BP8
VALVE

VACUUM TUBE BASS PREAMP / PROCESSOR

DigiTech

A TRADITION OF
INNOVATION

POWERED BY
S-DISC™ II
PROCESSING
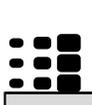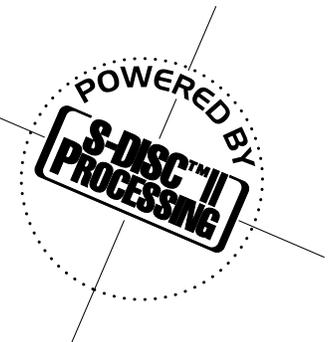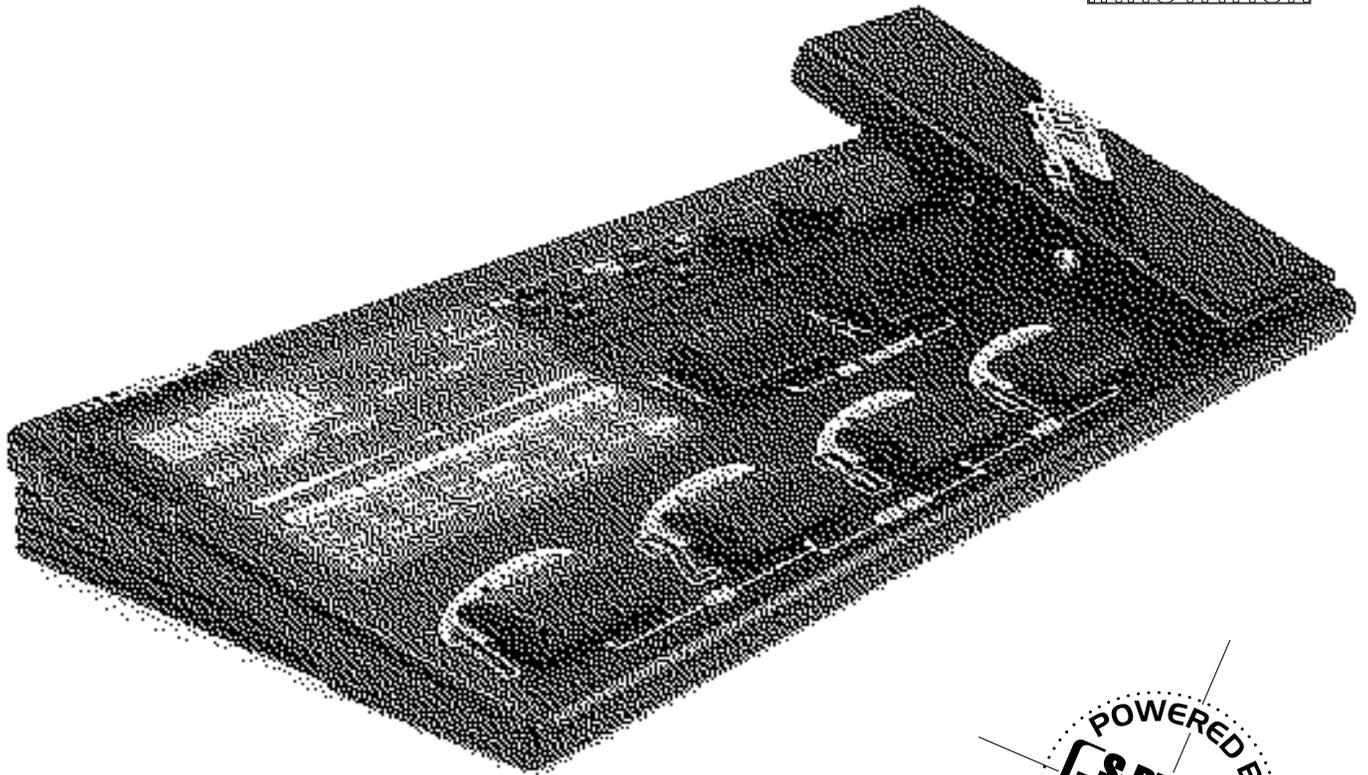
User's Guide

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

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: **BP-8 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.

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Table of Contents

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 your bass into the **INPUT** (located on the rear of the BP-8 Valve). Now run from the **OUTPUT(S)** of the BP-8 Valve (either Left/Low or Left and Right/High) to the input of either the bass amp, power amp or mixing board. Using both Left and Right outputs to run into either two amplifiers or mixing board utilizes the stereo effects capabilities or the special Bi-Amping output available in the BP-8.

Apply Power:

Note: When applying power to the BP-8 Valve, it is recommended that the **<OUTPUT>** knob be turned down prior to powering up the unit.

Adjust Input

The **<INPUT>** knob is used to set the amount of signal that is entering the BP-8. It is recommended that the input level be set so that the **<SIGNAL/COMP>** LED constantly lights while playing and the **<CLIP>** LED lights only with the strongest signals.

