

The Valve FX's programmable Cabinet Emulator circuitry allows you to use it in both recording and live situations without lugging heavy amps and/or cabinets around. Just connect the Valve FX outputs to a mixing console and kick in the Cabinet Emulator. No miking hassles, no heavy equipment; just a full-on miked cabinet sound. Programs can be stored with different Cabinet Emulator settings so you can customize your banks or setlists for whatever sound types you need. Parameters are as follows:

Effect On / Bypass Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

Cabinet Type Selects the tonal characteristics of the simulated cabinet. There are 10 different cabinet types; 3 warm cabinets, 3 medium cabinets, 3 bright cabinets, and 1 full bandwidth cabinet for maximum frequency response. The full bandwidth cabinet is useful when the Cabinet Emulator is set globally on (in the Utility menu) and a full bandwidth sound is still desired.

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Reverbs

Module Name	Module Abbrev.	Description
<i>BigVerb</i>	<i>Big</i>	<i>Studio-quality reverb.</i>
<i>MFX Reverb</i>	<i>MVerb</i>	<i>Reverb used in multi-effects Algorithms.</i>
<i>Gated Reverb</i>	<i>GtRvb</i>	<i>Professional gated reverb</i>

BIGVERB / MFX REVERB

Bigverb is the flagship reverb Module of the Valve FX. It contains 14 Parameters, giving exceptional soundfield and tonal shaping control over reverberation. Bigverb is capable of producing reverberation of virtually any size, shape, depth, timbre or soundfield location.

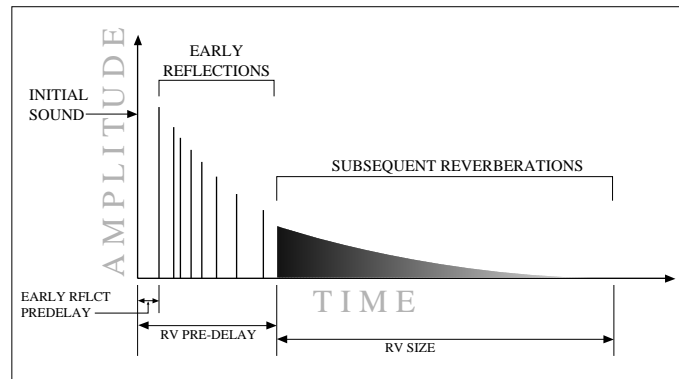
MFX Reverb is a slightly trimmed version of the Bigverb, offering much of the same flexibility and controls as Bigverb, but in less memory space. MFX Reverb allows you to achieve high-quality reverb in conjunction with other effects.

Before covering all the reverb Parameters and their definitions in detail, however, let's discuss the benefits and theory behind reverberation Algorithms.

Ambience, or reverberation, is produced when sound energy is reflected off room surfaces and objects. Using reverberation in recorded program material gives the listener a sense that the material is being performed in an actual room or hall. It is this similarity to actual acoustic spaces that makes reverberation a useful tool in recorded music.

The length of the reverberation, or reverb time, can be perceived by the listener and is useful during the course of continuous program material (reverb time is defined as "the length of time the reverberation takes to decay to inaudibility", or -60 dB). Studies have shown that the character of reverberation depends heavily upon the initial buildup and decay of the reverberation reflections.

The Valve FX uses early reflections to better emulate the natural sound of a hall. Early reflections are short clusters of direct reflections from the closest room walls. In an average size hall, these direct reflections usually occur within the first 30 to 100 milliseconds, depending on the size of the room and the placement of the sound source within the room. Adding these early reflections to the reverberation increases the perceived reverberation time and the apparent size of the reverberant space, but adding more than small amounts tends to make the reverb sound unnatural.



The BigVerb's ER SPREAD, ER SHAPE and ER DIFFUSION controls allow you to modify the build/decay of the early portion of the reverberation envelope and the relative reverberation time of the midrange reverb frequencies. The ER SHAPE Parameter controls the shape of the early reflection envelope. The ER SPREAD sets the time over which this early reflection shape is achieved, and the ER DIFFUSION controls the smoothness of the early reflection. A chart showing all 10 early reflection shapes can be found on Pg. 26.

The RV SIZE control is the master control for the apparent room size. The RV RT60 Parameter varies in relation to the setting of the RV SIZE. This means that as RV SIZE is modified, the RV RT60 Parameter changes to correspond with the selected room size (the RV RT60 value is calculated automatically). The RV SIZE Parameter, on the other hand, does not vary when RV RT60 is modified.

These few controls, in conjunction with the RV DIFFUSION, RV HI-FREQ DECAY, and RV HI-FREQ ROLLOFF controls, give your simulated environment its reflectivity characteristics, and can be used to simulate the presence of nearly any type of large-area reflective surface in a reverberant space, such as wood, carpet, glass, metal, etc.

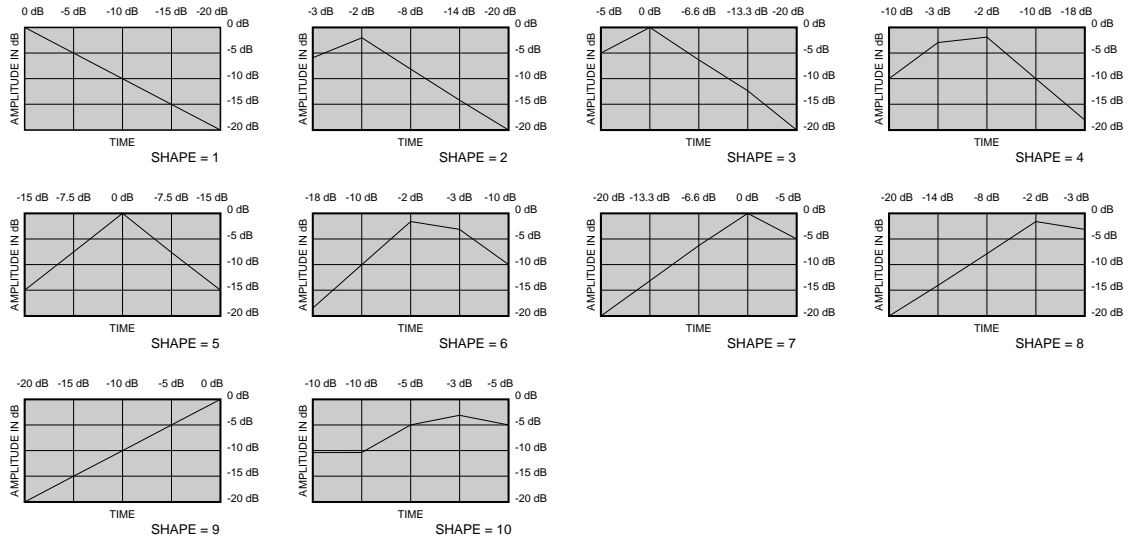
Now that we better understand all the aspects and properties of Reverb, the Parameters of the Reverb modules are as follows:

Reverb On / Off Turns the Module on or off.

ER Predelay Controls the length of time before the early reflections are heard. Ranges in milliseconds from 0 to 100. (ER settings in BigVerb only.)

ER Spread Controls the length of time over which the early reflections occur. Low settings yield a dense, smooth cluster of early reflections while higher settings spread the same number of reflections out over a longer period of time. Ranges from 25 to 300 milliseconds. (ER settings in BigVerb only.)

ER Shape Controls the shape of the early reflection envelope. There are 10 different early reflection envelope shapes. The following diagram shows all the available early reflection envelope shapes. The numbers across the top of each envelope shape graph represent the relative level of the signal at each point in the envelope. (ER settings in BigVerb only.)



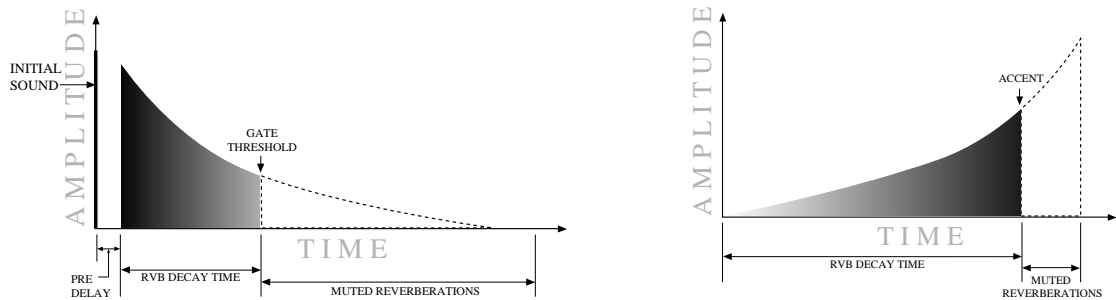
ER Diffusion Controls the smoothness of the early reflections. Ranges from 1 to 10. (ER settings in BigVerb only.)

ER Level Master level control for early reflections. Ranges from 0 to 100. (ER settings in BigVerb only.)

- RV Predelay Controls the amount of time before the first room reverberations are heard. In an actual acoustic space, the amount of reverberation predelay depends largely on the shape and size of the room and the placement of both listener and sound source within the room. Long RV PREDELAY settings place the reverberation after the program material rather than in sync with it. Ranges in milliseconds from 0 to 100.
- RV Spread Controls the dispersal and density of reverberations through the course of the early portion of RV RT60. BigVerb's RV SPREAD varies in 20 ms increments from 20-180 ms. MFX Reverb's RV SPREAD varies in 10 ms increments from 10-100 ms.
- RV Diffusion RV DIFFUSION controls the smoothness of the reverberation. In a real room, reverberation is naturally diffused by air. However, diffusion can also be affected by temperature, humidity, and the presence of absorptive or diffusive materials in the room. Ranges from 1 to 10.
- RV Hi-Freq Decay Controls the decay length (damping) of the high frequency reverberations. Variable from 25Hz to 20 kHz.
- RV Hi-FrqRolloff This is a low-pass filter that sets the rolloff frequency of the reverberations. This is a band-limiting control, and the frequencies above the setting of this Parameter will be rolled off rapidly. Variable from 25Hz to 20 kHz.
- RV Size Sets the apparent size of the reverberant space. As the setting of RV SIZE is increased or decreased, the setting of RV RT60 changes to correspond with the new room size setting. However, changing the setting of RV RT60 does not affect the setting of RV SIZE. Ranges from 1 to 10.
- RV RT60 Controls the length (RT60) of the reverb after the signal has stopped. Ranges in seconds from 0.01 to 20.00.
- RV Level Sets the overall level of the reverberations. Varies from 0 to 100.

Gated reverbs usually include adjustable thresholds to set the point at which the reverberations will be gated (cut off). The Valve FX's RV DECAY TIME control behaves in somewhat the same way, except that instead of setting the length by level (threshold), the length is set by time (in milliseconds). In the left side of the diagram that follows, you can see that reverberations occurring after RVB GATE TIME are muted. This causes the reverb to cut off abruptly.

Gated reverbs are most commonly used on percussion, but there are other ways to employ the unique sound they produce. For instance, using a REVERSE envelope shape, a reverse gate can be accomplished. Rather than decaying out to be cut off by the gate, a reverse gate builds for a specific amount of time, and is cut off by the gate. Reverse envelopes are similar in sound to playing a record backwards. The right diagram below shows how a Reverse envelope works.



The accent point shown in the diagram allows placement of the actual sound, either before or after the gate has cut off the reverberation.

The Valve FX offers three different envelope shapes in the Gated Reverb Algorithm: DECAYING, FLAT, and REVERSE. DECAYING is a standard gated reverb envelope, with a linear decay to the cutoff point. In most applications, the DECAYING envelope doesn't need an accent point, although it can produce some interesting unnatural sounds. In instances where an accent point is not needed, simply turn down the left and right REVERB ACCENT DLY Parameters.

Using a FLAT envelope shape, the reverberation neither decays nor builds, but remains at a constant level for a specified amount of time (determined by the setting of RVB DECAY TIME). This shape is particularly useful for short, percussive sounds.

A REVERSE envelope allows creation of dramatic reverse gate reverb effects, with placement of the accent point ± 50 milliseconds either before or after the end of RVB DECAY TIME.

Gated reverbs can be found in the <REVERB> library, and their Parameters are as follows:

Gated Reverb On / Off..Turns the Module on or off.

Reverb Pre-DelaySets the amount of time before the reverberations are heard. Adjustable from 0 to 100 milliseconds.

Rvb Decay Time.....Controls the amount of time before the gate cuts off the reverberations. Variable from 20 to 1000 milliseconds.

Rvb Envelope.....Sets the shape of the reverberation envelope (DECAYING, FLAT, or REVERSE).

Rvb Diffusion.....Controls the smoothness of the reverberations. Variable from 1 to 10.

Rvb LPF FrequencyReverb low-pass filter. Sets the frequency below which reverberations will be heard. Adjustable from 25Hz to 20kHz.

Rvb Accent DelayAllows placement (in time) of the actual sound, ± 50 milliseconds from the reverb gate point.

Rvb Accent LeftControls the level of the accent in the left side of the stereo soundfield. Variable from 0 to 100.

Rvb Accent RightControls the level of the accent in the right side of the stereo soundfield. Variable from 0 to 100.

Rvb Level LeftSets the output level of reverberations heard in the left channel. Variable from 0 to 100.

Rvb Level Right.....Sets the output level of reverberations heard in the right channel. Variable from 0 to 100.

Delays/Sampler

Module Name	Module Abbrev.	Description
<i>Mono Delay x.x</i>	<i>Dly</i>	<i>1-tap digital delay</i>
<i>2Tap Delay x.x</i>	<i>2TDly</i>	<i>2-tap digital delay</i>
<i>4Tap Delay x.x</i>	<i>4TDly</i>	<i>4-tap digital delay</i>
<i>Stereo Delay</i>	<i>SDly</i>	<i>Stereo digital delay</i>
<i>Modulated Delay</i>	<i>ModDly</i>	<i>Digital delay with pitch modulation</i>
<i>Sampler</i>	<i>Smpl1.5</i>	<i>1.5 second sampler</i>

DELAYS

All the delays in this group have the same basic Parameters for controlling the behavior of the Module. General Parameters include DELAY ON/OFF, DELAY LEVEL, DELAY TIME, DELAY FEEDBACK, and DELAY REPEAT HOLD. The only differences between them lie in the number of taps available and the total amount of delay time. The multi-tap delays also include independent delay time controls for each tap with a feedback control on the last tap in the series.

