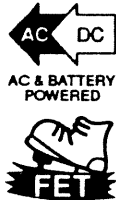
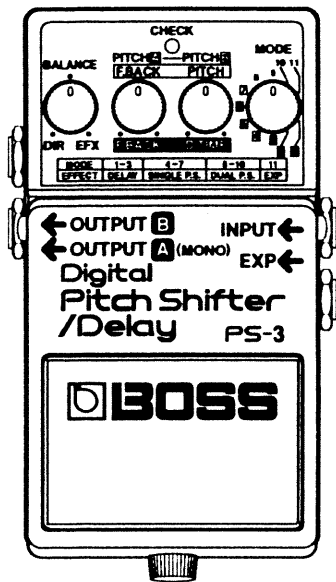


PS-3

Digital Pitch Shifter /Delay

Owner's Manual



For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL

BROWN: LIVE

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

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

For Germany

Bescheinigung des Herstellers/Importeurs

Hiermit wird bescheinigt, daß der/die/das
Roland Digital Pitch Shifter/ Delay PS-3

•
(Gerät, Typ, Bezeichnung)

in Übereinstimmung mit den Bestimmungen der
BMPT-AmtsblVfg 243/1991 funk-entstört ist. Der
vorschriftsmäßige Betrieb mancher Geräte (z. B.
Meßsender) kann allerdings gewissen
Einschränkungen unterliegen. Beachten Sie
deshalb die Hinweise in der Bedienungsanleitung.

Dem Zentralamt für Zulassungen im
Fernmeldewesen wurde das Inverkehrbringen
dieses Gerätes angezeigt und die Berechtigung
zur Überprüfung der Serie auf die Einhaltung der
Bestimmungen eingeräumt.

Roland Corporation

4-16 Dojimahama 1-Chome Kita-ku Osaka 530 Japan

•
(Name und Anschrift des Herstellers/Importeurs)

Thank you, and congratulations on your choice of the BOSS PS-3 Digital Pitch Shifter/Delay. To ensure proper operation, and years of trouble-free service, please take the time to read through this Owner's Manual before starting out.

Features

- The PS-3 is a compact Digital Pitch Shifter/Delay unit containing a totally new DSP (digital signal processing) chip of superior quality. It offers a wealth of features in addition to high quality sound.
- The PS-3 can shift the pitch of sounds up to a maximum +/-2 octave.
- The PS-3 offers 11 different modes, ranging from "delay" to "detune" to "dual pitch shift" functions.
- A special inverse mode is capable of creating very special effects using the pitch shifter.
- By connecting an (optional) expression pedal, you can control the amount of pitch shift using your foot (leaving your hands free).
- When the effects are turned off, there will not be any unnatural, abrupt elimination of the delay or reverb sounds.
- When using the delay effect on its own, a delay time of up to 2000 ms is possible.

Copyright © 1994 BOSS Corporation

All right reserved. No part of this publication may be reproduced in any form without the permission of BOSS Corporation.

Important Notes

When using an AC adaptor, use only the specified device (PSA Series). Use of any other AC adaptor could result in damage, malfunction or electric shock.

POWER SUPPLY

The power requirement for this unit is indicated on its nameplate (rear panel). Ensure that the voltage in your installation meets this requirement.

If the unit is to remain unused for an extended period of time, unplug the power cord.

The use of an AC adaptor is recommended as the unit's power consumption is relatively high. However, when using batteries, please use the alkaline type.

PLACEMENT

Do not subject the unit to temperature extremes (eg., direct sunlight in an enclosed vehicle). Avoid using or storing the unit in dusty or humid areas, or areas that are subject to high levels of vibration.

4

ADDITIONAL PRECAUTIONS

Protect the unit from strong impact.

Should a malfunction occur, or if you suspect there is a problem, discontinue use immediately. Contact qualified service personnel as soon as possible.

To avoid the risk of electric shock, do not open the unit.

