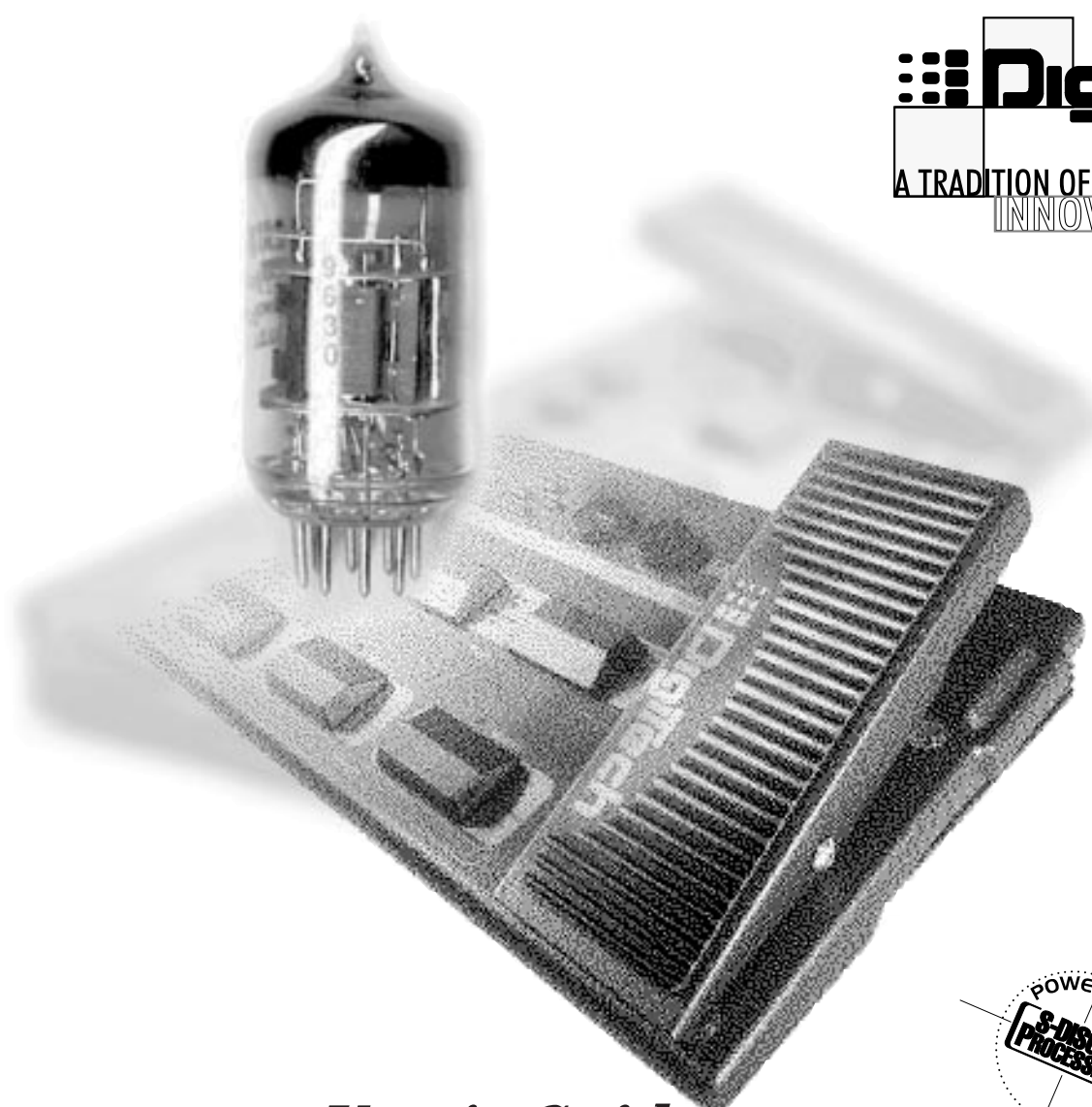


RP7 VALVE

Tube Preamp/Effects Processor & Controller

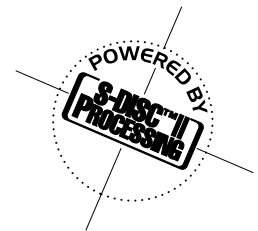


DigitTech
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INNOVATION

User's Guide

Please visit Digitech Electronics on the World Wide Web at <http://www.digitech.com>

H A Harman International Company





CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE

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 unit during storms to prevent damage.

WARNING

FOR YOUR PROTECTION, PLEASE READ THE FOLLOWING:

WATER AND MOISTURE: Appliance should not be used near water (e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

POWER SOURCES: The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

GROUNDING OR POLARIZATION: Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

POWER CORD PROTECTION: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

SERVICING: To reduce the risk of fire or electric shock, the user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

FOR UNITS EQUIPPED WITH EXTERNALLY ACCESSIBLE FUSE RECEPTACLE: Replace fuse with same type and rating only.

U.K. MAINS PLUG WARNING

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.

ELECTROMAGNETIC COMPATIBILITY

This unit conforms to the Product Specifications noted on the **Declaration of Conformity**. Operation is subject to the following two conditions:

- this device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation. Operation of this unit within significant electromagnetic fields should be avoided.
- use only shielded interconnecting cables.

SAFETY INSTRUCTIONS

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE MUST BE EARTHED.

The cores in the mains lead are coloured in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN - Live

As colours of the cores in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The core which is coloured green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, or coloured green, or green and yellow.
- The core which is coloured blue must be connected to the terminal marked N or coloured black.
- The core which is coloured brown must be connected to the terminal marked L or coloured red.

This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. If the attachment plug needs to be changed, refer servicing to qualified service personnel who should refer to the table below. The green/yellow wire shall be connected directly to the unit's chassis.

CONDUCTOR		WIRE COLOR	
L	Line	Brown	Black
N	Neutral	Blue	White
	Earth Grnd.	Green/Yel.	Green

WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage between chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously.

LITHIUM BATTERY WARNING

CAUTION!

This product may contain a lithium battery. There is danger of explosion if the 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 tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

WARNING!

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

DECLARATION OF CONFORMITY

Manufacturer's Name: ***Digitech Electronics***
Manufacturer's Address: 8760 S. Sandy Parkway
Sandy, Utah 84070, USA

declares that the product:

Product Name: ***RP-7 Valve***
Product Options: All

conforms to the following Product Specifications:

Safety: EN 60065 (1993)
IEC 65 (1985) with Amendments 1, 2 & 3

EMC: EN 55013 (1990)
EN 55020 (1991)

Supplementary Information:

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC and EMC Directive 89/336/EEC as amended by Directive 93/68/EEC.