Each delay Module has a number that immediately follows the name. These numbers represent, in seconds, the amount of delay time available to each Module. For example, if the Module name shown in the display reads MONO DELAY 1.4S, you know that the Module has a maximum of 1.4 seconds of delay time available.

The available delay time ranges are 0.4 seconds (400 milliseconds), 0.5 seconds (500 milliseconds), .8 seconds (800 milliseconds), 1.0 second (1000 milliseconds), and 1.4 seconds (1400 milliseconds). Delay Parameters are as follows:

Delay On / Off Turns the delay Module either on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

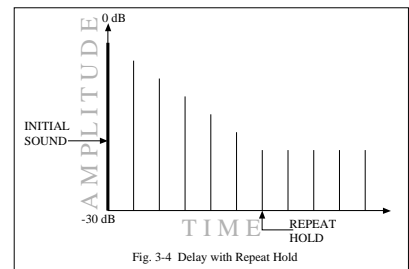
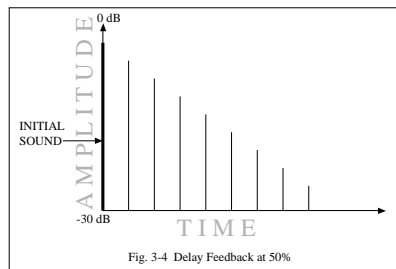
Delay Level Controls the level of the delay Module. Variable from 1 to 100.

Delay Time (Tap #) Controls the delay time of the tap indicated in the display. If a mono delay is used, no tap number is shown. Delay time Parameters are editable in two different ranges to give the most flexibility and accuracy in the least amount of scrolling time. If you press the <UP> Cursor key when the cursor is in the hundred milliseconds position (one place to

the right of the decimal), you will increase the delay time in increments of 100 milliseconds. Pressing the <RIGHT> Cursor key moves the cursor to the third position to the right of the decimal point, or milliseconds position. Each press of the <UP> Cursor key from this position increases the delay time in single millisecond steps. Using this method of ranging allows you to scroll rapidly to large-value delay times without having to wait for the unit to scroll to it in single millisecond steps. Variable from 0.000 sec. to 1.400 sec.

Delay Feedback.....Controls the amount of feedback, or number of repeats, in the delay line. In multi-tap delays, this Parameter controls the feedback amount of the last tap in the series. Variable from 0 (Off) to 99%.

Delay Repeat Hold.....This is the infinite repeat Parameter. When turned on, the delay taps will repeat indefinitely until the Repeat Hold Parameter is disengaged. This Parameter is either ON or OFF.



The Valve FX offers a studio-grade sampler Module. It uses a 40 kHz sample rate for great sound quality. Sample recording and playback can be triggered from the external Valve FX switching device, or via MIDI (through continuous controller linkages). Sampling can also be triggered upon detection of a sound source. Parameters of Sampler Modules are as follows:

Sampler On / Off Turns the Module on or off.

Smpl Plybck Lev Determines the overall level of the sample when played back. Varies from 0 to 100.

Smpl Looping This Parameter has two settings: MANUAL and AUTO. When this Parameter is set to MANUAL: the sample must be triggered either manually or using an audio trigger. When the sample is finished playing, it resets and waits for another manual trigger. When this Parameter is set to AUTO, the sample begins playing. When the sample is finished playing, it is automatically retriggered from the beginning of the sample, and continues retriggering until the Parameter is switched back to MANUAL.

Smpl Record/Play When set to RECORD, the sampler will record a new sample into memory when triggered. When set to PLAYBACK, the sample in memory will be played back when triggered.

Manual Trigger This Parameter allows manual playback triggering of the sample in memory. To trigger the sample, simply press the <UP> Cursor key on this screen. To trigger the Sampler using MIDI, link this Parameter to a MIDI CC number (see Continuous Controller Links, pg. 48)

Smpl Trigg Mode Determines whether audio triggering or manual triggering is active. There are two audio triggering options and one manual triggering option. They behave as follows: when set to MANUAL TRIG, samples and sampling are triggered using manual methods (footswitch, front panel, etc.). When set to AUDIO TRG ONCE, the sample is triggered once using an audio source of a set level (determined by the setting of INPUT TRIG LEVEL), following which this Parameter is automatically reset to MANUAL. When set to AUDIO RE-TRIG, the sample is retriggered any time a signal over the level setting of SAMPLE TRIG LEVEL is detected.

- Smpl Trigg Level.....Sets the level at which the audio signal will trigger the sample. Variable from 0 to 100.
- Smpl Direct Level.....Sets the level of the dry (non-effected) sound. Variable from 1 to 100.
- Smpl Start Point.....Determines the point at which the sample will begin playing after it has been recorded. This Parameter can be used to eliminate unwanted sounds at the beginning of the sample, such as empty space (silence), fret noise, amplifier buzz, wrong notes, etc. Each time this Parameter is changed, the sample is retriggered. This allows easy editing of start sample points. This control can be set at any point in the sample below the setting of SAMPLE END. Like the DELAY TIME Parameter in delay Modules, this Parameter is controlled in two ranges. Refer to the section in the owner's manual on controlling the delay time of a delay Module for explanation of the ranges.
- Smpl Stop Point.....Determines the point at which the sample stops playing. This Parameter can be used to eliminate unwanted sounds from the end of the sample. This Parameter can be set at any point in the sample above the setting of SAMPLE START. Like the DELAY TIME Parameter of delay Modules, this Parameter is controlled in two ranges. Refer to the section on controlling the delay time of a delay Module for an explanation of the ranges.

Pitch Shifters

Module Name	Module Abbrev.	Description
<i>Pitch Shift</i>	<i>Pch</i>	<i>1-voice pitch shifter</i>
<i>Mono Detune</i>	<i>Dtn</i>	<i>Single-voice pitch shifter</i>
<i>Dual Detune</i>	<i>DDtn</i>	<i>Mono dual detuner</i>
<i>Whammy</i>	<i>Wham</i>	<i>Foot-controlled pitch bending effects</i>
<i>Arpeggiator</i>	<i>Arp</i>	<i>Mono arpeggiator</i>

The <PITCH> group includes pitch shifters, mono and dual detuners, arpeggiators and DigiTech's exclusive Whammy™.

Pitch shifters allow you to change your input note by a specified interval and mix it with the original, creating a totally new note. The effect is similar to two or more guitars playing different notes simultaneously.

Detuning is similar in sound to a chorus, except that its pitch remains constant, rather than modulating back and forth between two points. It is best visualized in terms of two guitar strings tuned to the same approximate pitch; both are tuned to the same note, but each is slightly out of tune with the other. Both notes are constant in pitch, but subtle additions in richness and overtones can be heard.

DigiTech's exclusive Whammy™ allows you to create mind-bending dive bombs and pitch bends with the continuous controller pedal on the optional Control One foot controller or by using MIDI Continuous Controllers. All the intervals are selectable and can be stored in memory for later use. You've never heard anything like it!

An arpeggiator is simply a pitch shifter in the feedback loop of a delay. Each time a note is fed back to the input of the pitch shifter, it is once again pitch shifted and sent to the delay, which, in turn, sends part of the signal to the output and the rest back into the pitch shifter to repeat the process. With high feedback settings and short delay times, the sound is reminiscent of an early analog synthesizer.

Parameters are as follows:

PITCH SHIFTERS

Pitch On / OffTurns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

Pitch Level.....Controls the overall level of the pitch shift. Variable from 0 to 100.

- Pitch Shft Amount.....Sets the interval of semitones between the original note and the pitch shifted note. Variable from -24 to +24 (4 octaves).
- Pitch Detune.....Determines the amount of detuning applied to the shifted note. Variable, in cents, from -100 to +100.
- Pitch TrackingControls the sound quality/tracking speed of the pitch shifted material. This control should be set in relation to the Pitch Shift Amount or the interval setting. There are 10 different tracking settings, and some overlap of intervals is provided to help you find the sound that works best for you more quickly. The final judge of this setting should be your ears.
- Pitch RegenerateControls the amount of pitch shifted material that is fed back to the input of the pitch shifter. High regeneration settings produce interesting unnatural sounds. Varies from -99% to +99%.

DETUNERS

- Detune On / Off.....Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.
- Detune PredelaySets the amount of time, up to 100 ms, before the detuned note is heard.
- Detune AmountControls the amount of detuning. Variable, in cents, from -99 to +99.

WHAMMY™

- Effect On / OffTurns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.
- Whammy FunctionSelects the function of the Whammy Module. There are 16 functions available in regular Whammy Modules. They are as follows: SHALLOWDETUNE, DEEP DETUNE, 1 OCTAVE ABOVE, 2 OCTAVES ABOVE, 2ND BELOW, 1 OCTAVE BELOW, 2 OCTAVES BELOW, 2NDABV- 3ABV, MIN3AB-MAJ3AB, 3RDABV-4THABV, 4THABV-5THABV, 5THABV-6THABV, 5THABV-7THABV, 4THBLW-3RDBLW, 5THBLW-4THBLW, AND 12BELOW-12ABV.

Whammy PedalThe WHAMMY PEDAL Parameter reflects the current setting of the continuous control device used to control the whammy effect. This Parameter can be modified manually using the Valve FX's stand-alone whammy pedal. As the Parameter is modified, the pitch of the original note will change in intervals according to the setting of the WHAMMY FUNCTION. Varies from 0 to 100.

ARPEGGIATORS

Arpeggiator On / OffTurns the Module on or off.

Arpeggiator LevelControls the overall level of the arpeggiator. Variable from 0 to 100.

Arpeggio ShiftSets the interval between the original note and the shifted note. Variable from -24 to +24 (4 octaves).

Arpeggio DetuneDetermines the amount of detuning applied to the shifted note. Variable, in cents, from -99 to +99.

Arp Pch TrackingControls the sound quality/tracking speed of the pitch shifted material. This control should be set in relation to the amount of pitch shifting being performed. That is, as the pitch shift interval increases, ARP PCH TRACKING should be increased to optimize sound quality. Ranges vary from 0-100 cents to 12-24 Tones.

Arpeggio DelayDetermines the amount of delay applied to the shifted note. Variable, in milliseconds, from 0 to 400.

Arpeggio FeedbackSets the amount of pitch shifted material that is fed back into the input of the arpeggiator. High settings of ARPEGGIO FEEDBACK produce interesting unnatural sounds. Variable from from -99% to +99%.

Mod (Modulation Effects)

Module Name	Module Abbrev.	Description
<i>Mono Chorus</i>	<i>Cho</i>	<i>1-in / 1-out chorus</i>
<i>Dual Chorus</i>	<i>DCho</i>	<i>1-input / 2-output dual chorus</i>
<i>4 Phase Chorus</i>	<i>4PCho</i>	<i>1-input/4-output chorus w/ 4 independent delay times</i>
<i>Mono Flange</i>	<i>Fla</i>	<i>Mono flange</i>
<i>Dual Flange</i>	<i>DFla</i>	<i>1-input / 2-output dual flange</i>
<i>Mono Phaser</i>	<i>Pha</i>	<i>Mono phaser</i>
<i>Dual Phaser</i>	<i>DPha</i>	<i>1-input / 2-output dual phaser</i>
<i>Mono Tremolo</i>	<i>Trm</i>	<i>1-in / 1-out tremolo</i>
<i>Stereo Tremolo</i>	<i>STrm</i>	<i>Stereo input / output tremolo</i>
<i>Auto Panner</i>	<i>Pan</i>	<i>1-in / 1-out auto panner</i>

CHORUSES

The Valve FX offers a diverse selection of choruses, each unique in character and sound. The dual chorus and 4-phase chorus Modules offer exceptionally rich chorusing using multiple voices with different phasing characteristics. The dual chorus Modules use two choruses with their modulating waveforms set 180 degrees out of phase. The 4-phase chorus Modules have four chorus voices with their modulating waveforms set 90 degrees out of phase. Each chorus in the Module has continuously variable phase controls (CHORUS DELAY). Chorus Parameters are as follows:

Chorus On / Off Turns the Module on or off.

Chorus Level Controls the overall level of the chorus.
Variable from 0 to 100.

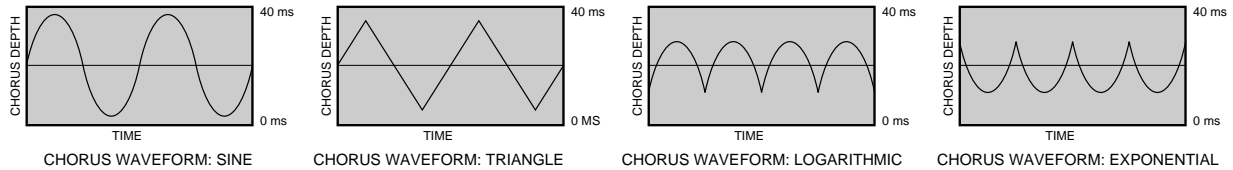
Chorus Speed Controls the speed of the chorus sweep.
Variable from 0.06 to 16.00 Hz.

Chorus Depth This Parameter sets the sweep depth (intensity) of the chorus. Variable from 0.00 to 40.00 milliseconds.

Chorus Delay (#) Sets the amount of delay present in the chorus effect. Varies from 0 to 60 milliseconds.

Chorus Waveform Controls the LFO waveform pattern of the chorus effect. SINE produces a smooth sine wave-type chorus with even transitions in and

out of the turnaround points. TRIANGLE is a linear chorus effect, and ramps the pitch of the wave up and down with no slowing at turnaround points. LOGARITHMIC and EXPONENTIAL waveforms are more dramatic in their effect on the signal (waveform selection is not available in 4 Phase Chorus).



FLANGERS

The Valve FX also offers studio-quiet flanging. The dual flange Module offers exceptionally rich flanging using multiple voices with different phasing characteristics. The dual flange Module uses two flangers set 180 degrees out of phase. Flange Parameters are as follows:

Flange On / Off Turns the Module either on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

Flange Level..... Controls the overall level of the flange. Variable from 0 to 100.

Flange Delay Sets the amount of delay present in the flange effect. Varies from 0 to 60 milliseconds.

Flange Feedback Controls the amount of flanged sound fed back to the input of the Module. High regeneration settings produce dramatic and interesting unnatural sounds. Varies from -99% to +99%. This Parameter can also be turned off.