Adjust Output:

Now adjust the **<OUTPUT >** level knob of the BP-8 Valve to the desired output level.

Select Preset:

Begin playing your bass and choose any preset by either pressing the Value **<UP>** or **<DOWN>** buttons or by pressing the Program/Bank **<UP>** or **<DOWN>** footswitches.
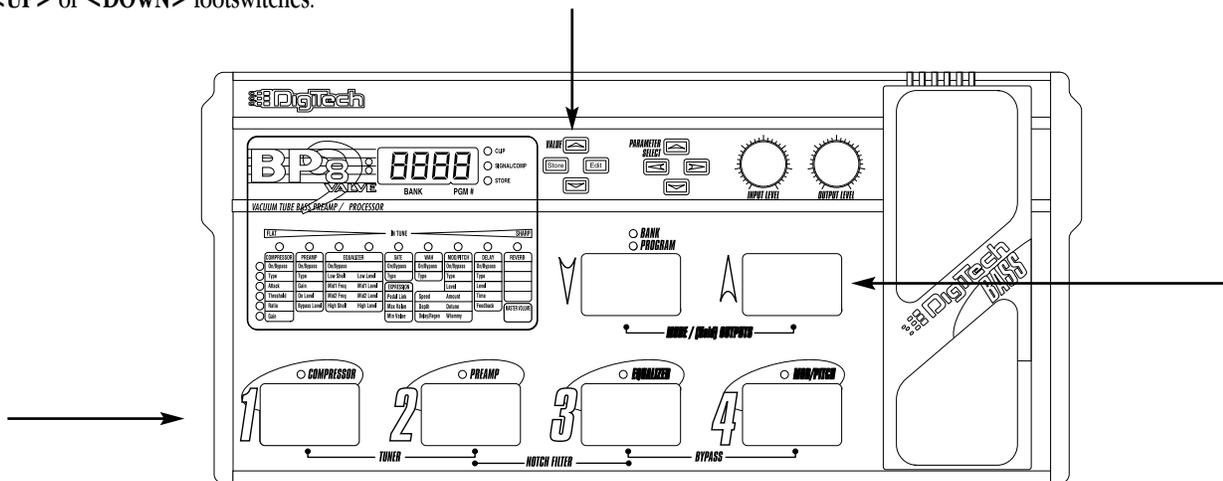
Section-1 Introduction

Congratulations...

... you are now the proud owner of a Digitech BP-8 Valve Preamp/Processor. This owner's manual is your key to understanding the powerful world of the BP-8 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 BP-8 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 BP-8 Valve Bass Preamp/Processor*
- *· (1)Power Adapter*
- *· (1) 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.

BP-8 Valve Features:

- *· Tube and Solid State Voicings*
- *· Built-in Expression Pedal*
- *· Tube Preamp (12AX7)*
- *· Full bandwidth effects*
- *· 24-bit signal path, 48-bit internal data path*
- *· S-DISC II ™ Processing*

- *· Jam-Along™ Function*
- *· Headphone Output*
- *· Adjustable Notch Filter*
- *· Fretless Simulator*
- *· Chromatic tuner*
- *· Compact floor design*

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 BP-8 Valve

The Front Panel
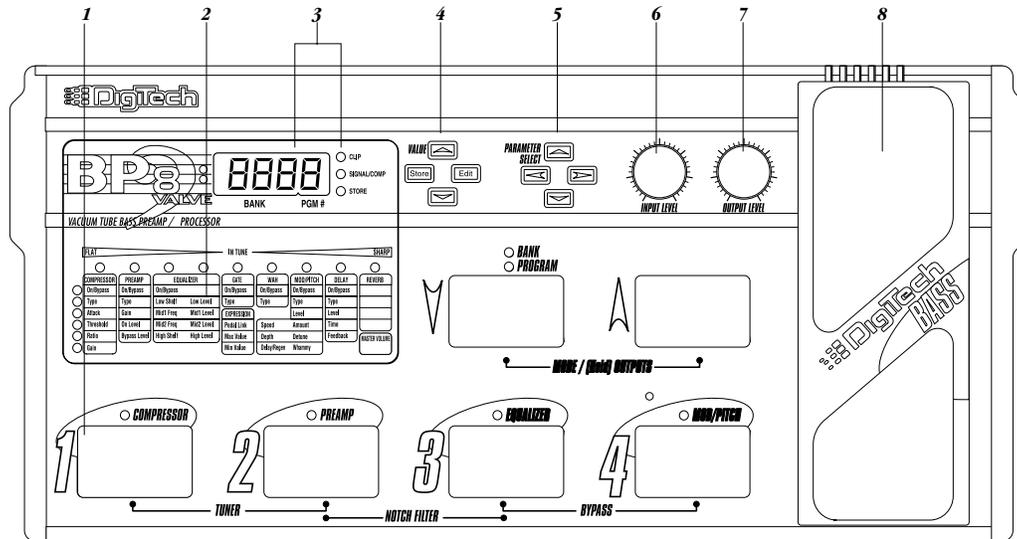
1) **Pedalboard -** The BP-8 Valve's pedalboard consists of six footswitches. The two mode footswitches to the right of the Parameter Matrix allow you to change from Program mode to Bank mode by pressing the **<UP>** & **<DOWN>** footswitches simultaneously. When changing modes, the appropriate LED will 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 Compressor, Preamp, EQ, and Mod/Pitch. 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 **<2>** and **<3>** are pressed simultaneously, the Notch Filter is selected for editing. If footswitches **<3>** and **<4>** are pressed simultaneously, Bypass mode will be activated.