Digitech

President of Digitech
8760 S. Sandy Parkway
Sandy, Utah 84070, USA
Tel: 801.566.8800
Fax: 801.566.7005

Effective October 15, 1997

European Contact: Your Local Digitech Sales and Service Office or

International Sales Office
3 Overlook Drive #4
Amherst, New Hampshire 03031, USA
Tel: 603.672.4244
Fax: 603.672.4246

Quick Start

For those of you who prefer to burn now and read later, we've included this Quick Start section to get you up and running.

Connect Cables:

Connect guitar into the **Input jack** (located on the rear of the RP-7 Valve). Now run from the Output of the RP-7 Valve to the Input of the either the Guitar Amp, Power Amp or Mixing board.

Apply Power:

Note: When applying power to the RP-7 Valve, it is recommended that the **<Output>** knob be turned down prior to powering up the unit.

Adjust Output:

Now adjust the **<Output >** level knob on the rear panel of the RP-7 Valve to the desired output level.

Adjust Presence:

The **<Presence>** knob will act as a quick EQ. Use this knob to fine-tune your tone by turning clockwise (Brighter tone) or counter-clockwise (Darker tone).

Select Preset:

Begin playing your guitar, and choose any preset by either pressing the **<Program UP>** or the **<Program Down>** buttons or by pressing the bank **<Up>** and bank **<Down>** footswitches.

Jam-Along and Learn-A-Lick:

The RP-7 Valve will let you run a CD or Cassette tape signal into the signal of the RP-7 Valve so that you can play along with the music and even use the Learn-A-Lick function for recording and playing back selected pieces of music. This can be done by simply running the CD or Cassette headphone output into the Jam-Along jack (located on the rear of the RP-7 Valve).

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Section-1 Introduction

Congratulations...

... you are now the proud owner of a Digitech RP-7 Valve Guitar Preamp/Processor. The RP-7 Valve offers you 4 Tube and 4 Solid State preamp voicings along with a full palette of studio quality digital effects that can accommodate any style of music. The RP-7 Valve also features the Jam-Along jack for CD insert and the Learn-A-Lick mode that allows you to sample the incoming music then replay it at 1/2 speed, making the RP-7 Valve a priceless tool.

This owner's manual is your key to understanding the powerful world of the RP-7 Valve. Read it carefully. After you've had time to familiarize yourself with the unit, try experimenting with unusual effect combinations. You are certain to achieve sounds never thought possible before. Good luck, and thank you for choosing Digitech.

Your RP-7 Valve was carefully assembled and packaged at the factory. Before you proceed any further, make sure the following items are included:

- *(1) Owner's Manual*
- *(1) Digitech RP-7 Valve Guitar Preamp/Processor*
- *(1) Power Supply*
- *(1) Digitech warranty card*

Please save all packing materials. They were designed to protect the unit from damage during shipping. In the unlikely event that the unit requires service, use only the factory supplied carton to return the unit.

RP-7 Valve Features:

- *Tube and Solid State Distortions*
- *Built-in Expression Pedal*
- *Tube Preamp (12AX7)*
- *Full bandwidth effects (20-20kHz)*
- *24-bit signal path, 48-bit internal data path*
- *S-DISC II ® Processing*
- *Harmony Effects*
- *Jam-Along Jack*
- *Learn-A-Lick Function*
- *Programmable Speaker Cabinet Emulator*
- *Chromatic tuner*
- *Compact floor design chassis*

We at **Digitech** are very proud of our products and back-up each one we sell with the following *warranty*:

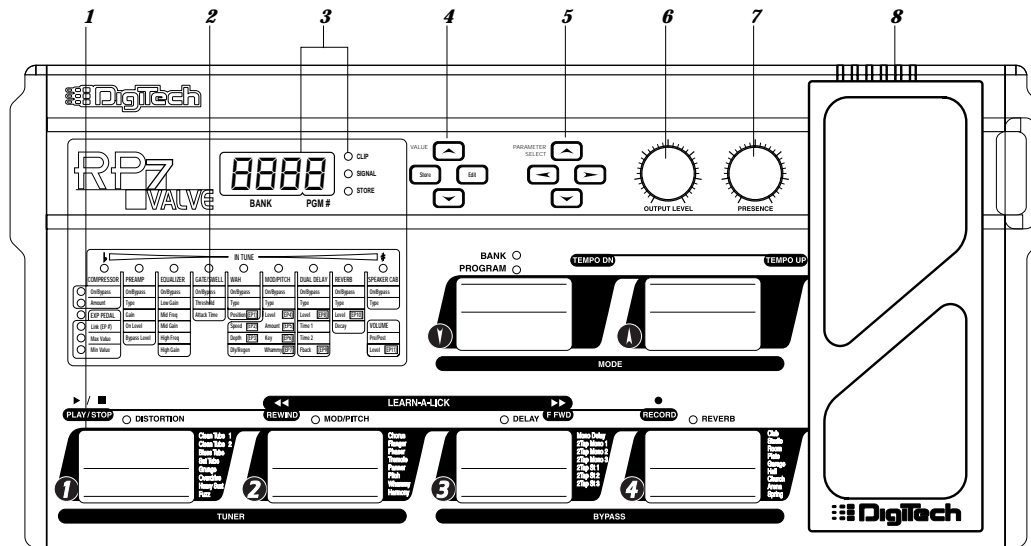
1. *The warranty registration card must be mailed within ten days after purchase date to validate this warranty.*
2. *Digitech warrants this product, when used solely within the U.S., to be free from defects in materials and workmanship under normal use and service.*
3. *Digitech liability under this 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 consumer forfeits the benefits of this warranty if the product's main assembly is opened and tampered with by anyone other than a certified Digitech technician or, if the product is used with AC voltages outside of the range suggested by the manufacturer.*
7. *The foregoing is in lieu of all other warranties, expressed or implied, and Digitech neither assumes nor authorizes any person to assume 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.*

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NOTE: 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.

