9002 PRO

ADVANCED GUITAR EFFECTS PROCESSOR

OPERATION MANUAL

Contents

Congratulations and thank you for choosing the Zoom 9002PRO.For long-term reliability and optimum performance, please read this manual carefully before use.

Major Features

Hardware

• Analog and digital circuitry

Besides advanced digital signal processing, special analog circuitry is used for distortion and compression effects which are so important to electric guitar sound.

• 16-bit digital conversion

True 16-bit quantization assures professional results in the digital-to-analog and analog-to-digital converter circuits.

• Zoom's own custom ZFx-1 DSP LSI

Zoom developed this original DSP LSI to deliver more digital signal processing power in less space. The ZFx-1 chip dramatically expands your capabilities for musical expression.

• Mono input, stereo output

The 9002PRO accepts normal monaural input from your guitar. Chorus, delay, and reverb effects are output in stereo.

• Large, easy viewing LCD display window

This customized LCD shows selected effects, parameters, and other information in a large (60 x 30mm) window designed for high readability.

• Headphone jacks and mix input

To monitor your playing in private, plug in stereo headphones. You can also play along with a tape or other source connected to the MIX IN jack.

• User patch protection

User patch protection does not depend on a special battery, so extra maintenance is avoided.

Software

• Effects

The effect chain has six stages: Compressor, Distortion, Equalizer, Modulation group, Delay, Reverb group. Special effects (SFX) can also be selected.

• Easy operation

Sliding faders make adjusting parameter values quick and easy, with a familiar "analog" feel that is rare in digital equipment.

• Preset banks and user banks

9002PRO has ten "user" memory banks and ten pre-programmed factory "preset" memory banks. Each bank holds four patches. "User" memory banks are pre-loaded with the patches created by world top guitarists and created by ZOOM's voicing expert with their advice and sound simulation. Your original patches and the edited patches can be stored in the 40 user patch memory locations.

• Tuning and metronome functions

The 9002PRO will generate a reference pitch of 440Hz,441Hz,or 442Hz to which you can tune your "A" string. For rhythm training or tempo reference, you can turn on the metronome function.

• For live performance and home recording

The compact 9002PRO is ideal for live performance. Optional remote control units for foot(9002F, FC02) or hand(9002R) control are available. A guitar amp simulator is attached, so that you can input a rich guitar sound directly to your recording equipment without needing an amp and microphone.

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Precautions

- **Power supply**

  To avoid the possibility of damage, do not use any AC adaptor other than the supplied AC adaptor.
  Be sure to use only the supplied rechargeable battery or specified equivalent. To recharge, plug the supplied AC adaptor into the AC adaptor jack. Or use the specified optional recharger. The use of other rechargers is dangerous because they may cause battery leakage or other damage. The supplied battery is rated at 400 charge cycles before needing replacement. Five hours is the standard recharging time, giving about two and half hours hours of use. It is dangerous to recharge continuously for 48 or more hours.
  The LCD display will blink to indicate that you should recharge or replace the battery right away or use the AC adaptor to avoid the unit shutting off while playing.

- **Place of use**

  Like other digital devices, the 9002PRO may cause interference if used too close to radios, TVs, or some other electrical appliances. Avoid use in very hot, cold, humid, or dusty environments; damage may result.

- **Cleaning**

  Use a soft, dry cloth to wipe off the 9002 when necessary. Never use paint thinner, alcohol, or other solvents which may damage the surface or warp the case.

- **Handling**

  Handle with care. Do not apply excessive force to the controls. Do not open the case or attempt repairs or modifications yourself; to do so will void the warranty.
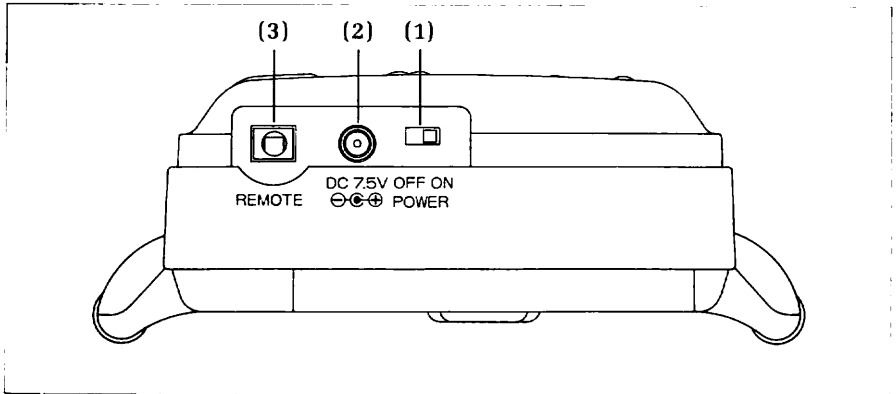
- **Connection/disconnection procedure**