2) **Parameter Matrix -** The Parameter Matrix consists of a horizontal group of Effect LEDs and a vertical group of Parameter LEDs. The Effect LEDs are: Compressor, Preamp, Equalizer, Noise Gate, Wah, Mod/Pitch, Delay and Reverb. 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 numeric LED displays and the Signal, Clip, and Store indicator LEDs. The first numeric LED in the display window indicates whether you are in a User (U) or Factory Bank (F). The second and third numeric LEDs indicate 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/Comp -** A green LED indicates signal is present in the BP-8 Valve. A yellow LED indicates the signal is being compressed by the Compressor and can be adjusted by the Compressor's Threshold parameter.

· **Clip -** Indicates analog clipping in the BP-8 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,

reduce the Input Level using the Input Level knob. To reduce digital clipping, the Preamp on/off levels, EQ, 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. (see page 9, under Store 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 BP-8 Valve's Programs, or change Parameter values in Edit mode. The **<STORE>** button allows you to store an edited program in memory, or copy a program to another User Program location for later use. The **<EDIT>** button enters Edit mode and allows you to edit the User and Factory programs.

5) ***Parameter Select Buttons -***The **<LEFT>** and **<RIGHT>** Parameter Select 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) ***Input level -*** Controls the strength of the instrument signal into the BP-8 Valve.

7) ***Output Level -*** Controls the overall output level of the BP-8 Valve, as well as the overall level of the headphones.

*8) **Expression Pedal -*** This volume-type pedal allows real time control over Parameters in the BP-8 Valve.

The Rear Panel
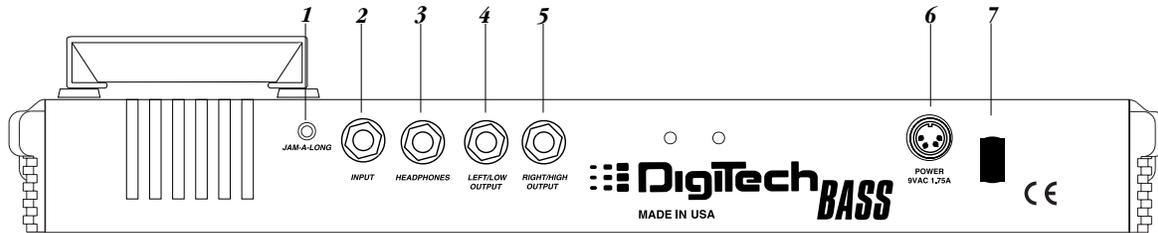
1) *Jam-Along Jack*- This is the Jam-Along jack connection of the BP-8 Valve. Connect the headphone output of CD or cassette player here using an 1/8" stereo cable. Use the headphone volume control of the CD or cassette player to balance the level with that of the BP8.

2) *Input* - This is the BP-8 Valve's audio input. Plug your bass in here.

3) *Headphone Output* - 1/4" stereo plug for headphones. The headphone level is controlled by the main output level knob.

4) *Left/Low Output* - This is the BP-8 Valve's left main audio output in Stereo mode and the Low Frequency output in Hi/Low (biamp) mode.

5) *Right/High Output* - This is the BP-8 Valve's right main audio output in Stereo mode and the High Frequency output in Hi/Low (biamp) mode.

6) *AC Line Input* - This is the AC adapter receptacle. Use only the included PS 0920 power supply.

7) *Power Cord Strain Relief* - This strain relief is used to prevent the power supply from being disconnected from the power jack.

Section-2 Setting Up

Making Connections

Your BP-8 Valve can be connected in several different ways to meet the requirements of specific applications. The following diagrams offer some different ways your BP-8 Valve can be connected.

For those of you out there that feel that "bigger is better", this set-up should work quite nicely for you. First plug your bass into the input of the BP-8 Valve. Connect both BP-8 Valve outputs into the inputs of both of the amplifiers. Using a set-up such as this will let you produce bass tones with lots of body. This is also a great set-up to produce lush and thick stereo effects.