A Quick Tour of the RP-7 Valve

The Front Panel



1) **Pedalboard** - The RP-7 Valve's pedalboard consists of six footswitches. The two Mode footswitches to the right of the Parameter Matrix allow you to change from Program mode to Bank mode by pressing the <UP> & <DOWN> footswitches simultaneously. When changing modes, the appropriate LED will light to indicate whether you are in Program mode or Bank Mode. In Program Mode, the <UP> and <DOWN> footswitches allow you to move through Programs, while the four main switches, labeled <1 - 4>, act as toggle On/Off switches for Distortion, Modulation, Delay, and Reverb. In Bank mode, the <UP> and <DOWN> footswitches allow you to move through Banks, while the <1-4> footswitches are used to select Programs. If footswitches 1 and 2 are pressed simultaneously, Tuner Mode will be activated. If footswitches <3> and <4> are pressed simultaneously, Bypass Mode will be activated.

2) **Parameter Matrix** - The Parameter Matrix consists of a group of horizontal Effect LEDs and a second group of vertical Parameter LEDs. The Effect LEDs are: Compressor, Preamp, Equalization, Noise Gate, Wah Wah, Mod/Pitch, Dual Delay, Reverb, and Speaker Cab. This matrix shows you exactly what Effects and Parameters are in use.

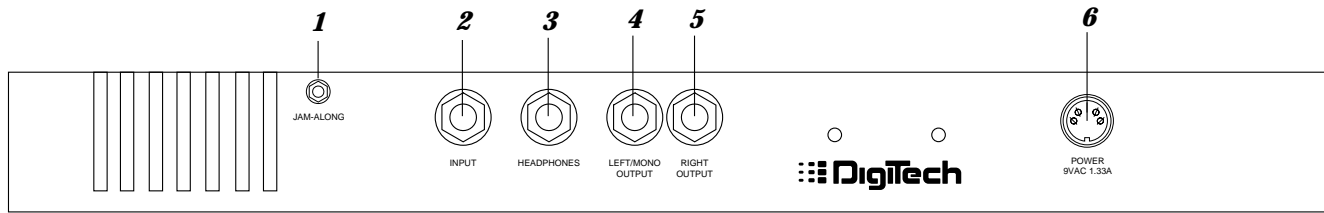
3) **Display Window** - The display window shows all current operating and programming information and is comprised of two parts: the seven segment LED displays and the Signal, Clip, and Store indicator LEDs. The first one numeric LED in the display window indicates whether you are in a User (U) or Factory Bank (F). The second and third LEDs indicates the Bank number currently in use, and the fourth indicates which Program number is currently in use. These numbers change as you scroll through the available Programs. The functions of the Signal, Clip, and Store indicator LEDs are as follows:

- **Signal** - Indicates whether a signal is entering the RP-7 Valve.
- **Clip** - Indicates analog clipping in the RP-7 Valve. Digital clipping can be detected when the third vertical LED from the top of the Parameter Matrix flashes. Distortion may be heard in the output signal if either analog or digital clipping occurs. If analog clipping occurs, check the Preamp On/Off levels. The levels may need to be lowered to eliminate the problem. To reduce digital clipping, the Master

Volume and/or Effects levels should be checked and adjusted accordingly. As always, let your ears be the judge.

- **Store** - Lights when a Parameter has been changed in a Program. When the <STORE> button is pressed once, the first seven segment LED in the Display window will flash. Once you have selected the Bank and Program location where you want to store your effects, press the <STORE> button again (see page 8, under Edit Mode for further information on storing a Program).
- 4) **Value, Store and Edit Buttons** - The Value <UP> and <DOWN> buttons allow you to scroll through the RP-7 Valve's Programs, or change Parameter values in Edit mode. The <STORE> button allows you to store an edited Program in memory for later use. The <EDIT> button allows you to edit the User and Factory Programs.
- 5) **Parameter Select Buttons** -The <LEFT> and <RIGHT> Parameter buttons allow you to navigate the horizontal Effect LEDs of the Parameter matrix. The <UP> and <DOWN> Parameter buttons allow you to navigate the vertical Parameter LEDs of the Parameter matrix. These keys are only active in Edit mode.
- 6) **Output Level** - Controls the overall output level of the RP-7 Valve. Also controls the overall level of the headphones.
- 7) **Presence** - Enhances the high frequency content of the overall sound. This will affect all presets.
- 8) **Expression Pedal** - This volume-type pedal allows real time control over Parameters in the RP-7 Valve.