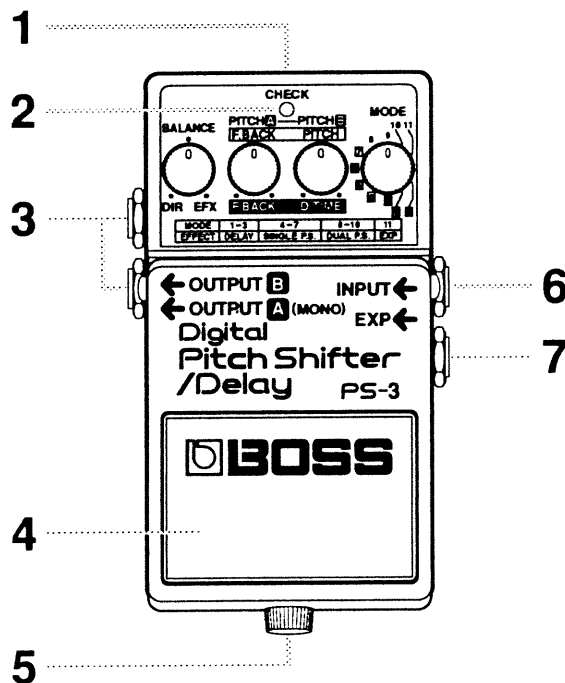
CHANGING BATTERIES

Remove the batteries whenever the unit is to remain unused for an extended period of time.

POWER ON

This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.

PANEL DESCRIPTIONS



1.AC Adaptor Jack

Accepts connection of an AC Adaptor (optionally available BOSS PSA-Series). By using an AC Adaptor, you can play without being concerned about how much battery power you have left.

** As soon as you connect the AC adaptor, the unit is turned ON.*

2.CHECK Indicator

This indicator shows whether an effect is ON/OFF, and also doubles as the Battery Check indicator.

The indicator lights when an effect is ON. If this indicator goes dim or no longer lights while an effect is ON, the battery is near exhaustion and should be replaced immediately.

3.OUTPUT Jack A(MONO)/B

The output jacks are used to connect the unit to amplifiers or other devices. When you are using a mono output, connect the cord to the A(MONO) jack.

** Concerning stereo effects, please refer to the "Mode Chart."*

4.Pedal Switch

This switch turns the effects ON/OFF.

5.Thumbscrew

This thumbscrew is loosened to open the pedal, allowing battery replacement. For instructions on how to replace the battery, please refer to "Changing the Battery."

6.INPUT Jack

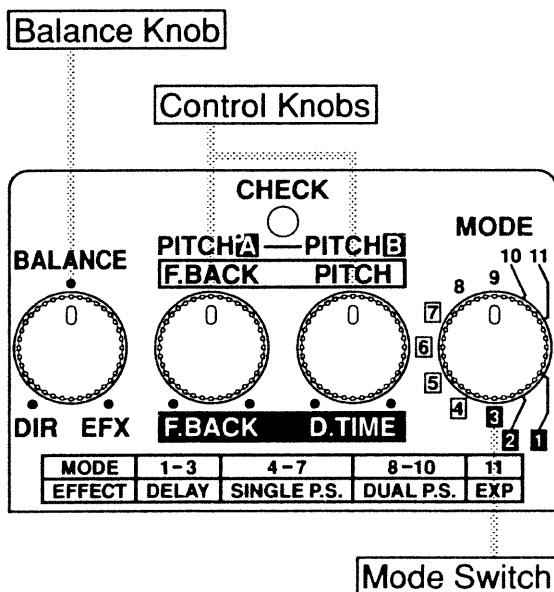
This jack accepts input signals (coming from a guitar, some other electric or electronic musical instrument, or another effects unit).

** The INPUT jack also serves as the power switch while using the unit on battery power. Power is turned on whenever a plug is inserted into the INPUT jack, and is turned off when the plug is disconnected. When not using the unit, you should disconnect any cord connected to the INPUT jack.*

7.EXPRESSION Jack

This jack accepts connection of an expression pedal (optional) or a foot switch (optional). The pedal (or switch) can then be used to control the amount of pitch shift. For details see, "Using the Expression Jack."