  Power should be turned off or volume turned down before making connections to amps or other equipment. Sudden large signals may cause speaker damage.
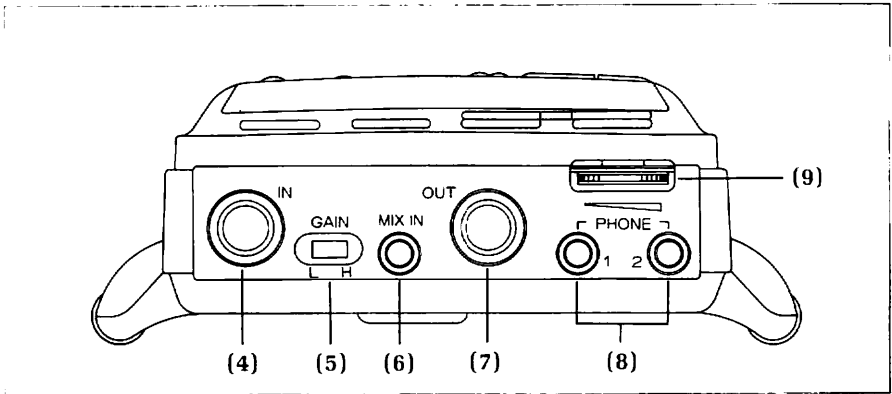
- **Service**

  Consult with your local Zoom dealer if the 9002 does not operate properly.

Controls and Display


```
        (3)  (2) (1)
      DC 7.5V OFF ON
REMOTE  ⊖-Ɛ-⊕ POWER
```

Controls

(1) POWER switch

(2) AC adaptor jack

(3) REMOTE jack
For connection of separately sold remote controller(9002R, 9002F, FC02)

(4) INPUT jack (mono)
For guitar cord.

(5) GAIN switch
Set to H for single coil pickup guitars.
Set to L for guitars that have humbucking or active pickups.

(6) MIX IN jack (stereo)
Connect tape player or other music source to this jack. You can then play along on guitar. (Effects do not affect this signal.)
NOTE;The connection cable without built-in resistor should be used for proper mixing level.