Instrument Input

Left Output   *Right Output*
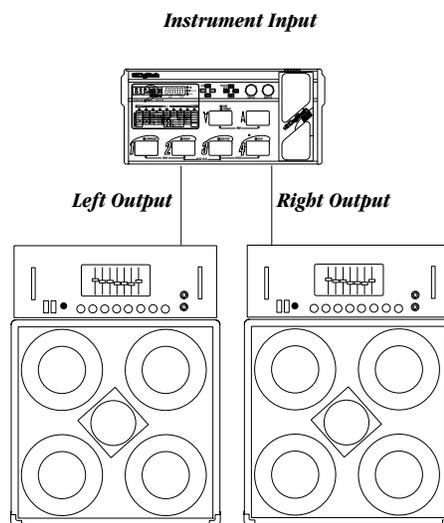
BP-8 Valve into two Bass Amplifiers

The BP-8 Valve's Preamp Section allows you to run direct to a mixing board. First, plug your bass into the Input of the BP-8 Valve. Next, connect cables from both Left and Right Outputs into the Mixing board. Adjust the Output Level to match the sensitivity of your mixer. Be careful as too much output level can distort the input stage of your mixer channels.

Instrument Input

Left Output   *Right Output*
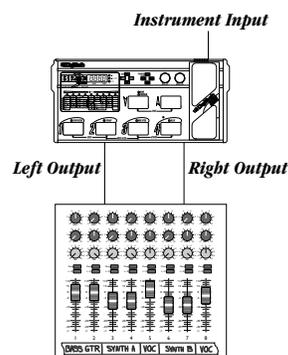
Running Direct into a Mixer

If you choose to run the BP-8 into a Bi-Amp system. You are given the option of using the Hi-Lo output set up which allows you to set the Cross-Over frequency at which the BP-8 will route the output frequencies to either the High or Low Outputs. The Procedure selecting this output is as follows:

Instrument Input

*Left/Low
Output*   *Right/High
Output*
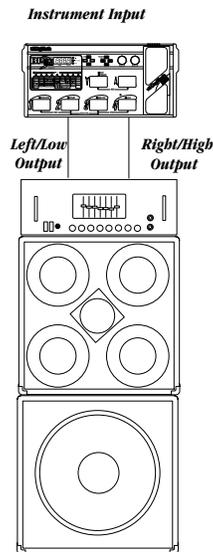
BP-8 Valve into a Bi-Amp System Using the Hi-Lo Outputs

To select the High-Low Bi-amping output of the BP-8, from Program mode press and hold the **<MODE/(HOLD) OUTPUT>** footswitches for 3 seconds until the display reads:

Out5

and then the currently selected output mode will be displayed. From the factory 5tEr (Stereo) will be selected. Now use the Value **<UP>** and **<DOWN>** buttons to select High - Low Bi-amping and it will appear as follows:

H iLo

Now to select the Cross-Over frequency at which the BP-8 will route the output signal to either the High or Low outputs, press the parameter **<RIGHT>** arrow button and the currently selected Cross-Over frequency will be displayed. Now use the Value **<UP>** and **<DOWN>** arrow buttons to select the frequency. Range is from 80 to 500Hz. Once the frequency has been selected, press any foot switch to exit. This setting will now be used with every program in the BP-8 and will be retained when the BP8 is turned off.

For more information about selecting Output, please see the Output Mode section on page 10.

Section 3 - Basic Operations

About the BP-8 Valve's modes
The BP-8 Valve offers several different modes, allowing easy operation of the Effects and Parameters. The modes are as follows:

PROGRAM MODE
Program mode allows you to scroll through the BP8's User and Factory Programs using the Value **<UP>** and **<Down>** buttons and the **<UP>** and **<DOWN>** foot switches. Enter Program mode by pressing the **<UP>** and **<DOWN>** foot switches simultaneously until the Program LED lights and the letter P appears briefly in the display. Foot switches **<1-4>** will act as on/off toggle switches for the specified effects in Program mode.

BANK MODE
Bank mode is the factory default setting and 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 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.

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. Follow the horizontal and vertical LEDs across the matrix to the point where they intersect. This will be the parameter you are about to edit.
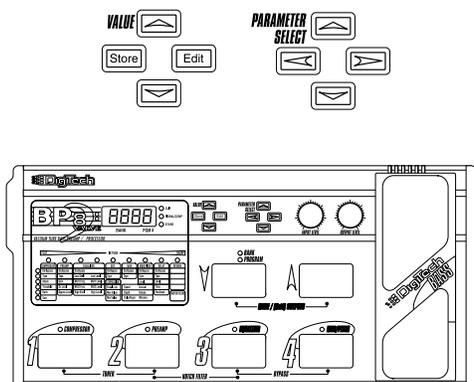
After selecting a Parameter, you can scroll through its values with the Value **<UP>** and **<DOWN>** buttons. When changing Parameter values, a decimal point will flash in the display when the value is not the stored value for the program. The Store LED will light at this time as well. If you return 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/COPY 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 ⊔. Select the User Bank and Program location you want to store your changes to using the Value **<UP>** and **<DOWN>**buttons, then press the **<STORE>** button again to save the changes. Use the same procedure, less the editing, to copy a program to a new User location.