6



BALANCE Knob

This knob adjusts the balance (for the output) of the direct sound with respect to the effect sound. With the BALANCE knob at the center (click) position, the direct sound and effect sound will be in equal proportions (1:1 ratio). When turned all the way to the left, only the direct sound will be heard. Similarly, when turned all the way to the right, only the effect sound will be output.

Control Knobs

The two control knobs are used to make a variety of settings, depending on the mode you have selected. The sound obtained with a control knob will be different depending on the position of the MODE switch. For details, please refer to "Mode Chart."

** When used in combination with some other effect unit (such as distortion or overdrive), noise might be generated if the PS-3 is set to a pitch shift amount of "+/- 2 oct."*

MODE Switch

This knob is used to selected one of the PS-3's 11 modes. For information on each mode, please refer to "Mode Chart."

Mode Chart

1	DELAY 32-125 ms A delay with a delay time of 32 ms to 125 ms.		
2	DELAY 125-500 ms A delay with a delay time of 125 ms to 500 ms.		
3	DELAY 500-2000 ms A delay with a delay time of 500 ms to 2000 ms.		
	F.BACK	D.TIME	OUTPUT A(MONO)/B
	Adjusts the amount of feedback. When you alter the feedback amount, the number of repetitions of the delay sound will change.	Used to carry out precision adjustment of the delay time. The delay time will change within the selected range.	A mix of the direct sound and effect sound will be output from A and B (in accord with the setting of the BALANCE knob.) The output from A and B is identical.

8

4	SINGLE P.S.: Detune Adds a single pitch-shifted sound (shifted very slightly) to the input sound to create a detune effect.		
	F.BACK	PITCH	OUTPUT A(MONO)/B
	Adjusts the amount of feedback in the pitch-shifted sound. As the pitch-shifted signals are fed back, the pitch gradually rises (or falls).	Adjusts the amount of pitch shift. When you turn the knob from the center position toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. In either case, a detune effect is produced.	A mix of the direct sound and effect sound will be output from A and B. (In accord with the setting of the BALANCE knob.) The output from A and B is identical.

9

5	SINGLE P.S.: +/- 2 oct (Fast) Allows for a sound shifted in pitch (up to a maximum of +/- 2 octaves) to be output. This mode is best used when you want to have the sound shifted only slightly. There will be almost no delay in the pitch-shifted sound.						
6	SINGLE P.S.: +/- 2 oct (Slow) Allows for the output of a sound shifted in pitch up to a maximum of +/- 2 octaves. The pitch-shifted sound will exhibit very little fluctuation, allowing you to achieve relatively precise pitch shifts. This mode is most effective when you want to alter the pitch greatly. However, there will be some delay with the output of the pitch-shifted sound.						
7	SINGLE P.S.: +/- 2 oct (Inverse) Creates a specialized effect whereby the pitch-shifted sounds (up to a maximum of +/- 2 octaves) are reversed.						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; width: 33%;">F.BACK</th> <th style="text-align: center; width: 33%;">PITCH</th> <th style="text-align: center; width: 33%;">OUTPUT A(MONO)/B</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;">Adjusts the amount of feedback in the pitch-shifted sound. Since the pitch-shifted signals are fed back, the pitch gradually rises (or falls).</td> <td style="vertical-align: top;">Adjusts the amount of pitch shift. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.</td> <td style="vertical-align: top;">A mix of the direct sound and effect sound will be output from A and B. (In accord with the setting of the BALANCE knob.) The output from A and B is identical.</td> </tr> </tbody> </table>	F.BACK	PITCH	OUTPUT A(MONO)/B	Adjusts the amount of feedback in the pitch-shifted sound. Since the pitch-shifted signals are fed back, the pitch gradually rises (or falls).	Adjusts the amount of pitch shift. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.	A mix of the direct sound and effect sound will be output from A and B. (In accord with the setting of the BALANCE knob.) The output from A and B is identical.
F.BACK	PITCH	OUTPUT A(MONO)/B					
Adjusts the amount of feedback in the pitch-shifted sound. Since the pitch-shifted signals are fed back, the pitch gradually rises (or falls).	Adjusts the amount of pitch shift. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.	A mix of the direct sound and effect sound will be output from A and B. (In accord with the setting of the BALANCE knob.) The output from A and B is identical.					