The Rear Panel

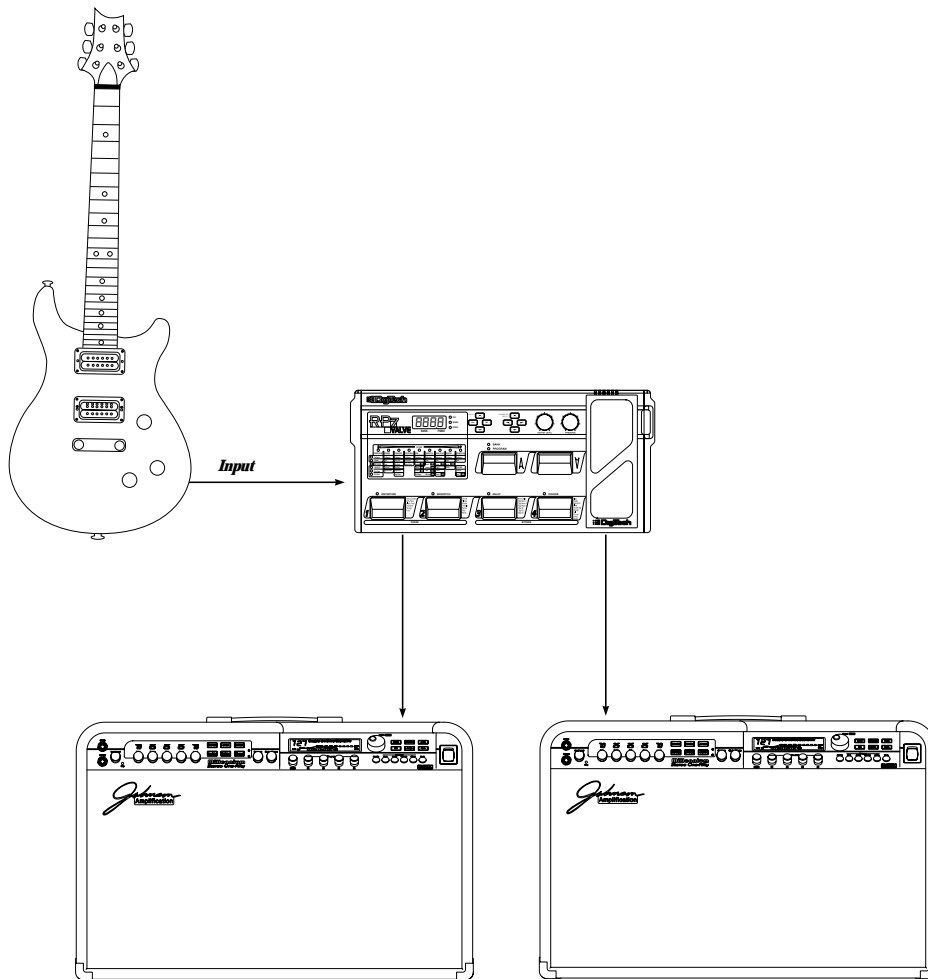


- 1) **Jam-Along Jack** - This is the Jam-Along Jack connection of the RP-7 Valve. Connect output of CD or Cassette player here. This is also the insert point for music that is to be used in the Lear-A-Lick mode.
- 2) **Input** - This is the RP-7 Valve's audio input. Plug your guitar in here.
- 3) **Headphone Output** - 1/4" stereo plug for headphones. The headphone level is controlled by the main output level knob.
- 4) **Left/Mono Main Output** - This is the RP-7 Valve's left main audio output. This output must be used if a mono effect is desired.
- 5) **Right Main Output** - This is the RP-7 Valve's right main audio output. Use both left and right main outputs to take advantage of stereo effects.
- 6) **AC Line Input** - This is the AC adapter receptacle. Use only the included PS 0912 power supply.

Section-2 Setting Up

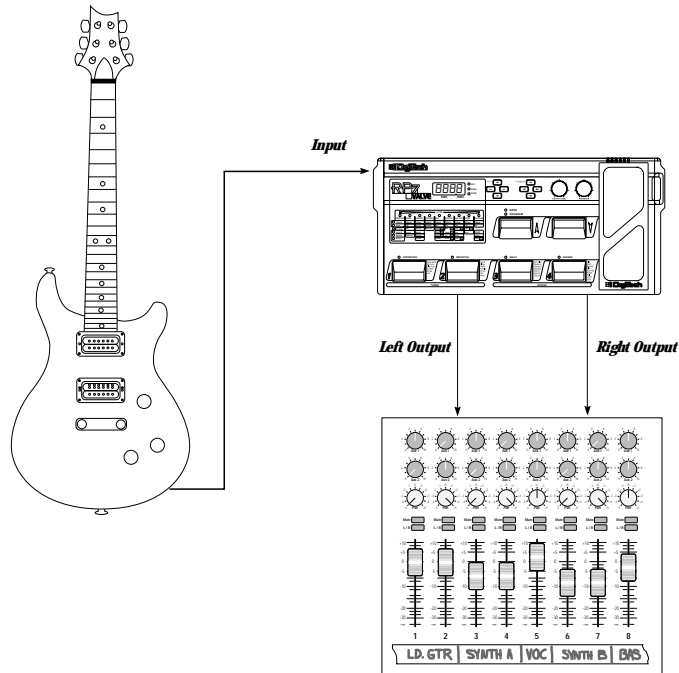
Making Connections

Your RP-7 Valve can be connected in several different ways to meet the requirements of specific applications. The following diagrams offer some different ways your RP-7 Valve can be connected.



RP-7 Valve into two 2X12 Combo Amplifiers

For those of you out there that feel that “bigger is better”, this set-up should work quite nicely for you. First plug into the input of the RP-7 Valve. Connect both RP-7 Valve outputs into the inputs of both of the amplifiers. Using a set-up such as this will let you produce guitar tones with lots of body. This is also a great set-up to produce lush and thick stereo effects.



Running Direct into a Mixer

The RP-7 Valve provides you with a speaker cabinet emulator for running direct to a mixing board.

A set-up such as this, will give you the ability to run directly to the mixing/recording board to help ensure great recording tones by using the Speaker Cabinet emulator that is located in the RP-7 Valve. The first thing you will want to do when using this set-up is, first run into the Input of the RP-7 Valve. Then run out of both of the Outputs into the Mixing board. Now, to use the Speaker Cabinet Emulator, simply press the **<Edit>** button and then use the **<Parameter Select>** buttons to move you through the Effects matrix until you reach the Speaker Cabinet Emulator effect. The **<Parameter Select>** buttons and the **<Value>** buttons will help you fine-tune the Speaker Cabinet emulator.

Section 3 - Basic Operations

About the RP-7 Valve's Modes

The RP-7 Valve offers seven modes, allowing easy operation of the Effects and Parameters. The modes are as follows:

PROGRAM MODE

Allows you to scroll through the 40 Factory and User Programs by using the <UP> and <DOWN> buttons as well as the <UP> and <DOWN> foot switches. Enter Program mode by pressing the <UP> and <DOWN> foot switches simultaneously until the Program LED lights and a P appears briefly in the display window. Foot switches <1-4> act as on/off toggle switches for the specified effects.

BANK MODE

Allows you to scroll quickly through Factory and User Banks by using the <UP> and <DOWN> foot switches. Enter Bank mode by pressing the <UP> and <DOWN> foot switches simultaneously until the Bank LED lights and a B appears briefly in the display window. When you enter Bank mode, the Bank and Program numbers from the previous mode will be retained. When a Program number is displayed in the display window, you can use the Value <UP> and <DOWN> buttons to scroll through Programs and Banks, exactly like Program mode.

When the <UP> and <DOWN> footswitches are used in Bank mode, you will scroll through Banks only. When you change a Bank using this method, the previous Program number is not displayed with the new Bank. The LEDs above foot switches <1-4> will begin flashing, indicating that you can choose a Program in the selected Bank by pressing one of the four foot switches. Once a Program number has been selected, both the Bank and Program numbers will be displayed. Exit Bank mode by changing to another mode.

EDIT MODE

Allows you to modify effect Parameters in a Program. Enter Edit mode by pressing the <EDIT> button. The Display window now shows the value of the Parameter indicated by the LEDs in the Matrix. You can scroll through the Parameter matrix using the Parameter Select buttons. The <UP> and <DOWN> buttons allow you to scroll through the vertical Parameter LEDs, while the <LEFT> and <RIGHT> buttons allow you to scroll through the horizontal Effect LEDs.

After selecting a Parameter, you can scroll through its values with the <UP> and <DOWN> Value buttons. When changing Parameter values, a decimal point will flash in the display when the value is not the stored value for the program. The Store LED will light at this time as well. If you return to the original value, the decimal point will stop flashing and the Store LED will go off. If you exit Edit mode after changing the Parameters and then return to Edit mode, the last viewed Parameter will be displayed.