BYPASS MODE

Bypass mode globally bypasses the compressor, preamp and all effects. Enter this mode by pressing footswitches **<3 & 4>** simultaneously.
⊢ЧР 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 BP-8 Valve will default to the last mode you used. Bypass does not affect the Notch Filter nor the Hi/Low crossover frequency settings.

TUNER MODE

Allows you to tune your bass. Enter Tuner mode by pressing footswitches **<1 & 2>** simultaneously. ⊢⊔∩Ε 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 bass (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.
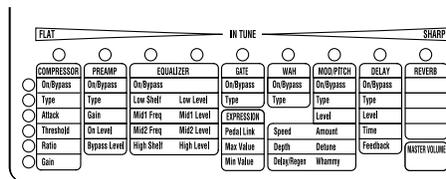
Once the green LED directly under the IN TUNE of the tuning bar is lit, the note will be in tune. If the note is not in tune, 1 or 2 of the LEDs left or right of the IN TUNE LED will be lit. If they are to the left, the note is flat and should be tuned up. If the LEDs are to the right, the note is sharp and should 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 form 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 BP-8 Valve will default to the last mode you used.

NOTCH FILTER

The BP-8 also offers an adjustable notch filter which helps reduce annoying low frequency room resonance from one venue to the next. The procedure for editing the Notch filter is as follows:

1. From Program mode, press and hold the **<2>** and **<3>** footswitches.
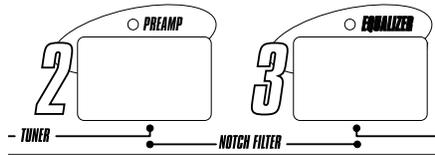
2. *ntch*   will briefly appear in the display followed by the currently selected notch filter frequency and the LEDs above the **<2>** and **<3>** footswitches will light, indicating that you are in Notch Filter edit mode .

3. Move the expression pedal or use the Value **<UP>** and **<DOWN>** until the desired Notch frequency is displayed. Notch filter range is from from Off to 500Hz.

4. Once the desired frequency has been selected, press any foot switch to exit this mode. This Notch filter frequency is applied globally to all programs and will remain in memory until edited again or until the BP8's power is disconnected.

OUTPUT MODES

The BP-8 offers 3 output modes to select from: **Dual** (Mono) **mode**, **Stereo mode**, and **Hi/Lo** (Biamp) **mode**. The procedure for changing the Output modes is as follows:

1. From Program mode, press and hold the **<UP>** and **<DOWN>** footswitches for 3 seconds. The display will then show the current output mode.
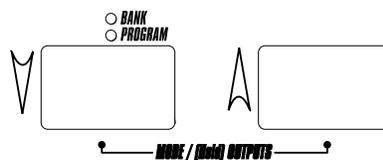
2. Use the Value **<UP>** and **<DOWN>** buttons to select the desired Output mode. **Dual mode** is a mono output mode that sends the same program material to both outputs. **Stereo mode** splits any effects with stereo imaging to the left and right outputs. **Hi/Lo (biamp) mode** sends high frequency material out the Right output and Low frequency material out the Left output. If Hi/Lo mode is selected, you can adjust the crossover frequency by pressing the **<Right>** parameter button and by using the Value **<UP>** and **<DOWN>** buttons. Material above the selected crossover frequency will be sent out the Right output and material below the the crossover frequency will be sent out the Left output.

NOTE: If headphones are plugged into the BP8, the output mode defaults to Stereo. Unplugging the headphones will return the Output mode to it's previously selected mode.

SECTION 4 - EFFECTS AND PARAMETERS

About the Parameter Matrix

The Parameter Matrix displays all the Effects and Parameters you can find in the BP-8 Valve. The Parameters are arranged in rows and columns. Use the Parameter Select buttons to select the parameter to be edited. The Effects and their Parameters are as follows:

Compressor

Parameters	Displayed Values
On/Bypass	On-bYPS
Type	1-4
Attack	1-4
Threshold	0 . . .-62
Ratio	1.5-1 . . 25-1
Gain	0-62

The compressor on the BP8 is unique in its ability to bypass high frequencies around the compressor to retain a natural tone while limiting the maximum power in the signal and increasing sustain. The result is a sound that is smooth and full with good transients that can be heard in the mix without overpowering it.

On / **Bypass**   Turns the Compressor on or off.