10

8	DUAL P.S.: Detune & Detune Adds two pitch-shifted sounds (shifted very slightly) to the input sound to create a detune effect. Provides a detune effect that is more expansive than what you get with mode 4.		
	PITCH A	PITCH B	OUTPUT A(MONO)/B
	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT A. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. In either case, a detune effect is produced.	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT B. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. In either case, a detune effect is produced.	OUTPUT A A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH A") will be output. * When you connect a plug to OUTPUT A only, a mixture of the direct sound and two types of pitch-shifted sound will be output. OUTPUT B A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH B") will be output.

11

9	DUAL P.S.: Detune & +/- 2 oct		
	Causes a pitch-shifted sound that is shifted very slightly with respect to the input sound to be output from OUTPUT A, while another sound shifted in pitch up to a maximum of +/- 2 octaves is output from OUTPUT B.		
	PITCH A	PITCH B	OUTPUT A(MONO)/B
	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT A. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. In either case, a detune effect is produced.	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT B. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.	OUTPUT A A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH A") will be output. <i>* When you connect a plug to OUTPUT A only, a mixture of the direct sound and two types of pitch-shifted sound will be output.</i> OUTPUT B A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH B") will be output.

12

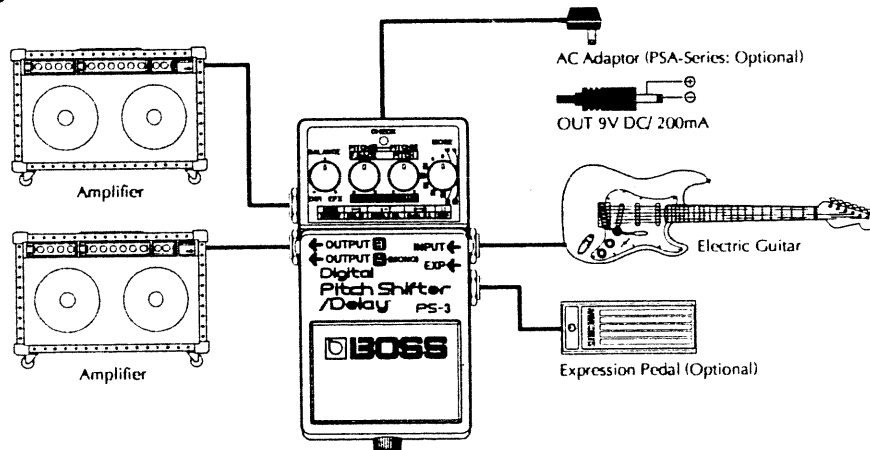
10	DUAL P.S.: +/- 2 oct & +/- 2 oct		
	Produces two pitch-shifted sounds, each of which can be shifted by up to +/- 2 octaves. The pitch-shifted sound specified using "PITCH A" and "PITCH B" will be output respectively from "OUTPUT A" and "OUTPUT B."		
	PITCH A	PITCH B	OUTPUT A(MONO)/B
	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT A. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.	Adjusts the amount of change for the pitch-shifted sound that will be output from OUTPUT B. When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Higher pitched sounds will be output (compared with the input) when you turn the knob to the right. When turning the knob gradually away from the center position, the pitch is shifted in semitone steps for the first octave, then finally (at the end of the knob's travel) you reach a pitch shift value of 2 octaves.	OUTPUT A A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH A") will be output. <i>* When you connect a plug to OUTPUT A only, a mixture of the direct sound and two types of pitch-shifted sound will be output.</i> OUTPUT B A mix of the direct sound and the pitch-shifted sound (adjusted using "PITCH B") will be output.