Flange Speed..... Controls the speed of the flange sweep. Variable from 06.00 to 16.00 Hz.

Flange Depth This Parameter sets the sweep depth (intensity) of the flange. Variable from 0.00 to 40.00 milliseconds.

Flange Waveform Same as CHORUS WAVEFORM.

PHASERS

- Effect On / Off Turns the Module either on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.
- Phaser Level Controls the overall level of the phaser. Variable from 0 to 100.
- Phaser Regeneratr Controls the amount of phased sound fed back to the input of the Module. High regeneration settings produce dramatic and interesting unnatural sounds. Varies from -99% to +99%. This Parameter can also be turned off.
- Phaser Speed Controls the speed of the phase sweep. Variable from 06.00 to 16.00 Hz.
- Phaser Depth This Parameter sets the sweep depth (intensity) of the phaser. Variable from 0 to 100.
- Phaser Waveform Same as CHORUS WAVEFORM.

TREMOLOS

Tremolo was one of the first real “effects”, and appeared mostly on early guitar amplifiers. Because of this, tremolo is sometimes perceived as sounding “old” or “vintage”. The Valve FX, however, breathes new life into this classic effect, providing totally transparent volume modulation of sound sources.

- Tremolo On / Off Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.
- Tremolo Level Controls the output level of the tremolo effect.
- Tremolo Speed Controls the tremolo speed (speed of modulation). Variable from 0.00 to 16.00 Hz.
- Tremolo Depth Adjusts the intensity of the tremolo effect. Varies from 0 to 100.

AUTO PANNERS

An auto panner is a modern relative of the tremolo that, instead of modulating the volume of the entire sound, modulates the sound from left to right at a given rate. Both tremolo and auto panner Modules can be found in the <MOD> library. Parameters are as follows:

- Effect On / Off Turns the Module on or off.
- Panner Level Controls the output level of the panning effect. Varies from 0 to 100.
- Panner Speed Controls the panning speed (speed of modulation). Variable from 0.06 to 16.00 Hz.
- Panner Depth Adjusts the intensity of the panning effect. Varies from 1 to 100.

Mixers (mono)

Mixers (stereo)

Mixers (3-out)

<i>Module Abbrv.</i>	<i>Description</i>	<i>Module Abbrv.</i>	<i>Description</i>	<i>Module Abbrv.</i>	<i>Description</i>
<i>2x1</i>	<i>2-in / 1-out mixer</i>	<i>3x2</i>	<i>3-in / 2-out mixer</i>	<i>3x3</i>	<i>3-in / 3-out mixer</i>
<i>3x1</i>	<i>3-in / 1-out mixer</i>	<i>4x2</i>	<i>4-in / 2-out mixer</i>	<i>4x3</i>	<i>4-in / 3-out mixer</i>
<i>5x1</i>	<i>5-in / 1-out mixer</i>	<i>5x2</i>	<i>5 in / 2-out mixer</i>	<i>5x3</i>	<i>5 in / 3-out mixer</i>
		<i>6x2</i>	<i>6-in / 2-out mixer</i>		
		<i>7x2</i>	<i>7-in / 2-out mixer</i>		
		<i>8x2</i>	<i>8-in / 2-out mixer</i>		

The Valve FX's Mixer modules enable the use of effects in parallel configurations. They allow multiple Module outputs to be connected to a single input of another Module. Each mixer channel is equipped with an input level to give you maximum control over levels coming and going to and from different Modules. Mixer Modules appear in 1-out, 2-out, and 3-out configurations. 2-out and 3-out configurations include pan controls on the inputs. 3-out mixers are configured so that the first output is actually a mono sum of all the inputs while the outputs two and three function as left and right outs respectively.

Mixers.....When the MIXERS Parameter is set to HIDDEN, mixer Parameters disappear from the Parameter menu. To see mixer Parameters, you must turn the Parameter to DISPLAYED or press the <MIX> key. The <MIX>key option allows you to temporarily show mixer Parameters without the need for turning this Parameter on each time.

NOTE: The next two Parameters use a 4x2 Mixer as an example. The actual numbers in the screen will vary depending on the Mixer Module being used.

4x2 In 1 Level.....Controls the level of the input indicated in the display. Variable from 0 to 100.

4x2 In 1 Pan.....Controls the panning of the input indicated in the display from left to right. Variable from ALL LEFT to ALL RIGHT.

More

Module Name	Module Abbrev.	Description
<i>Silencer™ Noise Gate</i>	<i>NGt</i>	<i>Mono noise gate</i>
<i>Stereo Ducker</i>	<i>SDuc</i>	<i>Stereo input / output automatic ducker</i>
<i>Phase Inverter</i>	<i>Inv</i>	<i>Inverts signal phase</i>
<i>Traditional Wah</i>	<i>TWah</i>	<i>Vintage wah effect</i>
<i>Automatic Wah</i>	<i>AWah</i>	<i>Automatic amplitude-based wah effect</i>

NOISE GATES

The Valve FX utilizes Silencer™ digital noise reduction, which can only be found in the S-DISC™, to perform its noise gating chores. The gate is actually found in the digital portion of the processing which makes it so unique. This means that when the gate is closed, it writes digital zeros (commonly known as digital black) which brings the processor to its quietest status. The Parameters are as follows:

Effect On / Bypass Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.

NG Threshold Sets the level at which the gate will open. Ranges from $-\infty$ to $+\infty$.

NG Hold Time Controls the amount of time the signal must remain below the off-threshold before NG RELEASE TIME begins. This control should be set long enough to prevent false triggering during long decay times. Ranges from 0 to 500 milliseconds.

NG Attack Time Controls the how fast the gate opens after detecting a signal above NG THRESHOLD. Large numbers yield slower attack times, while small numbers give a fast attack. Varies from 0 to 2000 milliseconds (2 seconds).

NG Release Time Controls how fast the gate closes after the signal has fallen below NG THRESHOLD for the amount of time set by NG HOLD TIME. Large numbers yield slow release times, while small numbers give a fast release. Varies from 0 to 2000 milliseconds (2 seconds).

	<p><u>NG Attenuation</u>.....Sets the amount of attenuation (noise floor reduction) when the gate is closed. Varies from 100 dB (below the level of the ungated noise floor) to 0 dB (no attenuation).</p> <p><u>NG Delay Time</u>.....Allows placement of a slight delay on the source signal after the gate is triggered. This Parameter allows source material with a very fast attack time to be heard in its entirety without the lag in gate response that is common to inferior noise gates. Variable from 0 to 10 milliseconds.</p>
DSP LEVEL	<p><u>DSP Level</u>.....Controls the overall level of the effected signal. Variable from 0 to 100.</p>
WAHS	<p><u>Effect On / Off</u>Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.</p> <p><u>Level</u>.....Controls the overall level of the wah effect. Varies from 0 to 100.</p> <p><u>Wah Pedal Position</u>The PEDAL POSITION Parameter reflects the current setting of the continuous control device used to control the wah effect. This Parameter can be modified manually using the Valve FX's Data wheel or by linking it to a continuous controller to perform the wah function. As the Parameter is modified, the tone of the original note will change. Varies from 0 to 127.</p>
DUCKERS	<p>This effect lowers the level of an Effect passing through the ducker when a signal is present at the third input. This allows the effect passing through the ducker to be more dynamic.</p> <p><u>Effect On / Off</u>Turns the Module on or off. When Modules are turned off, their Parameters disappear from the Parameter menu. To see the Parameters, you must turn the Module on.</p> <p><u>Duc Threshold</u>.....Sets the minimum input level required to trigger the ducker (it is perhaps easier to think of this Parameter as the ducker sensitivity). Higher settings of CONTROL THRESHOLD require higher input levels to trigger the ducker. Lower settings make the ducking effect easier to trigger. Ranges in 1 dB steps from -100 to 0 dB.</p>

Duc Hold Time Controls the amount of time before the ducker disengages after the signal has stopped. Varies from 0.000 to 5.000 seconds.

Duc Attenuation Adjusts the amount of level attenuation applied to the ducked effects when the ducker is engaged (ducker is engaged when the input level exceeds the setting of CONTROL THRESHOLD). Adjustable from -100 dB to 0 dB.

Duc Attack Rate Sets the amount of time over which the ducker will reach full attenuation. Adjustable in milliseconds from 0.00 to 14.00 seconds.

Duc Release Rate Sets the amount of time over which the ducker will disengage. Adjustable in milliseconds from 0.00 to 14.00 seconds.

PHASE INVERTER

Phase Inverter Flips the signal phase 180 degrees. Settings are either IN PHASE or OUT OF PHASE.

Phase Inv Level Sets the level of the output signal from the Phase Inverter Module. Adjustable from 0 to 100.

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SECTION 5 - THE UTILITY MENU

UTILITY MENU

The Utility section of the Valve FX contains several functions, including MIDI setup, footswitch setup menu, display contrast, output setting, cabinet emulation mode, sales banner setup, and the factory Program restore menu. These menus are reached by pressing the <UTILITY> button. The procedure is as follows:

- Press the <UTILITY> button once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →

```

This is the main Utility options menu. From this selection screen, you are able to choose the option you want using the Function keys. Note that the cursor is located under the 4 of the Contrast Parameter. The LCD contrast can be adjusted using the Parameter <UP>/<DOWN> cursor keys.

The arrow indicates that more options can be found by pressing the <RIGHT> or <LEFT> Cursor key (depending on the direction of the arrow in the display). Note that each option is preceded by an inverse (white on black) number. These numbers indicate the Function button you should press to reach each option or submenu.

Also, it is important to note that when you are several submenus below the main menu (such as in the footswitch setup menu) you can press the <EXIT> key to take you back to the main menu one level at a time, or press the <UTILITY> button to return to the current Program's title screen.

MIDI SUB-MENU

All of the MIDI setup menus for the Valve FX are found under the MIDI sub-menu. These setup items include MIDI Channel, Send Prg (Program Change), Prg Send Map, Prg Rcv Map, CC Assignments, Display CCs, Bulk Dump, Program Dump and MIDI Merging.

MIDI CHANNEL

The Valve FX's MIDI Channel Parameter allows you to select the MIDI receive channel on which the Valve FX will respond to MIDI control. This option can be set to channels 1-16, OMNI (all channels), or Disabled. If this Parameter is set to Disabled, the Valve FX will not recognize incoming MIDI data.

- Press the <UTILITY> button once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →

```

- Press Function key 1 once. The display reads:

```
MIDI Channel:1
Send Prg: Off →
```

Note that a cursor appears under the `MIDI Channel` number.

- Using the <UP>/<DOWN> Cursor keys, Function key 1, or the Data wheel select the channel on which you want the Valve FX to receive MIDI data.
- To exit, press the <UTILITY> button once.

SEND PRG (PROGRAM CHANGE)

`Send Prg` determines whether or not corresponding Program Changes will be sent out the Valve FX MIDI port as you select Programs. This Parameter is either `On` or `Off` but will be ignored by the Valve FX if all the Devices in the Program Send Map are disabled. The procedure is as follows:

- Press the <UTILITY> button once. The display reads:

```
MIDI Contrst:4
Foot Tuner →
```

- Press Function key 1 once. The display reads:

```
MIDI Channel:1
Send Prg: Off →
```

Note that a cursor appears under the `MIDI Channel` number.

- Press Function key 2 once. The cursor appears under `Off`.
- Using the Parameter <UP>/<DOWN> Cursor keys, turn the function on or off. When you're finished, press the <UTILITY> button once and you will be returned to your original position in the Program, or press <EXIT> to return to the previous Utility setup menu.

PRG SEND MAP

Device mapping allows the Valve FX to act as a MIDI multiplexer for up to four other devices. Here's how it works: when you change from the current Program, or the Valve FX receives a Program Change message via MIDI, each device you specify can receive independent Program Change messages on an individual MIDI channels. This feature can allow you to control up to four separate MIDI devices with MIDI information received upline on one MIDI channel. If all four

devices are set to **Disabled**, no Program Changes will be sent out the MIDI port. To set up external devices:

- From the Program title screen press the <UTILITY> button once. The display reads:

```

MIDI Contrst:4
Foot Tuner →
  
```

- Press Function key 1 once. The display reads:

```

MIDI Channel:1
Send Prg: Off →
  
```

- Press the <RIGHT> Cursor key once. The display reads:

```

Pr9 Send Map
←Pr9 Rcv Map →
  
```

- Press Function key 1 once. The display reads:

```

Device 1
Channel 1 →
  
```

Note that a cursor appears under the **Device** number.

- Using the <UP>/<DOWN> Cursor keys, select the **Device** number (1-4) you want to edit.
- Press <STORE> and rename the device with a custom name according to the standard naming procedures found on pg. 17. When you're finished, press the <STORE> key again, and the display again reads:

```

[CUSTOM NAME]
Channel 1 →
  
```

- Press Function key 2 to move the cursor under **Channel 1**.
- Using the <UP>/<DOWN> Cursor keys, select the MIDI channel you want the device to respond to (if this Parameter is set to **Disabled**, the Valve FX will not send out any Program Change messages for that device).

- Press the <RIGHT> Cursor key once. The display reads:

```

Device # Send
Prg:1   As:1

```

This screen tells you that when the Valve FX sends or receives MIDI Program Change number 1, the selected device will be sent Program Change number 1 on its designated MIDI channel.

- Press Function key 2 once. The cursor appears under `Prg:1`.
- Using the <UP>/<DOWN> Cursor key, select the Valve FX Program number (1-256) that will send the mapped Program Change to the external device.
- Press Function key 3 once. The cursor now appears under `As:#`. This Parameter determines the Program Change number that the external device will receive when the appropriate Program Change number is received on the Valve FX. If this parameter is set to `Disabl`, the Valve FX will send nothing to that particular external device. Select the Program Change number that will be sent (1-128, `Disabl`) using the <UP>/<DOWN> Cursor keys.

You may map as many of the Program Changes as you like. These are stored in memory automatically, and are always active until you change them or until the factory presets are restored.

PRG RCV MAP

The `PrG Rcv MAP` function allows you to map incoming Program Changes that are within MIDI range to any Program out of MIDI Program Change number range on the Valve FX. For example, suppose you want to access Program #146 using a MIDI Program Change. Since MIDI only supports Program Change numbers 1 - 128, Program Change number 146 would normally be impossible for the Valve FX to recognize. With the Valve FX's flexible MIDI input mapping, however, you can assign a Program Change number that MIDI will recognize to be received as Program #146 on the Valve FX.