Type   Four types are available. Type 1 is closest to normal compressor operation with all frequencies being compressed. Types 2-4 send more high frequencies around the compressor. Each has its own sound; experiment to see which ones work for you in which situations.

Attack   Determines the attack time of the compression action. 1 is the fastest, 4 the slowest. Generally fast attack times are useful with aggressive playing, slower times with more sustained notes. Too fast an attack time can cause slight distortion on long sustained tails of notes so experiment to get the right setting for your application.

Threshold   Determines the signal strength which activates the compressor. This control is calibrated in dB below full output. As the threshold becomes more negative, the lower the signal strength needs to be in order for it to be compressed. The SIGNAL/COMP light turns yellow when your signal is higher than the compression threshold (which means your signal is being compressed).

Ratio   Determines the amount of compression after you exceed the threshold. For instance a ratio of 2.5-1 means that for every 2.5 dB your signal exceeds the threshold, your output will only increase 1 dB. Ratios are as follows: 1.5:1 through 25:1.

Gain   This parameter controls the overall amount of output gain in the Compressor effect. Range is from 0-62. Use this parameter to balance the levels between Compressor on and Compressor off.

Preamp

Parameters	Displayed Values
On/Bypass	`On-bYP`
Type	`CLn1-CLn0, HSuS, SAt, Odr`
Gain	`0-100`
On Level	`0-100`
Bypass Level	`0-100`

The Preamp section of the BP-8 Valve has 13 extremely flexible voicings to choose from. Some emulate preamps found in some of today's popular bass amplifiers while others can be used for distortion tones found in some of today's popular music.

On / **Bypass**   Turns the Preamp on or off.

Type   Selects the Preamp type used. `CLn1`=Warm Tube, `CLn2`=Warm Bright Tube, `CLn3`=Punchy, `CLn4`=Punchy Bright, `CLn5`=Classic Tube, `CLn6`=Classic Bright, `CLn7`=Backbeat, `CLn8`=High Definition, `CLn9`=Full Five String, `CLn0`=Modern Five String. The BP8 also has cutting edge distortion preamp settings for some of today's modern rock bass sounds. `HSuS`=Dark Distortion, `SAt`=Saturated Tube Distortion, `Od`=Overdrive Distortion

Gain   Controls the amount of distortion produced by the BP-8 Valve. High settings produce greater gain and drive, while low settings offer better dynamic control of tone. Ranges from 1-100.

On Level   Sets the output level while the Preamp is ON. Ranges from 0-100.

Bypass Level   Sets the output level while the Preamp is Bypassed. Ranges from 0-100.

Equalizer

Parameters	*Displayed Values*
On/Bypass	On-bYP
Low Shelf	31 .. 500
Low Level	-15 .. 0 ...15
Mid 1 Freq	80 .. 2000
Mid 1 Level	-15 .. 0 ...15
Mid 2 Freq	250 ...4000
Mid 2 Level	-15 .. 0 ...15
High Shelf	1000 ...1000
High Level	-15 .. 0 ...15

The BP-8 Valve offers a four band equalizer. Each frequency is adjustable along with its gain (boost or cut).

On / Bypass   Turns the EQ on or off.

Low/High Shelf
Mid 1/Mid 2 Freq   Allows you to select the shelving or center frequency of these bands.

Level   Allows you to boost and cut the frequency. Ranges are from -15dB to 15dB.

Noise Gate

Parameters	*Displayed Values*
On/Bypass	On-bYP
Type	Lo 1 .. Hi 5

The BP-8 Valve's Noise gate offers you a professional quality digital noise reduction effect.

On / Bypass   Turns the Gate on or off.

Type   Selects one of 10 different noise gate types. There are 2 noise gate thresholds, Low and High, to choose from, each with 5 attack settings. Choose a Low threshold if noise is not a problem and a High threshold if there is a noise problem. The longer attack settings provide a volume swell effect after playing a note, each with a different time constant. The Attack settings are: Attack 1=0ms (milliseconds), Attack 2=100ms, Attack 3=250ms, Attack 4=500ms, and Attack 5=1.2 seconds.

Expression Pedal

Parameters	*Displayed Values*
Pedal Link	OFF Ah *(Wah)* 5Pd *(Speed)* dEPL *(Depth)* L I *(Mod/Pch Level)* dELn *(Detune Amount)* bEnd *(Whammy)* 5EN5 *(Sensitivity)* d IY *(Delay Level)* Fb *(Delay Feedback)* rb I *(Reverb level)* PrE *(Pre-effects Output Levl)* PoSL *(Post-effect Output Level)*
Max Value	*Parameter dependent*
Min Value	*Parameter dependent*

The BP-8 Valve's Expression Pedal allows you to control various parameters in real time during performance.

Pedal Link This selects the parameter that will be controlled by the Expression Pedal in the current program.

Max Value Sets the maximum value that the parameter assigned to the Expression pedal will reach when the Pedal is in the forward position (toe down). 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 (toe up). Range varies according to the parameter selected.