13

11	EXPRESSION: PITCH A - PITCH B		
	<p>Allows an external pedal connected to the EXP jack to be used to alter the pitch (within the range set using "PITCH A" and "PITCH B").</p> <ul style="list-style-type: none"> * When an expression pedal is connected to the EXP jack, the pitch will change incrementally when the pedal is operated (within the range set using "PITCH A" and "PITCH B"). * When a foot switch is connected to the EXP jack, the pitch will change instantly when the pedal is operated (within the range set using "PITCH A" and "PITCH B"). 		
	PITCH A	PITCH B	OUTPUT A(MONO)/B
	<p>Adjusts the amount of pitch shift you want to have when the pedal is fully released (up). When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Sound that is higher in pitch than the input sound will be output when you turn the knob to the right.</p> <p>As you gradually turn the knob away from the center position, the amount of pitch shift will be in semitone steps for the first octave. Then finally (at the end of the knob's travel) you obtain a pitch shift value of 2 octaves.</p>	<p>Adjusts the amount of pitch shift you want to have when the pedal is fully depressed (down). When you turn the knob from the center toward the left, sound that is lower in pitch than the input sound will be output. Sound that is higher in pitch than the input sound will be output when you turn the knob to the right.</p> <p>As you gradually turn the knob away from the center position, the amount of pitch shift will be in semitone steps for the first octave. Then finally (at the end of the knob's travel) you obtain a pitch shift value of 2 octaves.</p>	<p>A mix of the direct sound and effect sound will be output from A and B. (In accord with the setting of the BALANCE knob.) The output from A and B is identical.</p>

14

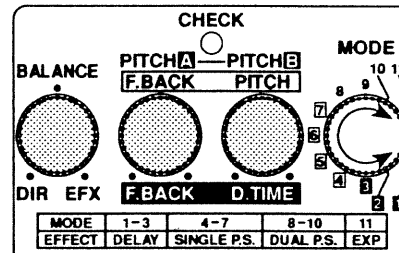
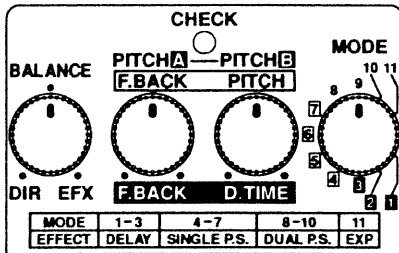
Making the Connections



- * While using the unit on battery power, power is turned on when a plug is inserted into the INPUT jack.
- * You may find that it is a good idea to keep a battery installed in the unit even while using an adaptor. That way your playing won't be disrupted even if the adaptor is accidentally disconnected.
- * If you are going to use an AC adaptor, be sure to use the specified unit (BOSS PSA-Series). Use of any other adaptor may result in damage, malfunction or electric shock. Also, if you are not going to be using it for an extended period of time, disconnect the AC adaptor from the AC outlet.
- * The unit's output is muted for approximately 4 seconds after the power is turned on; no sound will be heard during this interval.
- * Before connecting or disconnecting any patch cords, be sure all the volume controls in your system are set to minimum. This will help prevent any damage to system components.

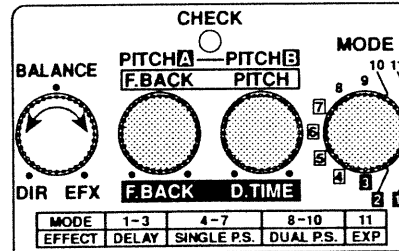
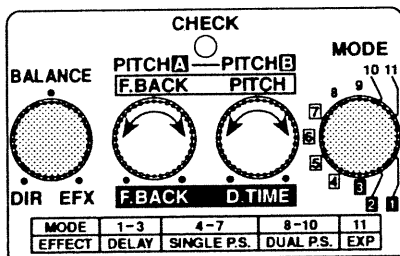
Operating the Unit

1. Once the connections have been completed, set the panel's knobs as shown in the illustration.
2. Step on the pedal switch to turn the effect ON. (The CHECK indicator lights up.)
3. Select a mode using the MODE Switch.