To illustrate, let's assign MIDI Program Change number 26 to change the Valve FX to Program #146.

- After entering the main MIDI setup menu, scroll <RIGHT> until the display reads:

```

PrG Send Map
←PrG Rcv Map →

```

- Press Function key 2 (Pr9 Rcv Maf) once. The display reads:

```

Rcv MIDI Pr9  1
As ValveFX:   1

```

- The cursor appears under Rcv MIDI Pr9 1. This display means that MIDI Program Change number 1 is currently set to activate Program number 1 on the Valve FX.
- Using the Parameter <UP>/<DOWN> Cursor keys, set the Rcv MIDI Pr9 number to 26. Note that as you change this number, the As ValveFX: number changes with it.
- Press Function key 2 once. The cursor appears under As ValveFX 26.
- Change the number to 146 using the <UP> Cursor key. When you're finished, press the <UTILITY> button to exit back to the Parameter screen you left.

When the Valve FX receives Program Change number 26 via MIDI, Program 146 will be recalled. Any number of Program Changes (up to the MIDI maximum of 128) can be mapped to recall any Program number on the Valve FX.

Continuous Controller Links

Creating MIDI continuous controller links on the Valve FX has been specially designed to be extremely fast and simple. Up to 10 CCs can be linked to nearly any Parameter of each Program in the Valve FX and can be controlled with an external MIDI device such as a DigiTech MC². The optional Control One foot controller can also be used to control CC Links. CCs are active only when the Program to which they are linked is selected.

To show you how it's done, let's link Local CC #1 to a Parameter item. The procedure is as follows:

- Locate the Program Parameter you want to link to a MIDI continuous controller.
- Enter the MIDI setup menu (by pressing the <UTILITY> key once) and then press Function key 1. The display reads:

```

MIDI Channel:1
Send Pr9: Off →

```

- Using the <RIGHT> Cursor key, scroll until the display reads:

```

CC Assignments
←Disp CC's:Off→

```

- Press Function key 1 once. The display reads:

```

LocalCC Link:1
Assign

```

- Using the <UP>/<DOWN> Cursor keys, select which of the 10 possible CC Links you want to assign to the Parameter.
- Press Function key 2 once. The display reads:

```

[Parameter Name]
No Link      →

```

NOTE: If you failed to pick a Parameter before attempting to assign it, you will see this display instead:

```

Move to Param to
Link Local CC

```

This simply means that you need to select the Parameter before you try to assign it to a CC Link.

- Using the <UP>/<DOWN> Cursor keys, select the MIDI continuous controller number that will control the Parameter [0–127, ChPress (channel pressure), IntPed (internal pedal), ExtPed (external pedal), or No Link].

The location of IntPed and ExtPed depends on their respective CC assignments. Since the IntPed is defaulted to CC 4 from the factory you won't see CC4 in the menu. In its place you will see IntPed since that is its assignment. See Continuous Controller Pedal, page 58 to change the pedal's default CC number.

- Press the <RIGHT> Cursor key once. The display reads:

```

Minimum CC Value
←[PARAM VALUE] →

```

The value shown with this Parameter automatically defaults to the minimum Parameter value available.

NOTE: The `Minimum CC Value` and `Maximum CC Value` Parameters allow you to limit the range of the continuous controllers in the full on and full off positions. The values you select on these two screens determine the behavior of the continuous controller. For example, if a Parameter ranges from 0-100 and `Minimum CC Value` is set at 40, the lowest the Parameter can be set via continuous control is 40. Likewise, if `Maximum CC Value` is set at 90, the CC range would run from 40 to 90. It is also possible to set `Minimum CC Value` higher than `Maximum CC Value` to reverse the action (polarity) of the continuous controller.

- Use the <UP>/<DOWN> Cursor keys to set the minimum Parameter value when the continuous controller is at minimum.
- Press the <RIGHT> Cursor key once. The display reads:

```
Maximum CC Value
←[PARAM VALUE]
```

The number shown with this Parameter automatically defaults to the maximum Parameter value).

- Use the <UP>/<DOWN> Cursor keys to set the maximum Parameter value when the continuous controller is at maximum.
- Press the <UTILITY> Cursor key once to return to Parameter in the Program. Note that the CC symbol appears in the upper right corner of the display. This symbol simply tells you that the Parameter is linked to a continuous controller.

At this point, you have successfully assigned CC Link #1 to a Parameter and a specific continuous controller number. When you move your CC transmitting device (such as the internal pedal of the optional Control One foot controller), the Valve FX sweeps smoothly between the two values you selected (minimum, maximum). The Program must now be saved or the CC Link assignment will be lost upon changing Programs (see Storing / Naming Programs, pg. 17).

NOTE: In order for the Valve FX to respond to incoming CCs, the Valve FX `MIDI Channel` setting must match the channel of the incoming messages. The Valve FX `MIDI Channel` can be set to any one of the 16 MIDI channels, or all channels (omni).

Let's back up to the LocalCC Link screen for a moment and tackle another scenario: if the Local Link number you want already has a CC assignment, the LocalCC Link display will read:

```
LocalCC Link:1
New[PARAM NAME]
```

This screen gives you the option of either reassigning the link (New) or selecting a different Local CC Link number along with the Minimum and Maximum CC settings of the current CC Link assignment. To erase Parameter CC links:

- Enter the MIDI setup menu (by pressing the <UTILITY> key once) and press Function key 1. The display reads:

```
MIDI Channel:1
Send Prg: Off →
```

- Using the <RIGHT> Cursor key, scroll until the display reads:

```
CC Assignments
←Disp CC's:No→
```

- Press Function key 1 once. The display reads:

```
LocalCC Link:#
[PARAM NAME]
```

- Press Function key 1 once. The display reads:

```
[PARAM NAME]  %
Link to: IntPed →
```

- Using the <DOWN> Cursor key or the Data wheel, scroll until the bottom line reads No Link.
- Press <UTILITY> to exit to your original position in the Program or <EXIT> to exit to the previous Utility menu.

It is also possible to toggle continuous controller values between 0 to 127 using a pedal on the optional Control One foot controller (see page 56, Toggle CC). From the factory, all the effect on/off functions are performed using this toggle feature, and in some cases, more than one item is toggled with a single footswitch.

The default CC numbers and how they are used as effect groups on the Valve FX are as follows:

CC #	Function	Control One Patch #
21	Compression On / Off	6
22	Distortion On / Off	7
23	Modulation/Pitch On / Off	8
24	Delay On / Off	9
25	Reverb On / Off	0 (10)

The Control One foot controller setup is defaulted to use these CC numbers as its CC toggle assignments. All of the factory Programs use these same CC numbers (along with CC 4 for the continuous controller pedal) to control these various Parameters in an organized fashion.

DISPLAY CCs

This is a simple option that allows you to see the CC values change in real time. When this Parameter is set to **Yes**, the CC response time is slowed slightly, making it useful for troubleshooting MIDI CC problems (for quickest response time, this Parameter should be set to **No**).

Also, when this option is enabled, any CC activity will cause the Valve FX to automatically jump to the first Parameter screen of the values being controlled. To display CCs, the procedure is as follows:

- After entering the MIDI setup menu, press the <RIGHT> Cursor key twice. The display reads:

```

  CC Assignments
  ←Dis= CC's:No →
  
```

- To change the setting, press Function key 2 until the display shows the setting you want. When you're finished, press the <UTILITY> button once to return to your original position in the Program.

BULK DUMP

This option allows you to dump a copy of the entire contents of the Valve FX memory out the MIDI port. This is particularly useful for backing up the memory of the Valve FX, or for copying all the Programs from one Valve FX to another. The procedure is as follows.

- Connect the MIDI Out of the Valve FX to the MIDI in of another Valve FX, computer, or external System Exclusive recording device.
- After entering the main MIDI menu, press the <RIGHT> Cursor key three times. The display reads:

```

  Bulk Dump
  ←Program Dump →
  
```

- Press Function key 1 once. The display reads:

```
DUMP MIDI Data?
Press [F1] for Yes
```

- To dump a copy of the entire contents of the Valve FX memory, press Function key 2. To abort the operation, press <EXIT>.
- The display briefly reads:

```
**Dumping MIDI**
**  Data  **
```

When the dump is finished, the display returns to:

```
[F1]Bulk Dump
←[F2]Program Dump →
```

- To return to your original position in the Program, press the <UTILITY> button.

MIDI PROGRAM DUMP

This option allows you to dump an individual Program from the Valve FX out the MIDI port to another device. It also allows you to dump the selected Program as a Program number other than its own. The procedure is as follows.

- Connect the MIDI Out of the Valve FX to the MIDI in of another Valve FX, a computer, or an external System Exclusive recording device.
- After entering the main MIDI menu, press the <RIGHT> Cursor key three times. The display reads:

```
[F1]Bulk Dump
←[F2]Program Dump →
```

- Press Function key 2 once. The display reads:

```
Dump [F1]PrG:###
      [F2]as:### [F3]Start
```

- Using the <UP> and <DOWN> Cursor keys, select the Program number you want to dump out the MIDI port.
- Press Function key 2 once. Note that the cursor moves under [F2]as:1.

- Using the <UP>/<DOWN> Cursor keys, select the Program number location in which you want the dumped Program to appear.
- Press Function key 3 to start the dump. The display briefly reads:

```
* Sending      *
* Program ###  *
```

To abort the operation press the <EXIT> key.

MIDI MERGING

MIDI Merging allows incoming MIDI data to be merged with any MIDI data generated by the Valve FX before being sent to the MIDI Out port. This is a simple On or Off option. To change the setting of the MIDI merging option, the procedure is as follows:

- After entering the MIDI setup menu, press the <RIGHT> Cursor key four times. The top line of the display reads:

```
MIDI Merging
←      On
```

- To change the setting, press Function key 1. When you're finished, press the <UTILITY> button once to return to Program title screen.

PROGRAMMING THE FOOTSWITCH The Foot Controller setup menu contains all the setup options necessary to use the Valve FX with the Optional Control One foot controller. The Foot Controller allows you to assign 30 Banks of Patches (10 Patches per Bank) to be used as footswitch functions. Patch numbers coordinate exactly with footswitch numbers on the foot controller. The foot controller can be thought of as a MIDI controller (even though by itself it is not a MIDI controller). All the assignments made for the foot controller are interpreted as MIDI information by the Valve FX.

If a Bank is set up with Toggle CC and Int Ped CC assignments, Parameters can be controlled in real time by linking them to the same MIDI continuous controller numbers (0 through 127). For example, you can assign Patch 1 of Bank 10 as Toggle CC 100. Any Program containing Parameters linked to CC 100 can then toggled between their defined minimum and maximum values. For more information about linking Parameters see page 48, Continuous Controller Links.

From the factory, the Banks, Patches, and Programs are set up to map as follows: Bank 1, Patches 1-5 recall Programs 1-5 on the Valve FX, in Bank 2 Patches 1-5 recall Programs 6-10 of the Valve FX, Bank 3 recalls Programs 11-15, etc.

The submenus included under the Foot Controller setup menu are: Patch Assignment, Continuous Control Pedal, Program List Assignment, and LED Assignment.

PATCH ASSIGNMENT

The Patch Assignment option allows any Patch in any Bank of the Control One foot controller to recall a Valve FX Program number. To illustrate, let's set Patch 7 of Bank 4 to recall Program 150 on the Valve FX. The procedure is as follows:

- From the Program title screen, press <UTILITY> once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →
  
```

- Press Function key 2 once. The display reads:

```

Patches  CC Ped
PrgList  Assign→
  
```

- Press Function key 1. The display reads:

```

Bank 1  Patch 1
[PROG. NAME]  1
  
```

This screen means that Patch 1 in Bank 1 of the Valve FX is set to recall Program 1 of the Valve FX.

- Since we need to assign Patch 7 in Bank 4, let's first select Bank 4 for editing. To do this, press Function key 1. Note that a cursor appears under the number next to **Bank**.
- Use the <UP/DOWN> Cursor keys to select the Bank number for editing (in this case, Bank 4).
- Press Function key 2. The cursor moves to the number next to **Patch**.
- Use the <UP/DOWN> Cursor keys to select the Patch you want to assign (for this example, Patch 7). Again, as you change the Patch designation, the Program number changes to reflect the current assignment for the Patch.
- Press Function key 3. The cursor moves to the number next to the Program name.

- Finally, use the <UP/DOWN> Cursor keys or the Data wheel to select Program 150. The display should now read:

```

Bank 4 Patch 7
(PROG-NAME) 150

```

- Press <UTILITY> to exit to your last position in the Program.

Now, when you're in Bank 4, pressing Patch footswitch #7 on the Control One foot controller will recall Program #150 on the Valve FX.

PROGRAM / BANK - UP / DOWN

Instead of choosing a Program as a Patch in a Bank (as described in Patch Assignment above), it is possible to assign various performance functions to the footswitches. When assigning the function of the Patch, scroll past Program 256 and these other options will appear. Program Up, Program Down, Bank Up, and Bank Down perform exactly as the name implies in that they increment and decrement through Programs or Banks.

NOTE: When using Program Up / Program Down or Bank Up / Bank Down, it is important to remember that they function only within their assigned Bank. When you leave the Bank in which they are assigned, they will take on their assigned function for the newly selected Bank. These functions can be assigned to as many Banks in the Valve FX as you want, but remember that you must set up each Bank individually.

TOGGLE CC

It is also possible to set up a Patch so that the footswitch acts as a Continuous Controller toggle. Following the same procedure as Patch Assignment, a Toggle CC ## can be selected in place of a Program number. You will find, for example, that Patch 6 in every Bank is assigned as Toggle CC 21 at the factory. Each time footswitch 6 is pressed, it will toggle between values 0 and 127 of CC 21. By following the factory default Patch / CC map on page 51, this causes the Compression to be turned On and Off in nearly all the Factory Programs.

INT PED = CC

The built in Continuous Controller Pedal (defaulted to CC 4) can be reassigned to manipulate a different Continuous Controller by setting a patch up with a Int Ped = CC ##. Use the same procedure as Patch Assignment and choosing Int Ped = CC ## instead of a Program number.

Upon hitting the assigned footswitch, the Internal CC pedal will be reassigned from its current controller to the new continuous controller. Hitting the footswitch again will assign the pedal back to the default CC number. Changing the Program will also always cause the pedal to be assigned to the default CC number.

This function is especially useful if you want to use the CC pedal with a Program in more than one way. For example, you can control the level of a Delay linked to CC 4. Then, in real time, reassign the pedal to CC 10 which will control any Parameter in the Program linked to CC 10 (like a Reverb level).

LIST UP / DOWN

Another special feature of the Foot Controller menu allows you to step through custom sequences of Programs using a single footswitch. These sequences are called Lists. They can be up to 32 steps in length, and each step has its own Program number assignment. To use the List, assign a Patch as **List UP** and another as **List Down**.

PRG LIST ASSIGN

Once the **List UP** and **List Down** are assigned as Patches, the actual List of Programs needs to be assigned. The procedure is as follows:

```
MIDI Contrst:4
Foot Tuner →
```

- Press Function key 2. The display reads:

```
Patches CC Ped
PrgList Assign→
```

- Press Function key 3. The display reads:

```
List Size:10
→
```

This display tells you that the list is currently set to be 10 steps long. You can adjust the number of steps in the List using the <UP / DOWN> Cursor keys or the Data wheel (a List can have a maximum of 32 steps). The right arrow on the bottom line indicates that there are more List setup options available by pressing the <RIGHT> Cursor key.

- Press the <RIGHT> Cursor key. The display reads:

```
Step Number 1
←[PROG NAME/#]
```

- Press Function key 1. Using the <UP / DOWN> Cursor keys or the Data wheel select the step number you want to assign or change.
- To change the Program number assigned to the selected step

number in the List, press Function key 2 once and use the Data wheel to scroll to the desired Program number.

- When you are finished adjusting your List, press the <UTILITY> key once to exit to your last position in the Program.

CONTINUOUS CONTROL PEDAL

This series of menus and submenus allows setup of the continuous controller pedal(s) of the Control One foot controller. Using these pedals, you have real-time control over nearly any Parameter in the Valve FX. For instance, you might use the CC pedal to sweep from a gritty overdrive to roaring distortion while simultaneously washing in chorus and delay.

There are several things you must do in order for the continuous controllers to work properly. The first step is to assign a MIDI CC number to your CC pedals.

ASSIGN PEDAL CC NUMBER

This option allows you to choose the MIDI CC numbers you want to use for sending continuous control messages. From the factory, the default settings are: the internal (built-in) CC pedal uses MIDI CC #4 and an external pedal (a standard volume pedal will work fine) connected to the Valve FX uses MIDI CC #16. These defaults can be changed by observing the following procedure:

- From the Program, press the <UTILITY> key once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →
  
```

- Press Function key 2 once. The display reads:

```

Patches  CC Ped
Pr9List  Assign→
  
```

- Press Function key 2. The display reads:

```

Assign Pedal CC
Calibrate Pedal
  
```

- Press Function key 1. The display reads:

```

IntPedal:CC  4
ExtPedal:CC  16→
  
```

This screen has three options. You can change the internal pedal's MIDI CC number, the external CC pedal's MIDI CC

number, or you can change the MIDI channel(s) on which the internal or external pedal will transmit MIDI CC messages to other MIDI devices (using the MIDI Out port).

- To change the internal or external CC pedals' default MIDI CC number, press the appropriate Function key. Note that a cursor appears under the value of the pedal you selected.
- Use the <UP / DOWN> Cursor keys or the Data wheel to change the value as desired.
- Press <UTILITY> to return to your last position in the Program.

CC TRANSMIT CHANNEL

This option allows you to set the MIDI channel on which CCs will be sent out the Valve FX's MIDI Out port to other MIDI devices. The CC channel for Int Ped, Ext Ped and Toggle CCs may be set independently. This option allows you to use CCs in the following three ways:

- For MIDI CC control of the Valve FX only
- For MIDI CC control of the Valve FX and other MIDI devices at the same time
- For MIDI CC control of other MIDI devices only using the Control One foot controller

If you are using CCs for control of the Valve FX only, you don't need to worry about setting up this option. If, however, you plan to use the Control One foot controller for continuous control over other MIDI devices (either in conjunction with the Valve FX or by themselves), it is necessary to assign a MIDI transmit channel for each of the CC numbers you'll be using for continuous control of the other devices. To change the MIDI channels on which the selected CCs will transmit to other MIDI devices, the procedure is as follows:

- From the Program, press the <UTILITY> key once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →

```

- Press Function key 2. The display reads:

```

Patches  CC Ped
PrgrList Assign→

```

- Press Function key 2. The display reads:

```

Assign Pedal CC
Calibrate Pedal

```

- Press Function key 1. The display reads:

```

IntPedal:CC 4
ExtPedal:CC 16→

```

- Press the <RIGHT> Cursor key. The display reads:

```

Int Xmit:Ch 1
←Ext Xmit:Off →

```

- To change the CC pedal transmit channel numbers, press the appropriate Function key to select whether you want to change the setting for the internal or external pedal and use the <UP / DOWN> Cursor keys or the Data wheel to change the Channel as desired.

- Press the <RIGHT> Cursor key again. The display reads:

```

Toggle Transmit
← Channel 1

```

- The footswitches which have been assigned with toggle CC functions also have a selectable MIDI channel. This allows the CC pedal to control a different external MIDI device than the toggle CC footswitches.

In order for the external units to respond to CC messages you've set up to transmit out the Valve FX MIDI Out port, it is necessary to set them up to respond to the same MIDI Channel and CC numbers that you've just set.

PEDAL CALIBRATION

The next step is calibrating the CC pedal(s) so that the Valve FX knows what ranges of control the pedal(s) can generate. Calibrating CC pedals allows the Valve FX to handle CC messages with the greatest efficiency and smoothness. Calibration procedures are the same for both the Control One's internal (built-in) continuous control pedal and the external pedal that connects to the Valve FX. Although calibration is not required everytime the Valve FX is powered up, it is a good idea to calibrate regularly to insure pedal accuracy. The procedure is as follows:

- From the Program, press the <UTILITY> key once. The display reads:

```
MIDI  Contrst:4
Foot  Tuner  →
```

- Press Function key 2. The display reads:

```
Patches  CC Ped
PrgList  Assign→
```

- Press Function key 2 once. The display reads:

```
Assign Pedal CC
Calibrate Pedal
```

- Press Function key 2. The display reads:

```
Calibrate Pedal
IntPed  ExtPed
```

- Select whether you want to calibrate the internal (built-in) Control One foot controller pedal or an externally connected pedal by pressing the appropriate Function key. The display reads:

```
Set Pedal Down
(Forward) Press
```

This step sets the maximum value of the CC pedal when it is in the fully forward position.

- Move the pedal to its full forward (toe down) position and press Function key 1. The display reads:

```
Set Pedal Up
(Back): Press
```

- Move the pedal to its full back (toe up) position and press Function key 2. When the display returns to the Utility setup menu, you have successfully calibrated the CC pedal.
- Press the <UTILITY> key to exit to your last position in the Program.

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LED ASSIGNMENT

The LED indicators of the Control One foot controller can be set up to function in one of three ways. In the **LED Normal** mode, the LED above the currently selected Patch will light. In **LED Reversed** mode, all LEDs on the foot controller except the currently selected Patch are lit. This setting is particularly useful for extreme low light environments where it is impossible to see the actual switches on the foot controller. The third mode is called **LED All On**, which causes all LEDs on the foot controller to be lit all the time. From the factory, the default setting of this option is **LED Normal**. To select an LED mode, the procedure is as follows:

- From the Program, press the <UTILITY> key once. The display reads:

```
MIDI  Contrst:4
Foot  Tuner  →
```

- Press Function key 2. The display reads:

```
Patches  CC Ped
PrgMaps  Assign→
```

- Press the <RIGHT> Cursor key once. The display reads:

```
LEDs:Normal
←
```

- To select a mode, simply press Function key 1 until the desired mode is displayed.
- To exit to your last position in the Program, press <UTILITY> once.

TUNING FROM THE FRONT PANEL To access the tuner from the front panel of the Valve FX, do the following:

- From the Program, press <UTILITY> once. The display reads:

```
MIDI  Contrst:4
Foot  Tuner  →
```

- Press Function key 3. The display reads:

```
Tuner A = 440
--  --  --  --
```

- Begin tuning your instrument. As you tune, the note name is shown on the top line of the display, while vertical bars appear on the second line of the display and begin strobing. If the note is sharp, the bars will strobe from left to right. If the note is flat, they'll strobe from right to left. When the note is in tune, the strobing bars will stop moving and asterisks will appear around the note name on the top line of the display.
- To exit the tuner, press <UTILITY>.

Tuning on the Foot Controller To access the tuner using the optional Control One foot controller, do the following:

- Press the Select switch (in the upper right corner of the foot controller) three times. The foot controller display reads:



- Begin tuning your instrument using only single notes (the tuner will not recognize chords) As you tune, the foot controller display shows the name of the note you are playing on the left and a tuning scale that displays ± 1 semitone from the center (in tune) note. The display will look something like this:



- The note is in tune when the moving asterisk is inside the center block. If the note is sharp, the asterisk will move to the right of the center block, leaving a trail of arrows pointing to the left. If the note is flat, the asterisk moves to the left of the center block with arrows pointing to the right.

After a few seconds of tuner inactivity, the display returns to:



To exit the tuner mode, press the Select switch once.

Changing the Tuning Reference You can easily change the Valve FX's tuning reference by turning the Data wheel in tuner mode. The top line of the display will show the current setting. The default factory setting is: A = 440 Hz. The tuning reference control ranges from 427 Hz to 453 Hz, which is the equivalent of ± 50 cents (1/2 semitone) in either direction from 440 Hz.

When you scroll down from 427 Hz, you will also find alternate tunings. Alternate tunings are A_b, G, and G_b.

When you use any of the alternate tunings as your reference, tune your instrument so that the display shows normal tuning (E, A, D, G, B, E for guitars) and the Valve FX will do the rest (the display shows normal tuning, but you'll actually be tuning to your selected reference key).

ADJUSTING THE LCD CONTRAST

The LCD CONTRAST adjustment control is used to adjust the angle at which the display can be read most clearly. To change the LCD contrast, do the following:

- From the Program, press the <UTILITY> key once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →

```

The value indicates the current setting of the LCD contrast.

- Adjust the contrast using the Parameter <UP>/<DOWN> Cursor keys until the display is easily readable.
- To return to your last position in the Program, press <UTILITY>.

OUTPUT MODE

The output option selects whether the outputs of the Valve FX are summed to mono or not. For best results in mono applications, this Parameter should be set to **Mono**. If stereo output is desired, set it to **Stereo** (the factory default setting of this Parameter is **Stereo**). To change the output mode of the Valve FX, do the following:

- From the Program, press the <UTILITY> key once. The display reads:

```

MIDI  Contrst:4
Foot  Tuner  →

```

- Press the <RIGHT> Cursor key once. The display reads:

```

Output: Stereo
← CabEm: Local →

```

- Press Function key 1 until the top line of the display show the desired output mode.
- Press the <UTILITY> key to return to your last position in the Program.

CABINET EMULATION

Each Program in the Valve FX has a local Cabinet Emulation setting that lets you customize each Program's output sound by choosing from 10 different full-bore guitar stack sounds; 3 warm cabinets, 3 medium cabinets, 3 bright cabinets, and one full-range cabinet for maximum frequency response. The global Cabinet Emulation mode serves as a master on/off control for all Cabinet Emulation effects. The options are: **All On**, **All Off**, and **Local**. **Local** leaves the Cabinet Emulation on/off control within the individual Programs, and is the default setting. To change the Cabinet Emulation mode of the Valve FX, do the following:

- From the Program, press the <UTILITY> key once. The display reads:

```
MIDI  Contrst:4
Foot  Tuner  →
```

- Press the <RIGHT> Cursor key once. The display reads:

```
Output: Stereo
← CabEm: Local →
```

- Press Function key 2 until display shows the desired output mode.
- Press the <UTILITY> Cursor key to return to your last position in the Program.

SALES BANNER

Determines whether or not the Valve FX will show the sales banner when first powered up. This function can be turned on or off. If it is turned on when you power up, simply press any key on the front panel to exit. The procedure for turning the sales banner on or off is as follows:

- From the Program, press the <UTILITY> key once. The display reads:

```
MIDI  Contrst:4
Foot  Tuner  →
```

- Press the <RIGHT> Cursor key once. The display reads:

```
Output: Stereo
← CabEm: Local →
```

- Press the <RIGHT> Cursor key again. The display now reads:

```

Sales:Qff
+Reinitialize

```

- Press Function key 1 to turn the sales banner on or off.
- When you are finished, press the <UTILITY> key to exit to your last position in the Program.

REINITIALIZING THE VALVE FX

This option allows you to restore the contents of the Valve FX's memory to the original factory condition.

WARNING: Performing this function will destroy all user-programmed data. All such data will be lost forever!

To restore the factory Programs, do the following:

- From the Program, press the <UTILITY> key once. The display reads:

```

MIDI Contrst:4
Foot Tuner →

```

- Press the <RIGHT> Cursor key once. The display reads:

```

Output: Stereo
+CabEm: Local →

```

- Press the <RIGHT> Cursor key again. The display now reads:

```

Sales:Qff
+Reinitialize

```

- Press Function key 2. The display reads:

```

Restore Factory
Programs? Yes No

```

- Press Function key 1. The display briefly reads:

```

This will erase
User Programs

```

followed by

```
Are You Sure?  
[Y]es [N]o
```

- This is your last chance to change your mind. To abort the operation, press Function key 3. To restore all Programs to original factory condition, press Function key 2. The display briefly reads:

```
Resetting.  
Please wait ...
```

after which you will be returned to Program title screen.