STORE MODE

Once you have modified the Parameters and Effects, you can store them to a user Program location. When you change an Effect or Parameter in a Program, the Store LED will light, indicating that you have changed a Parameter and need to store the changes. Press the <STORE> button once and the first seven segment LED in the Display window will flash L. Select the User Bank and Program location you want to store your changes to, and press the <STORE> button again to save the changes.

BYPASS MODE

Allows you to bypass the RP-7 Valve's Effects. Enter this mode by pressing footswitches <3 & 4> simultaneously. BYP will appear in the display window to indicate you are in Bypass mode. Exit this mode by pressing any of the footswitches. When you exit this mode, the RP-7 Valve will default to the last mode you used.

TUNER MODE

Allows you to tune your guitar. Enter Tuner mode by pressing footswitches <1 & 2> simultaneously. TUN will appear briefly in the display window followed by - - - to indicate that you are in Tuner mode. To begin tuning play a note on your guitar (a harmonic at the 12th fret will work best). The display window will show the note being played and the horizontal Parameter Matrix LEDs just under the tuning bar will light. Once the green LED directly under the IN TUNE of the tuning bar is lit, the note will be in tune. If the note is not in tune, 1 or 2 of the LEDs left or right of the IN TUNE LED will be lit. If they are to the left, the note is flat and should be tuned up. If the LEDs are to the right, the note is sharp and should be tuned down. You can change your tuning preference by using the value <UP> and <DOWN> buttons. 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 dropped tunings. Alternate tunings are A = Ab (415), A = G (392), and A = Gb (370). The display window will briefly flash the currently selected tuning preference.

Exit this mode by pressing any of the footswitches. When you exit this mode, the RP-7 Valve will default to the last mode you used.

LEARN-A-LICK MODE

The Learn-A-Lick function allows you to record a 12 second passage of music and play it back as slow as 1/2 speed with no change in pitch. This is very useful for picking out the notes of a fast solo passage.

There are 4 functions for Learn-A-Lick. They include:

- Start / Stop
- Rewind
- Fast Forward
- Record

Using Learn-A-Lick

- Connect the output of your CD or tape player headphone output to the Jam-a-long input jack on the rear panel. Set the level to a desired listening level.
- Press foot switches <2> and <3> to enter Learn-a-lick mode.
- Cue up to the passage you want to record and hit pause on the CD or tape player.
- Release the pause button and press the <4> foot switch when you are ready to begin recording the passage. The display will read: REC and recording will begin. When recording is completed, the phrase is then set into an auto-loop playback mode. Stop or press pause on the CD or Tape player.
- Pressing the <Tempo Dn> foot switch will slow the playback down to 1/2 speed in 1/8th speed intervals.
- Pressing the <Tempo Up> foot switch will increase the playback speed to normal speed at 1/8th speed intervals.
- Pressing the <Rewind> foot switch steps back through the loop at 1 second intervals.
- Pressing the <F Forward> foot switch steps forward through the loop at 1 second intervals.
- The Expression pedal will control output level of auto loop.
- To re-record a passage, press the <Record> foot switch again.
- To exit the Learn-A-Lick mode, Press footswitches <2> and <3> at the same time.

SECTION 4 - EFFECTS AND PARAMETERS

About the Parameter Matrix

The Parameter Matrix displays all the Effects and Parameters you can find in the RP-7 Valve. The Parameters are arranged in rows and columns. Use the Parameter Select keys to navigate the matrix. The Effects and their Parameters are as follows:

Compressor

Parameters	Displayed Values
On/Bypass	ON - BYP
Threshold	LO - 1 . . . 78 - HI

The RP-7 Valve's Compression can be used to increase sustain and to tighten up guitars, and is particularly useful on clean sounds. Parameters of the RP-7 Valve compressor are as follows:

On / Bypass	Turns the Compressor on or off.
Amount	Controls the amount of compression applied to the signal. Higher settings yield a tighter, more focused sound, while lower settings allow better dynamics. Ranges from 1-Lo to 78-Hi.

Expression Pedal

Parameters	Displayed Values
Link (EP)	OFF . . . EP 1 . . . EP 11
Max Value	Parameter dependent
Min Value	Parameter dependent

The RP-7 Valve's Expression Pedal allows you to control various Parameters in real time during performance.

Link (EP)	There are eleven Parameters that can be controlled by the Expression Pedal. These Parameters are highlighted and labeled with parenthesis in the Parameter Matrix, indicating which EP link controls that Parameter.
Max Value	Sets the maximum value that the parameter assigned to the Expression Pedal will reach when the Pedal is in the forward position. Range varies according to the parameter selected.
Min Value	Sets the minimum value that the parameter assigned to the Expression Pedal will reach when the Pedal is in the back position. Range varies according to the parameter selected.

Preamp

Parameters	Displayed Values
On/Bypass	On - bYP
Type	CLN1 - CLN2 - b lUE - SAT - odr - Gru - HStn - FuZZ
Gain	1 . . . 11
On Level	- ∞ . . . 12
Off Level	- ∞ . . . 12

The distortion section of the RP-7 Valve has six extremely flexible distortion types, capable of producing the smoothest of the blues tones to the full shred gain of a cranked up stack.

On / Bypass Turns the Preamp on or off.

Type Selects the type of preamp voicing used. **CLN1** is a warm clean tube tone, **CLN2** is a bright clean tube tone, **BLUE** is a bluesy distortion with moderate gain, **SAT** is a high gain tube distortion which is ideal for soloing. On the solid state side, **odr** is a low to medium gain distortion, and **Gru** is an over the top high gain distortion, **HStn** is a warm sustaining distortion, and **FuZZ** is a vintage full-frequency fuzz.

Gain Controls the amount of distortion produced by the RP-7 Valve. High settings produce greater gain and drive for effortless soloing, while low settings offer better nuance and dynamic control. Ranges from 1 to 11.0.

Note: The Gain control parameter is not available in CLN 1 and CLN 2 preamp types.

On Level Sets the output level of the Distortion while the effect is ON. Ranges from -∞ to 12.

Off Level Sets the output level of the Distortion while the effect is OFF. Ranges from -∞ to 12.

Gate/Swell

Parameters	Displayed Values
On/Bypass	<i>On - bYP</i>
Threshold	<i>Lo - Hi</i>
Attack Time	<i>0 . . . 100</i>

The RP-7 Valve's Silencer offers you a professional quality digital noise reduction effect.

On / Bypass Turns the Gate on or off.

Threshold Sets the level at which the Silencer™ gate will open. Ranges are Lo and High.