16

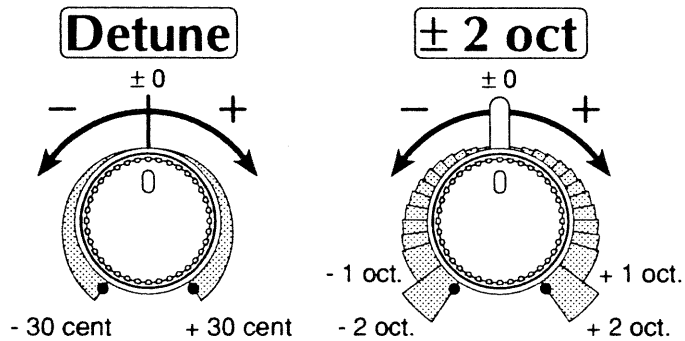
4. Select appropriate settings for the mode using the two control knobs. The control knobs will function differently depending on the position of the MODE Switch. For details, see the "Mode Chart."
5. Use the BALANCE knob to adjust the balance between the direct sound and the processed (effect) sound.



17

About the Amount of Pitch Alteration

When adjusting the pitch shift amount using the control knob, the knob's position and the amount of pitch shift you obtain correspond as follows:



** The maximum pitch shift amount obtainable with detune is +/- 30 cents (100 cents = 1 semitone).*

** Pitch changes (within the +/- 2 octave range) occur in semitone steps.*

18

Using the Expression Jack

If you connect an expression pedal (optionally available EV-5 or the like), the pitch shift amount will change incrementally in accord with the pedal action.

1. Connect a guitar and guitar amp. (See "Making the Connections.")

2. Connect an expression pedal (optional) to the EXP jack.

** Set the "minimum volume" for the expression pedal to its lowest level.*

3. Set the MODE Switch to "11."

4. Place the expression pedal in the full up position. Then set the amount of pitch change you want to have while the pedal is up by adjusting "PITCH A."

5. Step on the expression pedal and keep it fully depressed. Then set the amount of pitch change you want to have while the pedal is completely down by adjusting "PITCH B."

6. Use the BALANCE knob to adjust the balance of direct and effect sound that you want to have output.

The amount of change in the pitch will then be altered incrementally, depending on the position of the pedal.

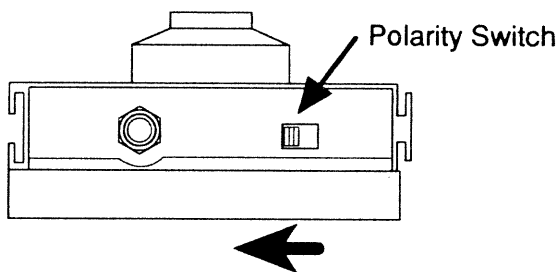
19

[When a foot switch (optional FS-5U, FS-5L, etc.) is connected to the EXP jack]

When a foot switch (optional) is connected to the EXP jack, the pitch will change instantly within the pitch shift range set (with "PITCH A" and "PITCH B") when the pedal is operated.

** For information on how to make the connections and settings, please see "Using the Expression Jack."*

** The polarity switch on the foot switch should be set as shown below.*



20

< With an FS-5U Connected >

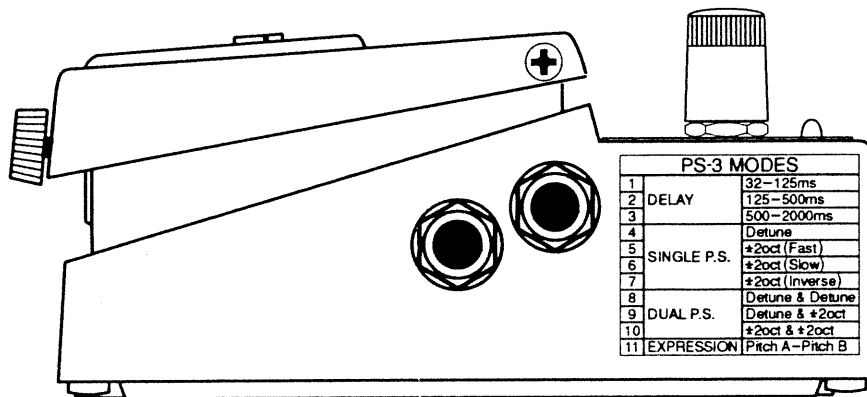
Ordinarily, the pitch-shifted sound adjusted using "PITCH A" will be output. The pitch-shifted sound adjusted using "PITCH B" will be output while you step on the foot switch.