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SECTION 6 - APPENDIX

SPECIFICATIONS

A/D Converter: 16 bit PCM
D/A Converter: 16 bit PCM
Sampling Frequency: 40 kHz

DSP Section:

Architecture: Static-Dynamic Instruction Set Computer (S-DISC™)
Digital Signal Path Width: 24 bits (144.5 dB)
Internal Data Path Width: 48 bits (289 dB)
Dynamic Delay Memory: 64k x 24 bits (1.68 seconds)
Static Delay Memory: 256 24-bit registers (6.55 milliseconds)
Data ALU Processing: 10.0 MIPS
Address ALU Processing: 15.0 MIPS
Multiplier Size: 24 bits x 24 bits

Input Section:

Connector: 1/4" Unbalanced TRS
Nominal Level: -8 dBu
Maximum Level: +10 dBu
Impedance: 470 kohms

Output Section:

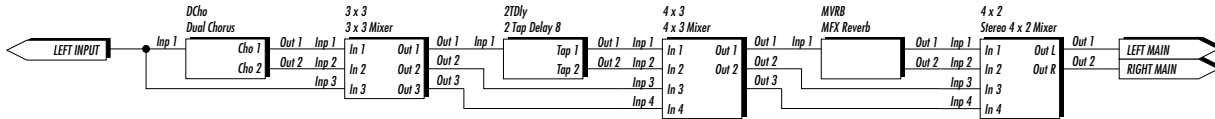
Connector: 1/4" TRS
Nominal Level: +4 dBu
Maximum Level: +18 dBu
Impedance: 50 ohms

General:

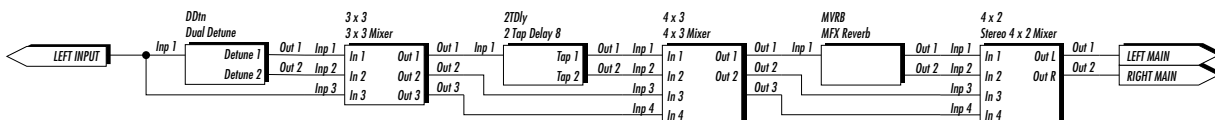
Frequency Response: 20 Hz. - 20 kHz. +0, -3 dB
S/N ratio: Greater than 90 dB; ref = max signal, 22 kHz measurement bandwidth
Total Harmonic Distortion: Less than 0.04% (1 kHz.)
Memory Capacity:
 Factory: 128 programs, 33 algorithms
 User: 128 programs, 33 algorithms
Power Requirements:
 US and Canada: 120 V AC, 60 Hz
 Japan: 100 V AC, 50/60 Hz
 Europe: 230 V AC, 50 Hz
 UK: 240 V AC, 50 Hz
Power Consumption: 30 watts
Dimensions: 19" (482 mm) W x 1.75" (44 mm) H x 9" (229 mm) D

FACTORY ALGORITHM DIAGRAMS Following are block diagrams of all the Factory Algorithms. These diagrams show all of the input and output information associated with each Module, as well as the signal path routings for each of the 33 Algorithms.

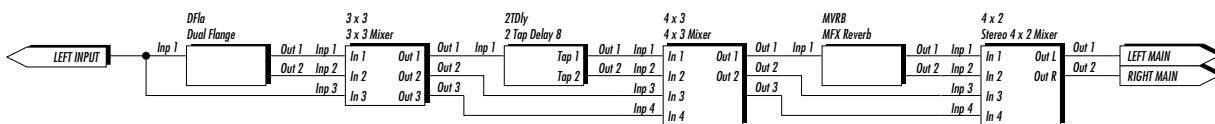
Algorithm #1
DCho -> 2TDly -> Revrb



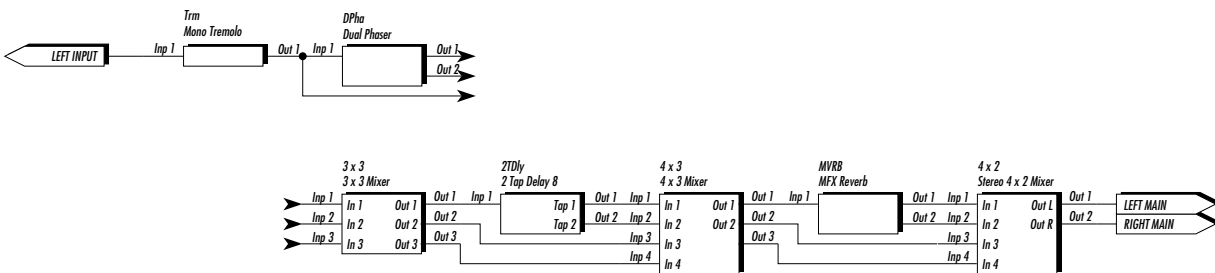
Algorithm #2
DDtn -> 2TDly -> Revrb



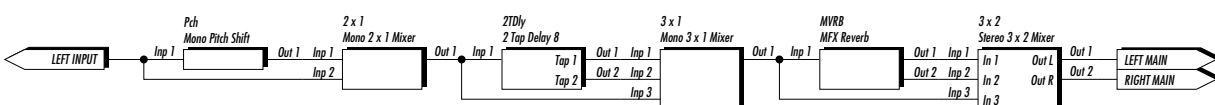
Algorithm #3
DFla -> 2TDly -> Revrb



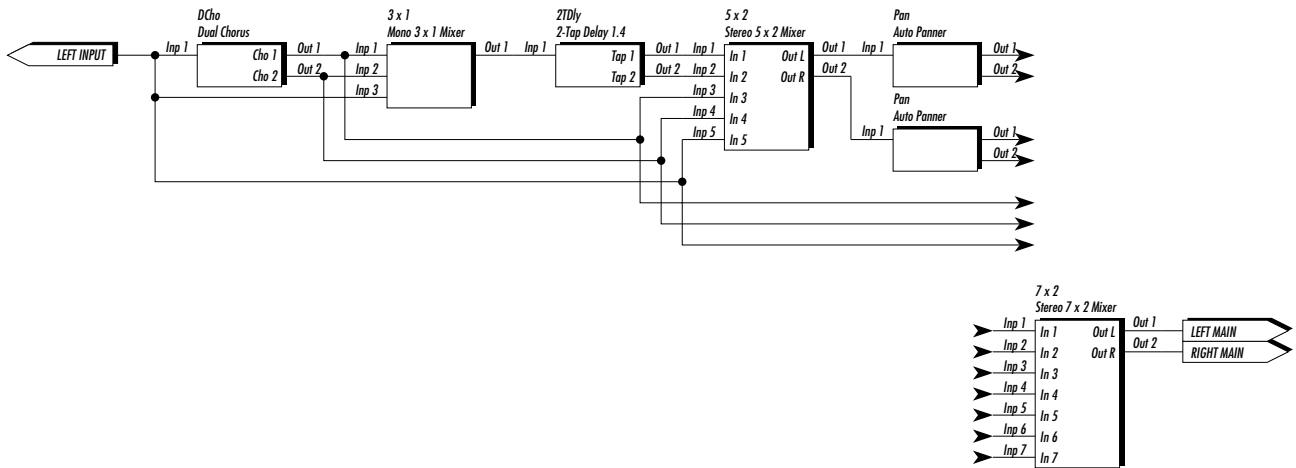
Algorithm #4
DPha -> 2TDly -> Revrb



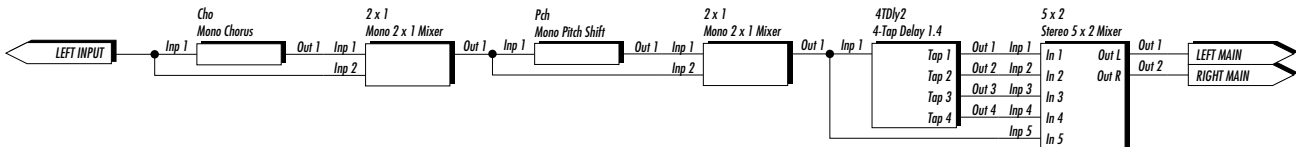
Algorithm #5
Pch -> 2TDly -> Revrb



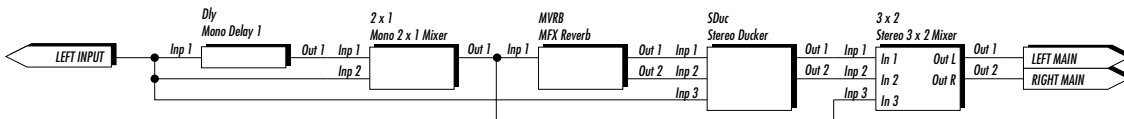
Algorithm #6
DCho -> 2TDly -> 2 Pans



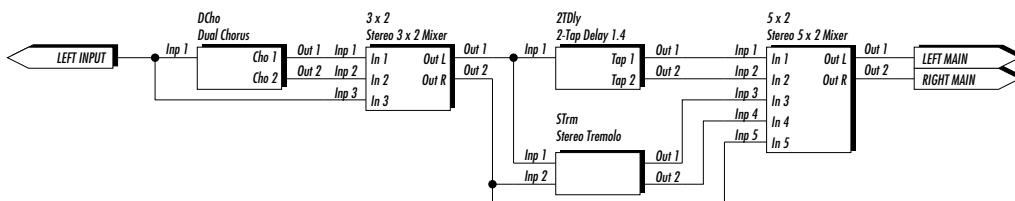
Algorithm #7
Cho -> Pch -> 4TDly



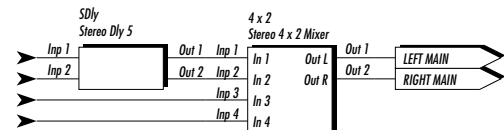
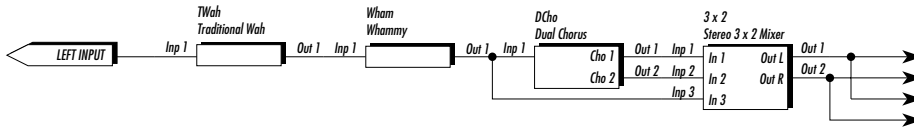
Algorithm #8
Dly -> Revrb -> SDuc