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

Equalizer

Parameters	Displayed Values
On/Bypass	<i>On - bYP</i>
Low Gain	<i>- 15 . . . 0 . . . 15</i>
Mid Freq	<i>130 . . . 5000</i>
Mid Gain	<i>- 15 . . . 0 . . . 15</i>
High Freq	<i>1000 . . . 16.0</i>
High Gain	<i>- 15 . . . 0 . . . 15</i>

The RP-7 Valve offers a three band equalizer. The center frequency of the Mid and High bands is adjustable along with its gain (boost or cut).

On / Bypass Turns the Gate on or off.

Mid, High Frequency Allows you to select the center frequency of the Mid and High bands. Mid Band ranges from 130 to 16.0 (130 Hz to 16 kHz). High Band ranges from 1000 to 16.0 (1.0 kHz to 16 kHz).

Low, Mid, High Gain Allows you to boost and cut the frequency. Ranges are from -15 to 15.

Wah Wah

Parameters	Displayed Values
On/Bypass	<i>On - bYP</i>
Type	<i>1 . . . 7</i>
Position (EP1)	<i>0 . . . 127</i>

The RP-7 Valve offers a classic wah wah effect, which can be used with or without Distortion for that classic Wah-Wah sound. The effect's position can be controlled with the CC Pedal.

On / Off Turns the Module on and off.

Type The Wah Wah types include; 1. being full-range and 2 through 7 move from darker to lighter tones.

Position 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 RP-7 Valve's Parameter keys to perform the wah function. As the Parameter is modified, the tone of the original note will change. Ranges 0 to 127.

Mod/Pitch

Parameters	Displayed Values							
On/Bypass	<i>On - bYP</i>							
Type	<i>Chor</i>	<i>FLAn</i>	<i>PHAS</i>	<i>tRE</i>	<i>PAn</i>	<i>Ptch</i>	<i>bEnd</i>	<i>Har</i>
Level (EP4)	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>	<i>0 . . . 100</i>

Is the RP-7 Valve's multi-function module, allowing you to select effects such as; Chorus, Flanger, Phaser, Tremolo, Panner, Pitch Shift, Whammy™, and Harmony effect. The Parameters of these effects are adjusted in this module.

On / Bypass Turns the Module on or off.

Type Allows you to select a specific type of modulation/pitch effect. The Types are; Chorus, Flanger, Phaser, Tremolo, Panning, Pitch Shifting, Whammy (Bend), and Harmony.

Level Controls the overall mix level of the mod or pitch shifting effect. Ranges from 0 to 100.

Chor (Chorus)

<i>Values</i>	<i>Displayed Values</i>
<i>Speed (EP2)</i>	□ . . . 1□□
<i>Depth (EP3)</i>	□ . . . 1□□
<i>Delay</i>	□ . . . 1□□

The RP-7 Valve offers a chorus that is unique in both character and sound. This dual chorus offers exceptionally rich chorusing using multiple voices with different phasing characteristics. Chorus Parameters are as follows:

- Speed** Controls the speed of the chorus sweep. Ranges from 0 to 100.
- Depth** This Parameter sets the sweep depth (intensity) of the chorus. Ranges from 0 to 100.
- Delay** Sets the amount of delay present in the chorus effect. Ranges from 0 to 100.

FLAn (Flanger)

<i>Values</i>	<i>Displayed Values</i>
<i>Speed (EP2)</i>	□ . . . 1□□
<i>Depth (EP3)</i>	1 . . . 16
<i>Regeneration</i>	- 99 . . . 0 . . . 99

The RP-7 Valve also offers exceptionally rich studio-quiet flanging. Flange Parameters are as follows:

- Speed** Controls the speed of the flange sweep. Ranges from 0 to 100.
- Depth** Sets the depth amount and delay present in the flange effect. Ranges from 1 to 16.
- Regeneration** This Parameter sets the amount of regeneration which is perceived as the sweep depth (intensity) of the flange. Variable from -99 to 99.

PHAs (Phaser)

<i>Values</i>	<i>Displayed Values</i>
<i>Speed (EP2)</i>	<i>□ . . . 1□□</i>
<i>Depth (EP3)</i>	<i>□ . . . 1□□</i>
<i>Regeneration</i>	<i>□ . . . 99</i>

The RP-7 Valve's classic adjustable phase shifting effect is reminiscent of mid-70's keyboard and guitar sounds.

- Speed** Controls the speed of the phase sweep. Ranges from 0 to 100
- Depth** Sets the sweep depth (intensity) of the phaser. Ranges from 0 to 100.
- Regeneration** Controls the amount of phased sound fed back to the input of the Module. High regeneration settings produce dramatic and interesting unnatural sounds. Ranges from 0 to 99.

trE (Tremolo)

<i>Values</i>	<i>Displayed Values</i>
<i>Speed (EP2)</i>	<i>□ . . . 1□□</i>
<i>Depth (EP3)</i>	<i>□ . . . 1□□</i>

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 RP-7 Valve, breathes new life into this classic effect, providing totally transparent volume modulation of sound sources.

- Speed** Controls the tremolo speed (speed of modulation). Ranges from 0 to 100.
- Depth** Adjusts the intensity of the tremolo effect. Ranges from 0 to 100.

PAn (Auto Panning)

<i>Values</i>	<i>Displayed Values</i>
<i>Speed (EP2)</i>	<i>□ . . . 1□□</i>
<i>Depth (EP3)</i>	<i>□ . . . 1□□</i>

An auto panner is a modern relative of the tremolo that modulates the sound from left to right at a given rate. Parameters are as follows:

Speed Controls the panning speed (speed of modulation). Ranges from 0 to 100

Depth Adjusts the intensity of the panning effect. Ranges from 0 to 100.

Ptch (Pitch Shifting)

<i>Values</i>	<i>Displayed Values</i>
<i>Amount (EP5)</i>	<i>- 24 . . . □ . . . 24</i>
<i>Key (EP6)</i>	<i>- 99 . . . □ . . . 99</i>

This RP-7 Valve's Pitch Shifting effect gives you a shifted signal from 0 to 24 semi-tones above or below the pitch of the input signal.

Amount Sets the interval between the original note and the pitch shifted note. Variable from -24 to 24

Key Determines the amount of detuning applied to the shifted note. Variable from -99 to 99.

bEnd (Pitch Bending/Whammy)

<i>Values</i>	<i>Displayed Values</i>
<i>Amount (EP5)</i>	<i>1 . . . 16</i>
<i>Not Available</i>	
<i>Whammy (EP7)</i>	<i>□ . . . 1□□</i>

The RP-7 Valve's pitch bending effect allows you to smoothly shift between two preset pitch intervals using the CC Pedal.