< With an FS-5L Connected >

You are switched between "PITCH A" and "PITCH B" with each step on the foot switch. When the foot switch indicator is out, the pitch-shifted sound adjusted using "PITCH A" will be output. The pitch-shifted sound adjusted using "PITCH B" will be output when the indicator is lit.

Using the Mode Label

The PS-3 is supplied with a Mode Label which shows the effect obtained with each of the modes. The Label (which serves as a quick reference) can be attached as shown in the illustration.

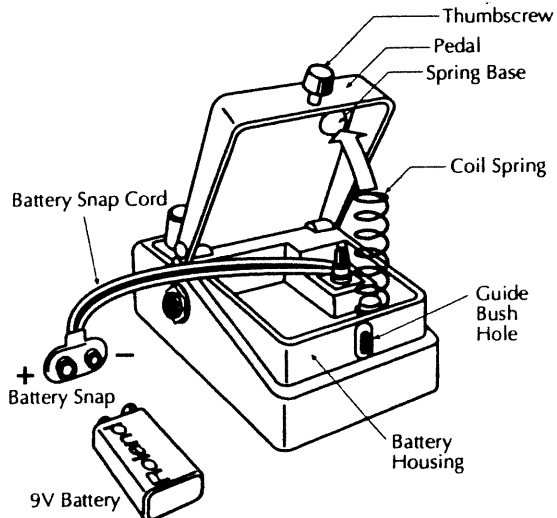


21

Changing the Battery

When the indicator goes dim or no longer lights while an effect is on, it means that the battery is nearly dead and must be replaced. Replace the battery following the steps below.

*** For best results (i.e., longest usable life) use an alkaline type battery.**



22

1. Loosen the thumbscrew at the front of the pedal, then lift the pedal upwards to open the unit.

*** The thumbscrew can be left in the pedal while changing the battery.**

2. Remove the old battery from the battery housing, and remove the snap cord connected to it.

3. Connect the snap cord to the new battery, and place the battery inside the battery housing.

*** Be sure to carefully observe the battery's polarity (+ versus -).**

4. Slip the coil spring onto the spring base on the back of the pedal, then close the pedal.

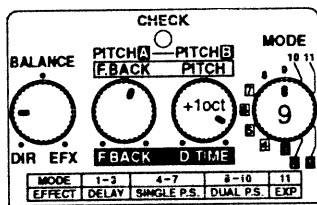
*** Carefully avoid getting the snap cord caught in the coil spring.**

5. Finally, insert the thumbscrew into the guide bush hole and fasten it securely.

Sample Settings

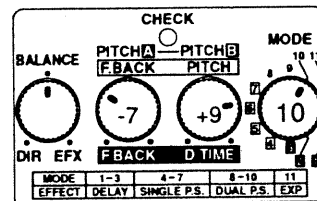
12-String Guitar Sound

Creates a 12-string guitar sound from a 6-string input source.



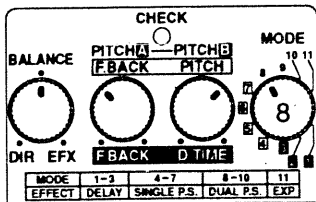
Major Chord

Ideal when combined with a distortion sound.



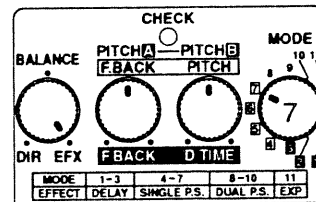
Detune Chorus

Creates a chorus sound having a minimum of fluctuations.