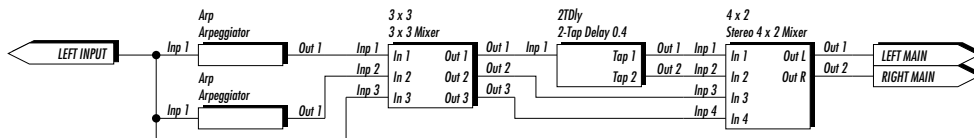
Algorithm #9
DCho -> 2TDly/STrem



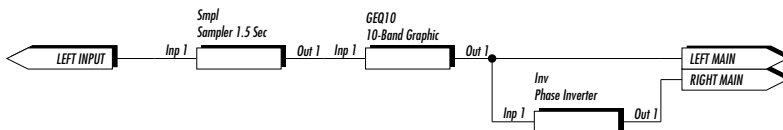
Algorithm #10
Wah -> Wham -> Cho -> Dly



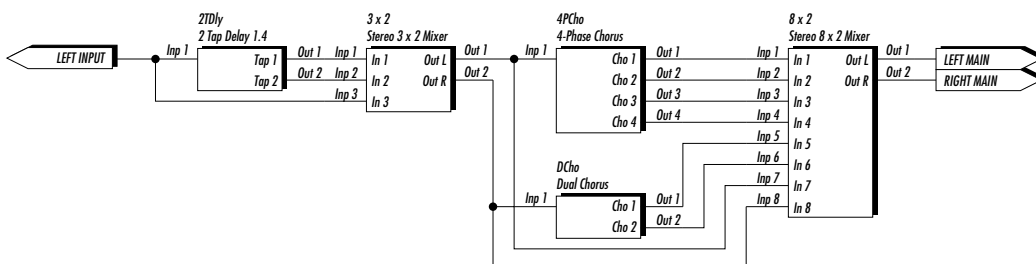
Algorithm #11
Arpeggio2 -> Dly



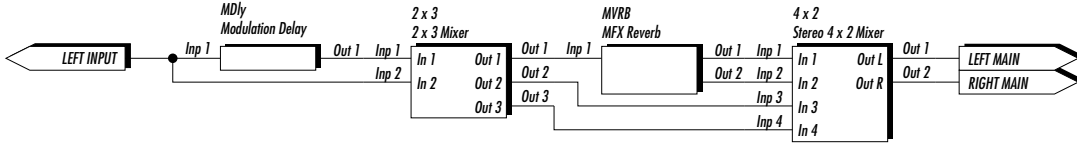
Algorithm #12
Sampler -> GEQ10



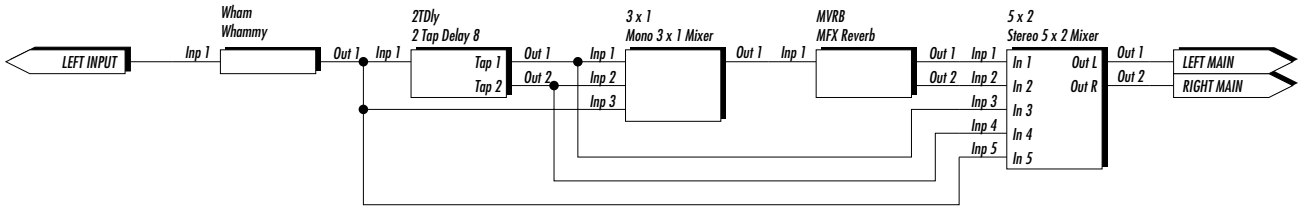
Algorithm #13
2TDly -> 6VoiceCho



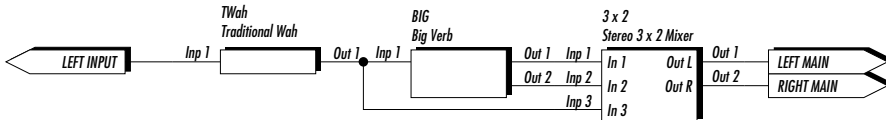
Algorithm #14
Mod Dly -> Reverb



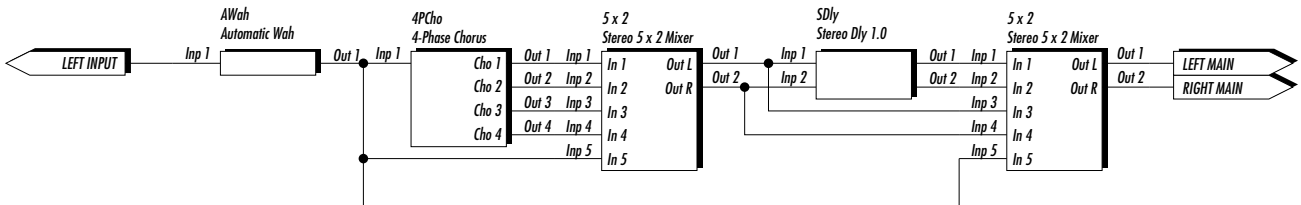
Algorithm #15
Wham -> 2TDly -> Reverb



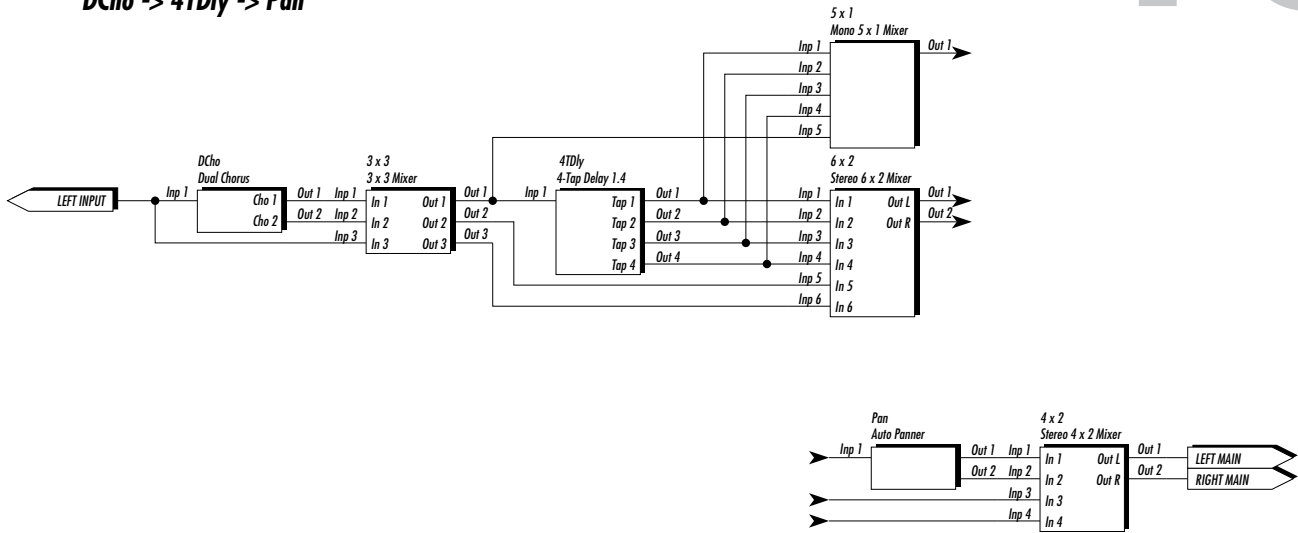
Algorithm #16
Wah -> BigVerb



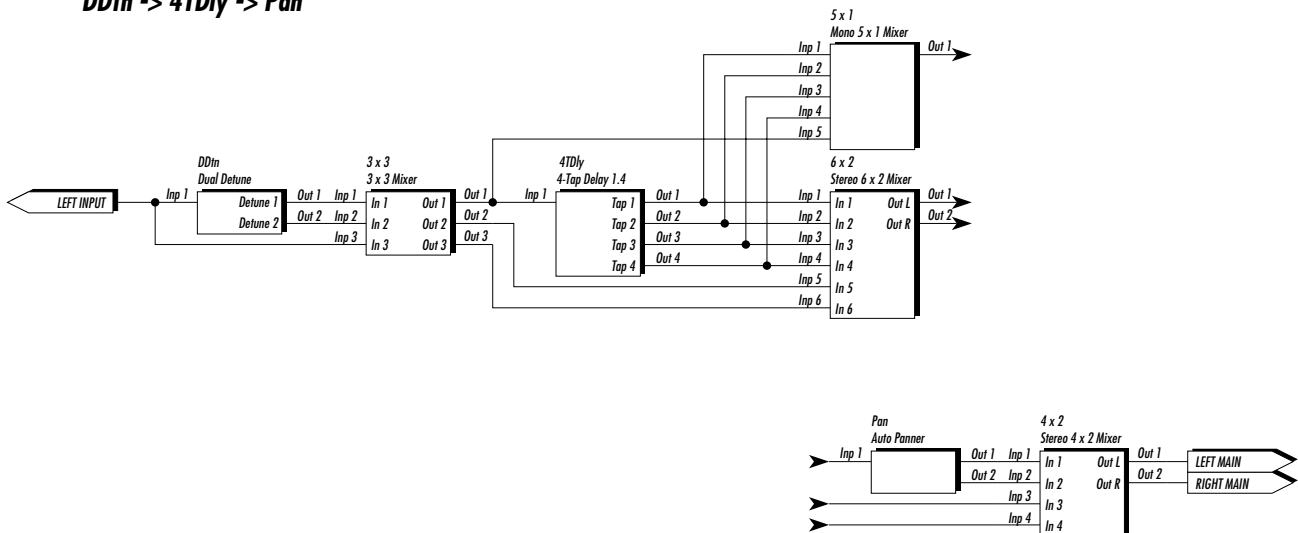
Algorithm #17
AWah -> Cho -> Dly



Algorithm #18
DCho -> 4TDly -> Pan

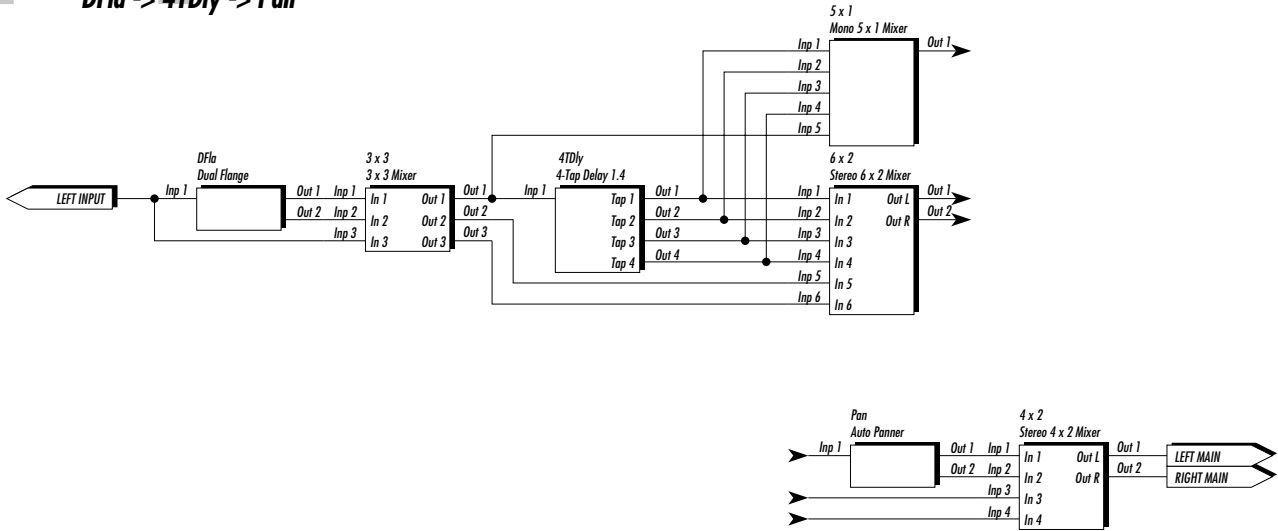


Algorithm #19
DDtm -> 4TDly -> Pan

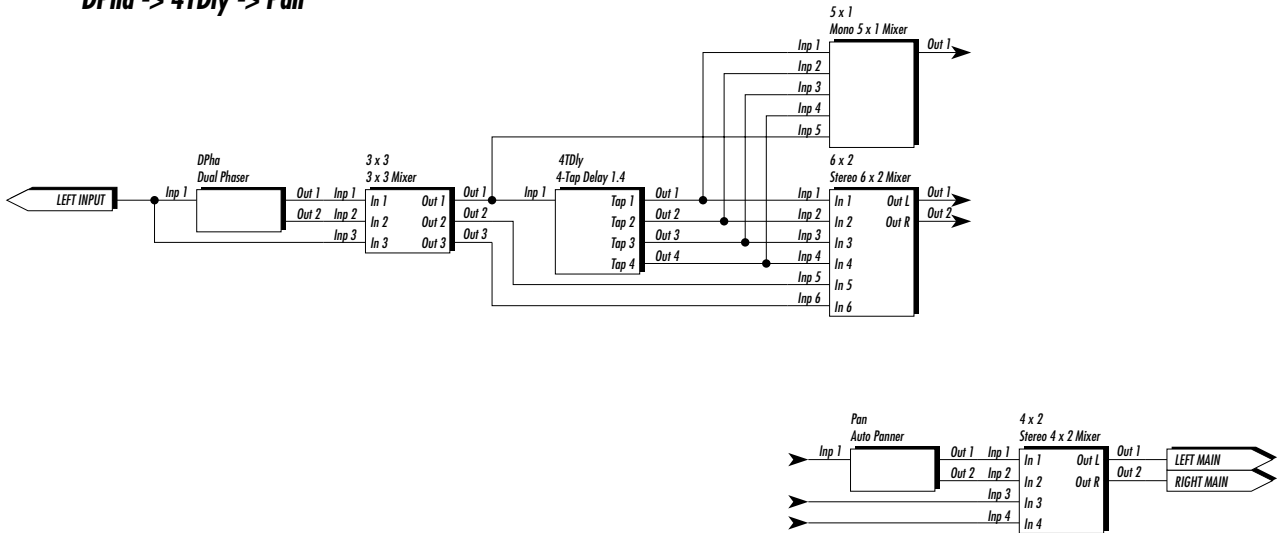


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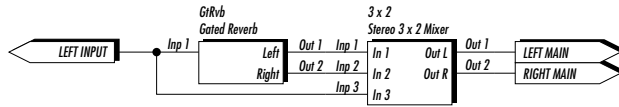
Algorithm #20 DFla -> 4TDly -> Pan



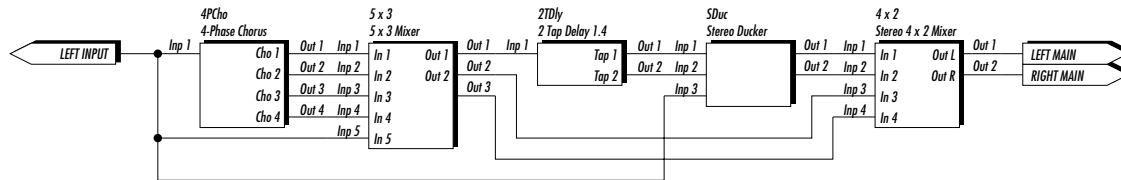
Algorithm #21 DPHa -> 4TDly -> Pan



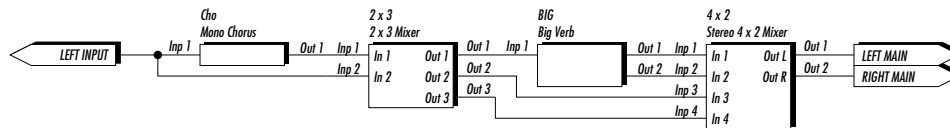
Algorithm #22
Gated Reverb



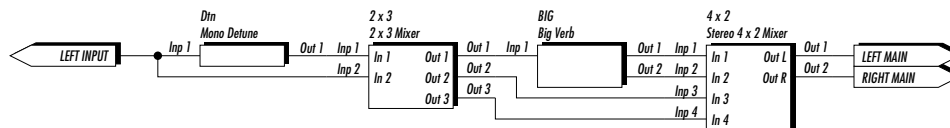
Algorithm #23
4PCho -> 2TDly -> SDuc



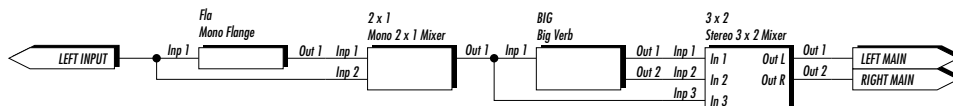
Algorithm #24
Chorus -> BigVerb



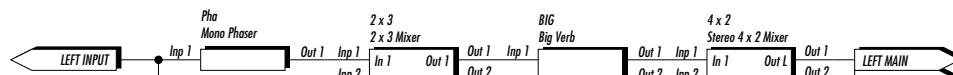
Algorithm #25
Detune -> BigVerb



Algorithm #26
Flange -> BigVerb

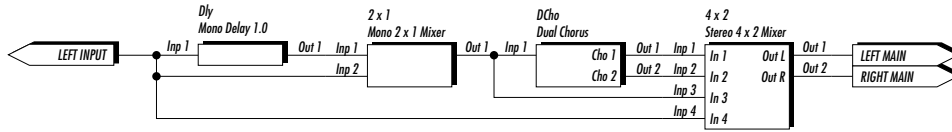


Algorithm #27
Phaser -> BigVerb

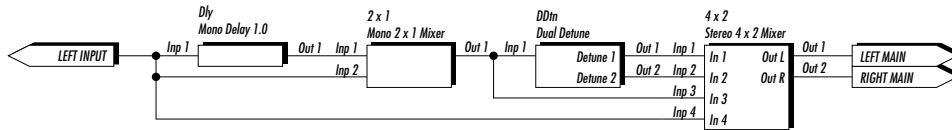


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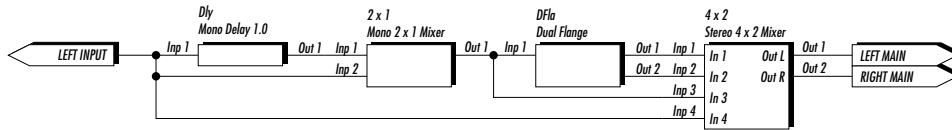
Algorithm #28 Dly -> Dual Chorus