To Link the Expression Pedal to a parameter, follow these steps:
1. Press the **<Edit>** button.
2. Use the **<Right>** Parameter button until the LED above the Gate column is lit
3. Use the **<DOWN>** Parameter button until the 4th LED down on the vertical row is lit.
4. Use the Value **<UP>** and **<DOWN>** arrows to select the parameter you want linked to the pedal in the display.
5. Set the Min and Max values between which you want the parameter to vary.

Wah

Parameters	*Displayed Values*
On/Bypass	On-bYP
Type	I . . 3

The BP-8 Valve offers a 3 types of wah which can be used with or without Distortion for that classic Wah-Wah sound.*

On / **Off** Turns the Module on and off.

Type Selects the type of Wah. 1=Classic Wah, 2=Envelope Wah, and 3=Bass Wah.

* The Wah can be linked to the Expression Pedal. See instructions in the previous section.

Mod/Pitch Effects

The Mod/Pitch effect section in the BP-8 Valve allows you to select effects such as: Chorus, Flanger, Phaser, Tremolo, Panner, Pitch Shift, Whammy™ (Bend), Fretless, Octabass, and Envelope Filter. 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, Panner, Pitch Shift, Whammy™ (Bend), Fretless, Octabass, and Envelope Filter.
Level	Controls the overall mix level of the mod or pitch shifting effect. Ranges from 0 to 100.

Chorus Chor

Values	*Displayed Values*
Speed	0 . . .100
Depth	0 . . .100
Delay	0 . . .100

The BP-8 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.

Flanger FLAn

Values	*Displayed Values*
Speed	0 . . .100
Depth	1 . . .16
Regeneration	-99 . . 0 . . 99

The BP-8 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.

Phaser PHAS

Values	Displayed Values
Speed	0 . . .100
Depth	0 . . .100
Regeneration	0 . . .99

The BP-8 Valve's classic adjustable phase shifting effect is reminiscent of mid-70's keyboard and bass 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.

Tremolo trE

Values	Displayed Values
Speed	0 . . .100
Depth	0 . . .100

Tremolo was one of the first real effects and appeared mostly on guitar amplifiers. The BP-8 Valve breathes new life into this classic effect by offering it to the bassist. It provides totally transparent volume modulation.

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.

Auto Panner PAn

Values	Displayed Values
Speed	0 . . .100
Depth	0 . . .100

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.

Pitch Shifter P⊏⊏h

Values	Displayed Values
Amount	-24 .. 0 .. 24
Detune	-99 .. 0 .. 99

The BP-8 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

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

Whammy bEnd

Values	Displayed Values
Amount	OcUP ... dEtn
Whammy	0 ... 100

The BP-8 Valve's Whammy™ pitch bending effect allows you to smoothly shift between two preset pitch intervals using the Expression Pedal. *

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

Whammy   **Harmony (Dry Signal Added)**
Octave Up=OcUP   Octave Up/Octave Down=OuOd
2nd Up=2ndU   Octave Down/4th Down=Ou4d
2nd Down=2ndd   4th Down/3rd Up=4d3u
4th Down=4thd   4th Up/5th Up=4u5u
Octave Down=OcUP   5th Up/6th Up=5u6u
                                        5th Up/Octave Up=5uOu
                                        Detune=dEtn

Whammy   The Whammy Parameter reflects the current setting of the Whammy™ effect. As this parameter is
                               modified, the pitch of the original note will change in intervals according to the setting of the **Amount**
                               parameter. Ranges from 0 to 100.

* To link the Whammy function to the Expression Pedal, see instructions on page 14.

Envelope Filter EFEr

Values	Displayed Values
Speed (Sensitivity)	1 . . .100
Depth (Type)	1 . . .7
Regen (Dry Level)	1 . . .100

The BP-8 also provides you with a Envelope Filter effect module that allows you to have the Wah type effect without doing the leg-work.*

Speed (Sensitivity)   The Speed parameter controls the how fast the Envelope filter opens and closes. Range is from 1 to 100.

Depth (Type)   Selects one of 7 Envelope Filter types. 1=Big Envelope, 2=Wah, 3=Electronic Drum, 4=Ow Filter, 5=Extreme, 6=, 7=Mid Wah

Dly/Regen (Dry Level)   Selects the amount of dry signal to be added with the Envelope Filter signal. Range is 0-100.

*The Wah effect is not available when the Envelope Filter is selected as the Mod type.

Fretless FrEt

Values	Displayed Values
Amount (Time)	1 . . .10
Depth	0 . . .100
Regen (Sensitivity)	0 . . .100

Another unique feature to the BP-8 is the Fretless Bass Simulator which is ideal for creating a fretless sound as well as an emulation of a "Bowed" bass sound.*

Amount (Time)   Controls how fast the Fretless effect swells. Range is from 1 to 10.