Amount Selects the function of the Whammy™ Module. There are 16 functions available in regular Whammy Modules. They are as follows:

- | | |
|---------------------|-------------------------|
| 1= Up 1 Octave | 9=Down 1 Oct - Up 1 Oct |
| 2=Up 2 Octaves | 10=Down 4th - Down 3rd |
| 3=Down 2nd Reversed | 11=Up 5th - Up 6th |
| 4=Down 2nd | 12=Up 4th - Up 5th |
| 5=Down 4th | 13=Up m3rd - Up Maj 3rd |
| 6=Down 1 Octave | 14=Up 2nd - Up 3rd |
| 7=Down 2 Octaves | 15=Shallow Detune |
| 8=Down 6 Octaves | 16=Deep Detune |

Whammy The Whammy Parameter reflects the current setting of the Whammy™ effect. This Parameter should be linked to the RP-7 Valve's CC pedal. As Position is modified, the pitch of the original note will change in intervals according to the setting of the WHAMMY TYPE. Ranges from 0 to 100.

Har (Harmony)

<i>Values</i>	<i>Displayed Values</i>
<i>Amount (EP5)</i>	□ □ □ □ . . . □ □ □ □
<i>Key (EP6)</i>	A . . . G#
<i>Scale (EP7)</i>	1 . . . 14

The RP-7 also offers intelligent harmony pitching that lets you select the key, scale and amount of shifting in the signal. The parameters are as follows:

Amount Amount lets select how much the pitch is shifted. This Ranges from: -Octave down-Octave Up

Key This parameter lets you select which key the harmony shifting takes place in. This ranges from: A to G#.

Scale This parameter lets you select the scale that is being used in the Harmony effect. There are fourteen different scales and they are numbered as follows: 1. **Major** 2. **Minor** 3. **Harmonic Minor** 4. **Melodic Minor** 5. **Dorian** 6. **Mixolydian** 7. **Lydian** 8. **Lydian Augmented** 9. **Major Pentatonic** 10. **Minor Pentatonic** 11. **Blues** 12. **Whole Tone** 13. **Half-Whole Dimished** 14. **Whole-Half Dimished**

Note: For complete reference guide to these scales, please refer to the Harmony interval charts located in the Appendix section on page 21.

Dual Delay

Parameters	Displayed Values
On/Off	0 n - b 4 P
Type	1 . . . 7
Level (Mix)	0 . . . 100
Delay 1	0 . . . 3500
Delay 2	0 . . . 3500
Feedback	0 . . . 99

Delay times 1 & 2 can be programmed independently. However, On/Off, Type, Level, and Feedback will program the same for BOTH Delays 1 & 2. For example, if you choose to program your Level to 50, both Delays 1 & 2 will be 50. Delay Parameters are as follows:

On / Off Turns the Effect on and off.

Type Determines the type of delay. Type 1 is a mono delay, Types 2 through 4 are two tap mono delays, and Types 5 through 7 are two tap stereo delays (see chart below for further information).

Type:	Left Output:	Right Output:	Feedback Source:
1	Delay 1	Delay 1	Delay 1
2	Delays 1 & 2	Delays 1 & 2	Delay 1
3	Delays 1 & 2	Delays 1 & 2	Delay 2
4	Delays 1 & 2	Delays 1 & 2	Delays 1 & 2
5	Delay 1	Delay 2	Delay 1
6	Delay 1	Delay 2	Delay 2
7	Delay 1	Delay 2	Delays 1 & 2

Level Controls the level of the delay in both Delay1 and Delay 2. Ranges from 0 to 100.

Delays 1 & 2 The available delay time ranges are 0 (no delay) to 3.5 seconds.

Feedback The amount of time it takes for the Reverb to fade to inaudibility. Ranges from 0 to 99.

Reverb

Parameters	Displayed Values
On/Bypass	<code>On - bYP</code>
Type	<code>CLub . . . SPrg</code>
Level	<code>0 . . . 100</code>
Decay Time	<code>1 . . . 10</code>

Ambience, or reverberation, is produced when sound energy is reflected off room surfaces and objects. Using reverb 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. Reverb Parameters and their functions are as follows:

On / Bypass Turns the Reverb on or off.

Type Allows you to choose your ambience or setting you want to use. There are ten available type settings:

- CLub=Club
- pLat=Plate
- SStg=Sound Stage
- bAth=Bathroom
- Stud=Studio
- Garg=Garage
- HALL=Hall
- Chur=Church
- ArEn=Arena
- SPrg=Spring

Level Controls the amount of reverb signal to be mixed in with the dry signal. Ranges from 0 to 100.

Decay Time The amount of time it takes for the Reverb to fade to inaudibility. Ranges from 1 to 10.

Speaker Cabinet Emulator

<i>Parameters</i>	<i>Displayed Values</i>
<i>On/Bypass</i>	<i>On - bYP</i>
<i>Type</i>	<i>1 . . . 10</i>

The RP-7 Valve's programmable Speaker Cabinet circuitry allows you to use it in both recording and live situations without lugging heavy amps and/or cabinets around. Just connect the RP-7 Valve's outputs to a mixing console and kick in the Speaker Cabinet. No miking hassles, no heavy equipment, just full on miked cabinet sound. Programs can be stored with different Speaker Cabinet settings so you can customize your Banks for whatever sound types you need. Parameters are as follows:

On / Bypass Turns the Speaker Cabinet Emulator on or off.

Cabinet Type Selects the tonal characteristics of the simulated cabinet. There are 10 different cabinet types; 1-3 are warm cabinets, 4-6 are medium cabinets, 7-9 are bright cabinets, and 10 is a full bandwidth cabinet for maximum frequency response.

Note: When headphones are plugged in, the Speaker Cabinet Emulator is engaged globally on all programs. This will affect the sound at the left and right main outputs.

Volume

<i>Parameters</i>	<i>Displayed Values</i>
<i>Pre/Post</i>	<i>PrE - P o St</i>
<i>Level (EP11)</i>	<i>0 - 100</i>

The RP-7 Valve's Master Volume controls the overall volume level of the selected program. The level can be controlled with the CC expression pedal for balancing levels in real-time during live performance. It is also useful to lower the overall digital effects level if clipping occurs.

Pre/Post Selects whether the Volume pedal effect is pre-digital effects, allowing delays and reverbs to be heard after the volume is pulled back, or post-digital effects, affecting all volume.