Reverse Delay

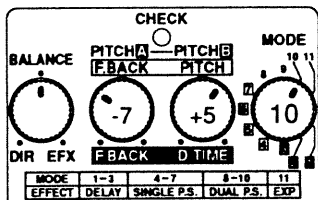
An effect in which delayed sounds are generated backwards.



23

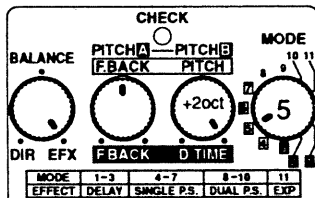
Guitar Solo

Great for pentatonic guitar solos.



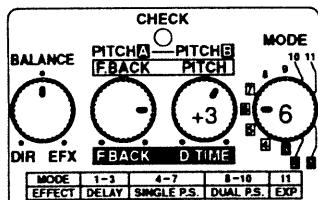
Ring Modulator

A tremolo-like effect can be obtained with mode 5 by greatly increasing the pitch shift amount. This effect is used to create a ring modulated sound.



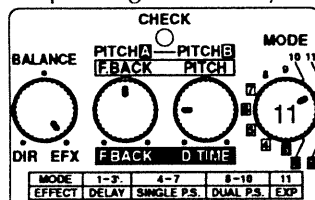
Diminished Scale Tone

Provides a portrayal of diminished scale tones by repeating sounds that are three semitones higher than the input pitch.



Whammy bar

Using an expression pedal, whammy bar (vibrato arm) pitch-dropping effects can be obtained. Whenever an effect is turned off, there will not be any unnatural, abrupt change in the delayed sound.



24

SPECIFICATIONS

PS-3: Digital Pitch Shifter/ Delay

- Signal Processing A/D Conversion;
16bit linear, 128times oversampling, $\Delta\Sigma$ modulation, AF Method
- D/A Conversion;
16bit linear
- Sampling Frequency 32kHz
- Nominal Input Level -20dBm
- Input Impedance 1M Ω
- Nominal Output Level -20dBm
- Output Impedance 1k Ω
- Recommended Load Impedance 10k Ω or greater
- Dynamic Range 110dB or greater (Direct)
95dB or greater (Effect)

* 0dBm = 0.775Vrms

About the AF Method (Adaptive Focus Method)

This new method dramatically reduces quantization noise by carrying out the digitization (A/D) in a manner that is optimum for the input signal.

Control	Pedal Switch, Mode Switch, Balance knob, Control Knobs x2
Indicator	Check Indicator (serves also as battery check indicator)
Connectors	Input Jack, Output Jacks A(MONO)/B, Expression Jack, AC Adaptor Jack (9V DC)
Power Supply	9V DC: Dry Battery (6AM6/ 9V), AC Adaptor (PSA-Series: Optional)
Current Draw	70mA (9V DC)
Dimensions	70(W) x 125(D) x 55(H) mm 2-3/4(W) x 4-15/16(D) x 2-3/16(H) inches
Weight	420g/ 15oz (including battery)
Accessories	Owner's Manual, MODE Label, Dry Battery; 6AM6/9V (alkaline)
Options	AC Adaptor PSA-Series Expression Pedal FV-300L with PCS-33(Roland) Expression Pedal EV-5(Roland) Foot Switch FS-5U/5L

** In the interest of product development, the specifications and/or appearance of this unit are subject to change without prior notice.*

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

CLASS B

NOTICE

This digital apparatus does not exceed the Class B limits for radio noise emissions set out in the Radio Interference Regulations of the Canadian Department of Communications.

CLASSE B

AVIS

Cet appareil numérique ne dépasse pas les limites de la classe B au niveau des émissions de bruits radioélectriques fixés dans le Règlement des signaux parasites par le ministère canadien des Communications.



 Roland®

00451701

UPC 00451701



19981

 **BOSS**