Depth   Controls how far the Fretless effect progress. Higher settings sound more nasal or "bowed". Range is from 0 to 100.

Dly/Regen (Sensitivity)   Controls the sensitivity of the Fretless effect. Higher settings combined with the Depth parameter will give different qualities to the sound.

*The Wah effect is not available when the Fretless Simulator is selected as the Mod type.

Octa Bass ⎕⊏⊢⊣⊣
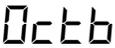
Values	*Displayed Values*
Level	`0 . . .100`

For those of you that desire to hit those "Jazzy lows", the BP-8 has incorporated an Octa-Bass effect module.

Level   The level parameter controls the how much of the Octa-Bass effect is heard Range is from 1 to 10.

Delay (1 and 2 Tap)

Parameters	*Displayed Values*
On/Off	`On-bYP`
Type	`1tAP - 2tAP`
Level	`0 . . .100`
Time	`0 . . 3500`
Feedback	`0 . . 99 rHld`

The Delay effect section of the BP-8 includes the world famous studio-caliber Digitech 1 and 2 Tap delays.

On / **Off**   Turns the Effect on and off.

Type   Determines the type of delay. Types include 1 and 2 Tap

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

Time   The available delay time ranges are 0 (no delay) to 3.5 seconds. The displayed value is in milliseconds.

Feedback   Controls the amount of delayed signal that is fed back into the input of the Delay. Higher settings result in more delay repeats. Ranges from 0 to 99 and Repeat Hold.

Reverb

Parameters	Displayed Values
On/Bypass	On-bYP
Type	CLub .. SPr9
Level	0 ...100
Decay Time	1 ...10

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 effect on or off.

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

CLub=Club   9Ar9=Garage
PLAt=Plate   HALL=Hall
Chur=Church   ArEn=Arena
bAth=Bathroom   Stud=Studio
SPr9=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.

Master Volume

Parameter	Displayed Value
Level	0- 100

The BP-8 Valve's Master Volume controls the overall volume level of the selected program. The level can be controlled with the Expression pedal for balancing levels in real-time during live performance. *

Level — Controls the overall volume level of the program. Variable from 0 to 100.

* To link the Master Volume function to the Expression Pedal, see instructions on page 14.

Section 5 - Appendix

Reinitializing the BP-8 Valve

This option allows you to restore the contents of the BP-8 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 BP-8 Valve while holding down the Parameter Select **<UP>** button.
2. When $\ulcorner 5 \llcorner$ appears in the display window, release the Parameter **<UP>** button and press the Value **<UP>** button. The BP-8 will reset to factory condition.
3. The display will now prompt you to re-calibrate the expression pedal by reading: $PEdL \quad CAL$
4. When the display reads: $\llcorner oE \quad dn$, rock the pedal forward and press any one of the flashing footswitches.
5. When the display reads: $\llcorner oE \quad uP$, rock the pedal back and press any one of the flashing footswitches. The expression pedal will now be calibrated and the BP-8 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 BP-8 " section above.

Specifications

A/D Converter: 20 bit 128x Oversampled
D/A Converter: 20 bit 128x Oversampled
Sampling Frequency: 39 kHz

DSP Section:
Architecture: Static-Dynamic Instruction Set Computer (S-DISC II™)
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. - 16 kHz
S/N ratio: Greater than 95 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: 16 watts
Dimensions: Length 18" Width 8.75" Height 2.75"
Power Supply: PS-0920

Preset List

The following is a list of all the factory Programs in the BP-8 Valve.

Bank 1
F11 Super Punch
F12 Crisp Clean Octabass
F13 Synth Bass
F14 Pseudo Bow

Bank 2
F21 Extreme Envelope
F22 Delayed Phase
F23 Pedal 5 String
F24 Vibro Crunch

Bank 3
F31 Exit 13
F32 Bass Synth
F33 Pick Flange
F34 SVT Grit

Bank 4
F41 Chorused Clean
F42 Compressed Slap
F43 Octo Cavern
F44 Growl Wah

Bank 5
F51 Fat Sustain
F52 Beefy AutoWah
F53 Fat Pick
F54 Mid Scoop

Bank 6
F61 Distorted 5ths
F62 Space Slap
F63 Facination
F64 Wah Baby

Bank 7
F71 Grindy Tremolo
F72 Octo Solo
F73 Sound on Sound
F74 Industrial Envelope

Bank 8
F81 Mid Punch
F82 Drippy
F83 Reggae Mon
F84 Pedal Fretless

Bank 9
F91 Pedal Glissando
F92 Whammy Up
F93 Dirty Tremolo
F94 Octabass

Bank 10
F10-1 Super Envelope
F10-2 Chewy Octave
F10-3 Octave Whammy Down
F10-4 Flange Thing

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INNOVATION

H A Harman International Company