Level Controls the overall volume level. This can be done with the CC pedal or the Value keys. Variable from 0 to 100.

Section 5 - Appendix

Reinitializing the RP-7 Valve

This option allows you to restore the contents of the RP-7 Valve’s memory to the original factory condition and calibrate the expression pedal.

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

To restore the factory Programs and calibrate the expression pedal, the procedure is as follows:

1. Plug in the RP-7 Valve while holding down the Parameter Select <UP> button.
2. When $r5E$ appears in the display window, press the Value <UP> button. The Rp-7 will reset to factory condition.
3. The display will now prompt you to re-calibrate the expression pedal by reading: $PEd | CAL$
4. When the display reads: $E OE drn$, rock the pedal forward and press any one of the flashing footswitches.
5. When the display reads: $E OE uP$, rock the pedal back and press any one of the flashing footswitches. The expression pedal will now be calibrated and the RP-7 will return to program mode.

Re-calibrating the Expression Pedal

If the Expression Pedal calibration should fail, you can re-calibrate it by disconnecting the power, press and hold the parameter select <Down> button and re-apply power. Release the button and repeat steps 3-5 as shown in the “Re-initializing the RP-7 “ section above.

Harmony Interval Charts

Interval	Major	Minor	Harm.Minor	Mel.Minor	Dorian	Mixolydian	Lydian
↑0ct	C	C	C	C	C	C	C
↑7th	B	B _♭	B	B	B _♭	B _♭	B
↑6th	A	A _♭	A _♭	A	A	A	A
↑5th	G	G	G	G	G	G	G
↑4th	F	F	F	F	F	F	F#
↑3rd	E	E _♭	E _♭	E _♭	E _♭	E _♭	E
↑2nd	D	D	D	D	D	D	D
Ref	C	C	C	C	C	C	C
↓2nd	B	B _♭	B	B	B _♭	B _♭	B
↓3rd	A	A _♭	A _♭	A	A	A	A
↓4th	G	G	G	G	G	G	G
↓5th	F	F	F	F	F	F	F#
↓6th	E	E _♭	E _♭	E _♭	E _♭	E	E
↓7th	D	D	D	D	D	D	D
↓0ct	C	C	C	C	C	C	C

Int.	Lydian Aug.	Int.	Major Pent.	Int.	Minor Pent.	Int.	Blues	Int.	Whole Tone	Int.	HF-Whl Dim.	Int.	Wh-PHF Dim.
↑0ct	C									↑0ct	C	↑0ct	C
↑7th	B					↑0ct	C	↑0ct	C	↑6th	A	↑5th	A
↑6th	A	↑0ct	C	↑0ct	C	↑b7th	B _♭	↑b7th	A#	↑5th	G	↑b6th	G#
↑5th	G#	↑6th	A	↑b7th	B _♭	↑5th	G	↑#5th	G#	↑#4th	F#	↑b5th	F#
↑#4th	F#	↑5th	G	↑5th	G	↑b5th	F#	↑#4th	F#	↑3rd	E	↑4th	F
↑3rd	E	↑3rd	E	↑4th	F	↑4th	F	↑3rd	E	↑#2nd	E _♭	↑b3rd	E _♭
↑2nd	D	↑2nd	D	↑b3rd	E _♭	↑b3rd	E _♭	↑2nd	D	↑2nd	D _♭	↑2nd	D
Ref	C	Ref	C	Ref	C	Ref	C	Ref	C	Ref	C	Ref	C
↓b2nd	B	↓b3rd	A	↓2nd	B _♭	↓2nd	B	↓2nd	A#	↓2nd	B _♭	↓b2nd	B
↓b3rd	A	↓4th	G	↓4th	G	↓4th	G	↓3rd	G#	↓b3rd	A	↓b3rd	A
↓3rd	G#	↓b6th	E	↓5th	F	↓b5th	F#	↓b5th	F#	↓4th	G	↓3rd	G#
↓b5th	F#	↓b7th	D	↓6th	E _♭	↓5th	F	↓b6th	E	↓b5th	F#	↓b5th	F#
↓b6th	E	↓0ct	C	↓0ct	C	↓6th	E _♭	↓b7th	D	↓b6th	E _♭	↓5th	F
↓b7th	D					↓0ct	C	↓0ct	C	↓6th	E	↓6th	E _♭
↓0ct	C									↓7th	D _♭	↓b7th	D
										↓0ct	C	↓0ct	C

Specifications

A/D Converter: 20 bit
D/A Converter: 20 bit
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: 256k x 24 bits (3.5 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

Tube Type:

(1) 12AX7

Plate Voltage: 100volts

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: 40 Programs User: 40 Programs

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: 12 watts
Dimensions: Length 18" Width 8.75" Height 2.75"

Preset List

The following is a list of all the factory Programs in the RP-7 Valve.

Bank 1 Rock

- 11 Star Maker Solo
- 12 Crunchola
- 13 Chorused Clean
- 14 Octavia

Bank 2 Heavy

- 21 Chunk Head
- 22 Metal Tube
- 23 MoshMan
- 24 Fuzz Buster

Bank 3 Tube Tones

- 31 Tube Solo
- 32 Tube Rhythm
- 33 Bright Clean Tube
- 34 Hard Tube Crunch

Bank 4 Blues

- 41 SRV Blues
- 42 Funky Clean
- 43 Blues Slide
- 44 Wah House

Bank 5 Country

- 51 Lil' Slap
- 52 Country Solo (A Mixolydian)
- 53 Swing Rhythm
- 54 Pedal Steel

Bank 6 Alternative

- 61 King Fuzzo
- 62 Trem-O-Time
- 63 Whammy Boy
- 64 Phase to Phase

Bank 7 Vintage

- 71 Pulp Surf
- 72 Transistor Tone
- 73 Rockabilly
- 74 Fuzz Phase

Bank 8 Jazz

- 81 Jazz Club
- 82 Fusion Solo
- 83 Rotary Speaker Jazz
- 84 Comp Delay

Bank 9 Studio

- 91 Panning Rhythm (Stereo Mode Only)
- 92 Compressed Clean
- 93 Session Crunch
- 94 Greasy Solo

Bank 10 Special

- 10-1 Harmony Solo (A-Minor)
- 10-2 Guitar Synth
- 10-3 Sound On Sound*
- 10-4 12-String

**** Play a 2 second pattern and rock the expression pedal forward. This will engage the Repeat hold on the delay and allows you to play along with the captured pattern.***



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