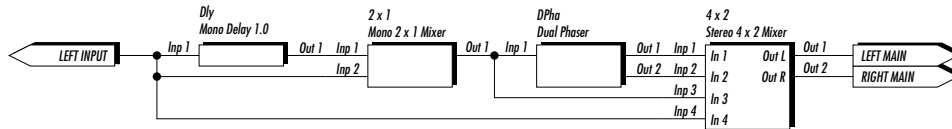
Algorithm #29 Dly -> Dual Detune



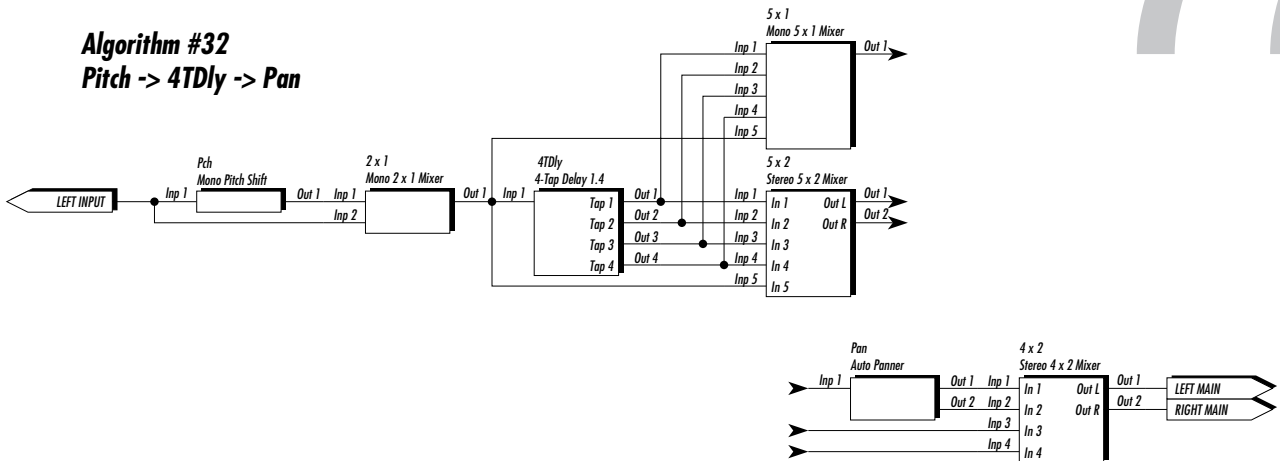
Algorithm #30 Dly -> Dual Flange



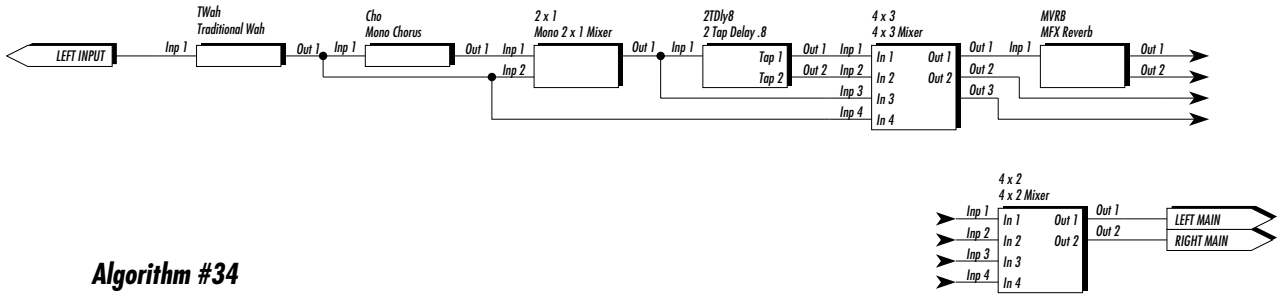
Algorithm #31 Dly -> Dual Phaser



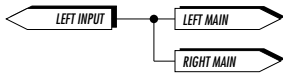
Algorithm #32
Pitch -> 4TDly -> Pan



Algorithm #33
Wah>Cho>Dly>Rvb



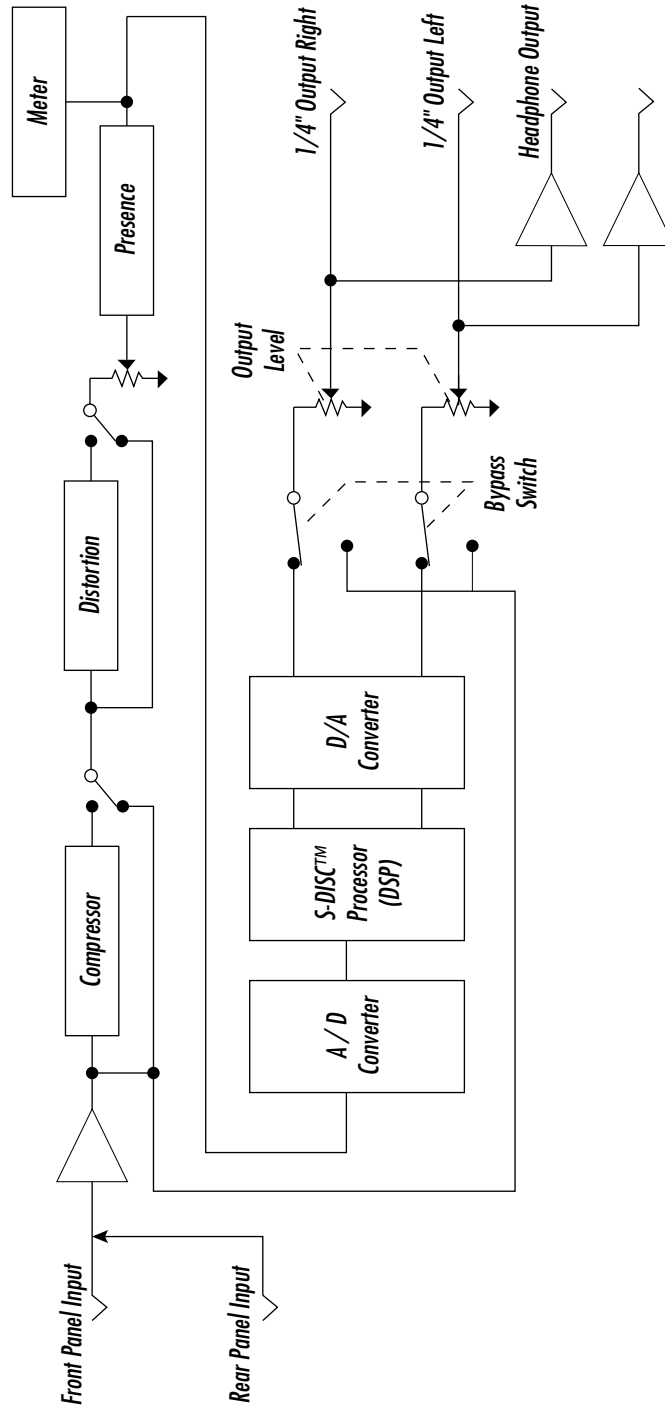
Algorithm #34
No Digital



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BLOCK DIAGRAM

Following is a simplified block diagram of the Valve FX.



FACTORY PROGRAM LIST

Top Ten

- 1 O Solo Mio
- 2 6 Voice Chorus
- 3 Vintage Amp
- 4 Virtual Wah
- 5 Soloing 4ths
- 6 Whammy Deluxe
- 7 Chorus Hall
- 8 Synth Pad Swell
- 9 True Valve
- 10 Comfort Zone

Metal Rock

- 11 Metal Chor/Verbk
- 12 Grind Your Axe
- 13 Behemothk
- 14 Beat on d' Brat
- 15 Step It Up
- 16 Steamroller
- 17 H.Metal Weekend
- 18 Ten Foot Screwz
- 19 Wham Me Down
- 20 Phase Creep
- 21 Tube In A Hall
- 22 Spacey Flange
- 23 Rude Awakening
- 24 Sky Dive
- 25 "Yo, Hollywood"
- 26 Pedal Pan
- 27 Face First
- 28 Stack In A Hall
- 29 Goin' Down(Ped)
- 30 Killer Arena

Pop Clean

- 31 6 + 6 Makes 12
- 32 In Full Circle
- 33 Valve w/Flange
- 34 Dream Verb
- 35 Box Of Candles

Pop Rock

- 36 Wah Kin the Dog
- 37 Rockin' Hall
- 38 L/R Detune
- 39 Edge Overdrive
- 40 Power Ballad
- 41 A Bit Nosey
- 42 Dynamic Drive
- 43 Duckerverb
- 44 Got That Edge
- 45 Moore Sustain
- 46 Crunch FX
- 47 Test Tube Baby!

- 48 Pop Alternative
- 49 Crunch Hall Pan

Studio Clean

- 50 Detune w/Pan
- 51 Clean X
- 52 Tap Delays
- 53 Pan Swirl
- 54 Delay in Chorus
- 55 Ultra Chorus

Studio Dirty

- 56 Thick 'n Juicy
- 57 Flying Solo
- 58 Blue Smoothy
- 59 A Space Place
- 60 Your Lef' Right
- 61 Touchy Feely
- 62 Stereo Solo

Mod/Alt Rock

- 63 Combe Filter Cab
- 64 Big Bottom
- 65 Future Shock
- 66 Wild Phaser
- 67 Dreamy Flange
- 68 Bad Apple
- 69 H.O.T.H.
- 70 Slappy Rock

Country

- 71 Pure Country
- 72 Electric Dobro
- 73 Tele Funkin'
- 74 Hawaiian Steel
- 75 Cowboy Ballad

Harmony

- 76 Octivizer
- 77 Take the 5th
- 78 Tibetan Dream
- 79 Shim Pedal
- 80 Pink Rhythm
- 81 Octave Solo

Jazz

- 82 Jazzin'
- 83 Be Bop A Rama
- 84 Definitely Dry
- 85 Comp A Little
- 86 Water Chorus
- 87 Big House

Classic 70's

- 88 Classic Phase
- 89 British Metal
- 90 12 String Strum
- 91 Deep Phase
- 92 Boxed In
- 93 Power Rhythm
- 94 Smooth Change
- 95 Talk Box

Blues

- 96 Cleanest Blue
- 97 Club Rat
- 98 Leslie Pedal
- 99 Super Duck
- 100 Pannin' For Blue
- 101 Cool Combo

Modern Jazz

- 102 Mellow Lead
- 103 Pedal Of Life
- 104 Synth Solo
- 105 Infusion
- 106 Techno Crunch
- 107 Mod World

New Age

- 108 Pedal Synth
- 109 6 String Chime
- 110 Envelope Pan
- 111 Guitar Pad
- 112 New Ageless
- 113 Borealis
- 114 Guitar Synth

50's and 60's

- 115 Surf's Up
- 116 60's Wah Wah
- 117 Vari-Trem
- 118 Doppler Flange
- 119 Happy Hippy
- 120 Wahs Dat Pedal?
- 121 Fuzz Tremelo
- 122 Saving Phase

Special Application

- 123 Pipe Organ
- 124 Wait A Second
- 125 1.5 Sec Sampler
- 126 Sound on Sound
- 127 Phase To Trem
- 128 Clean and Empty

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Channel	1-16 1-16	1-16 1-16	Memorized
Mode	Default Messages Altered	Mode 3 X X	Mode 3 X X	
Note Number	True Voice	X	X	
Velocity	Note ON Note OFF	X X	X X	
After Touch	Key's Ch's	X X	X O	
Pitch Bender		X	X	
Control Change		O	O	Default Channel 1
Prog Change	True #	0-127	0-127 1-128	
System Exclusive		O	O	
System Common	:Song Pos :Song Sel :Tune	X X X	X X X	
System Real Time	:Clock :Commands	X X	X X	
Aux Messages	:Local ON/OFF :All Notes Off :Active Sense :Reset	X X X X	X X X X	
Notes				

Mode 1 : OMNI ON, POLY
Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON, MONO
Mode 4 : OMNI OFF, MONO

O : Yes
X : No



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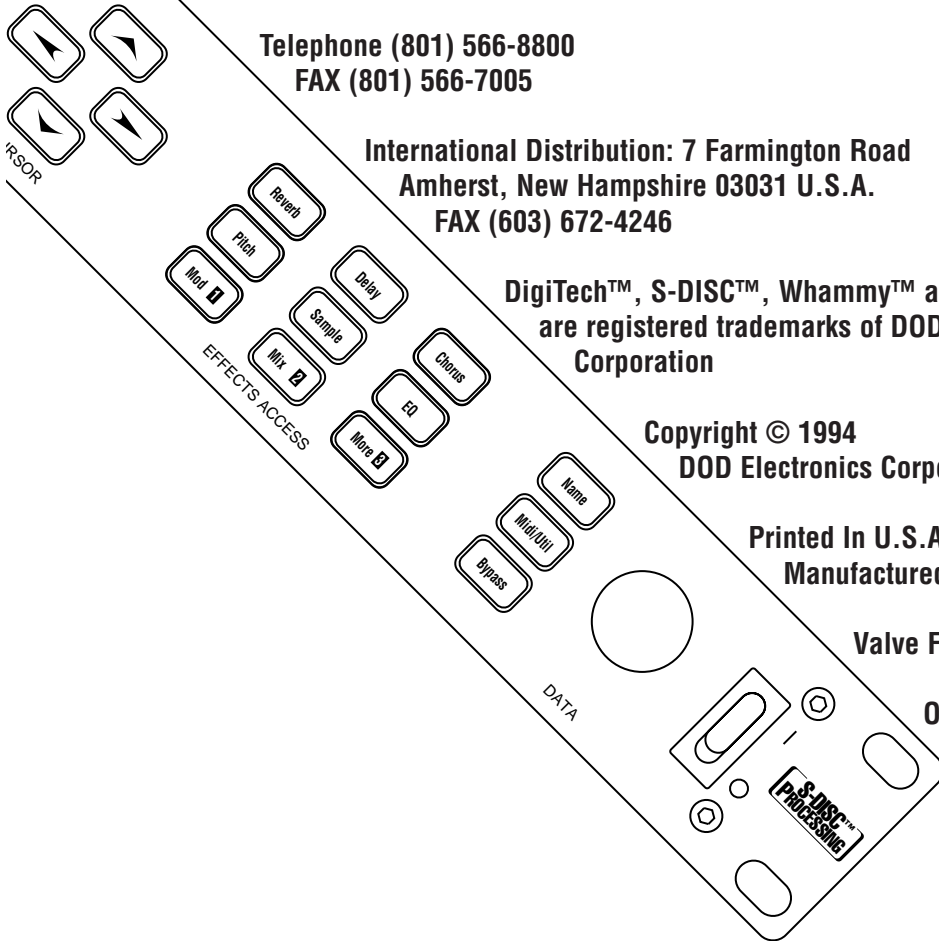
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Valve FX 18-2098

OS v1.00



This manual
is made from
recycled
materials.