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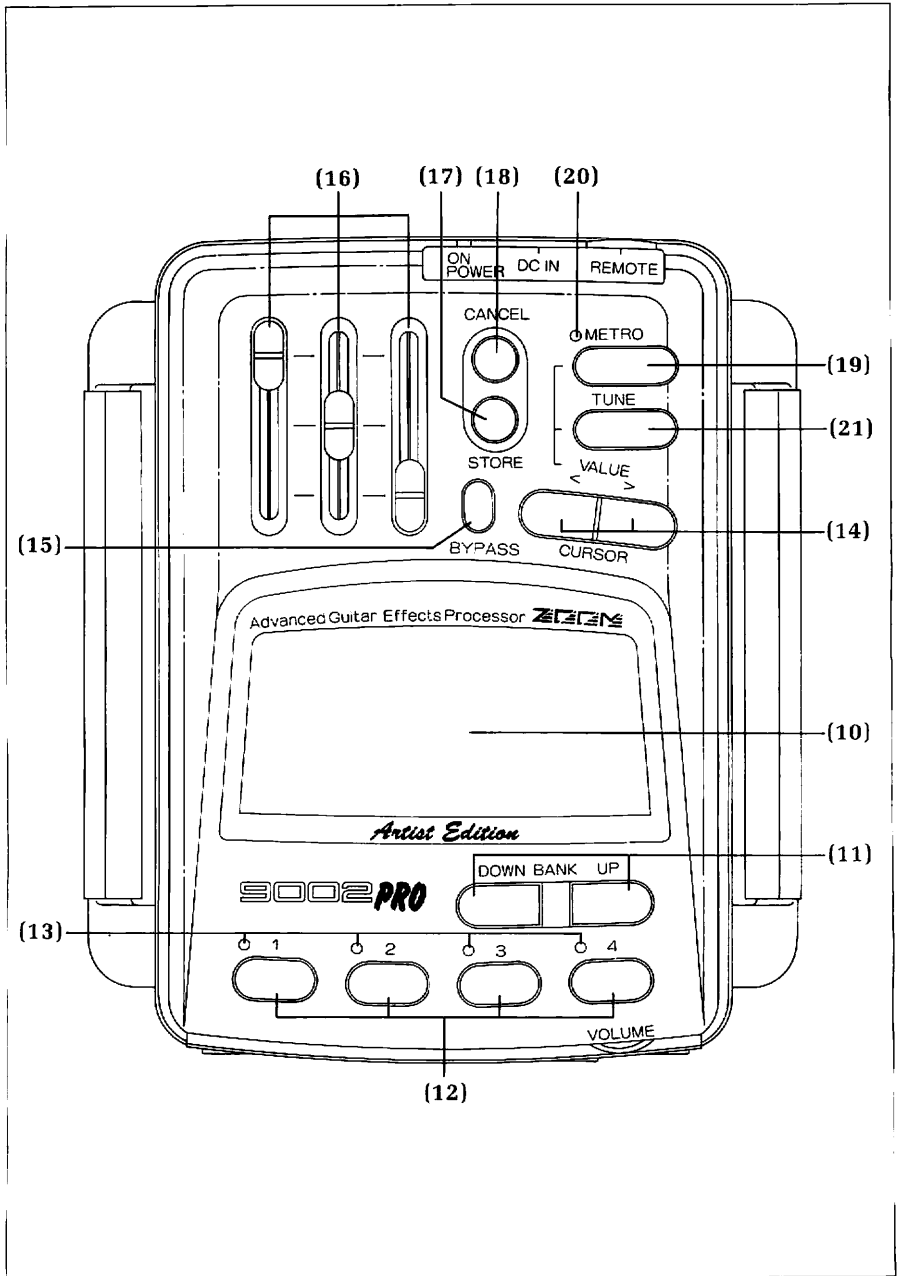**(7) OUTPUT jack (mono/stereo)**

For connection to guitar amp, etc. Can also be connected directly to a mixing console, multi-track recorder, or radio/cassette recorder. Built-in amp simulator prevents "thin" no-amp sound.

(8) PHONES jacks

Two sets of stereo headphones can be connected for private listening or jamming with a friend.

(9) VOLUME control

Adjusts total output signal volume.

(16) (17) (18) (20)

ON
POWER   DC IN   REMOTE

CANCEL

METRO
(19)

TUNE
(21)

STORE   VALUE
< >

(15)

BYPASS   CURSOR
(14)

Advanced Guitar Effects Processor ZOOM

(10)

Artist Edition

(11)

DOWN BANK UP

9002 *PRO*

(13)

1   2   3   4

VOLUME

(12)

(10) LCD display

Liquid crystal display shows bank, parameter, and other data.

(11) BANK keys

For selection of preset and user banks.

(12) PATCH keys

For selection of patches.

(13) PATCH LEDs

Lit LED indicates selected patch. Flashing LED indicates patch selected for user bank storage.

(14) CURSOR keys

For selecting individual effects, metronome tempo, and tuning reference frequency.

(15) BYPASS key

For all effects off. In edit mode, each effect can be turned on/off individually. In tuning mode, tuning standard tone can be turned on/off.

(16) PARAMETER controls

For adjustment of parameter valuse, effect output level, and noise redvction ettect Value is confirmed by LCD bars under sliders and by numeric readout.

(17) STORE key

Allows you to store original or edited patches in the user bank area.

(18) CANCEL key

Cancels STORE key operation. When editing, this shifts you to the next parameter name.

(19) METRO key

Turns on metronome function. Use CURSOR keys to adjust tempo between 40 and 250bpm (beats per minute). Volume is not adjustable.

(20) METRO LED

The LED flashes with the tempo.

(21) TUNE key

Generates reference pitch for "A". CURSOR keys set frequency at 440Hz, 441Hz, or 442Hz. All effects turn off and only the direct sound comes through.

(22) REMOTE CONTROLLER

For patch switching within currently selected bank.

LCD Window

(1) **Bank number**
Shows selected bank:USER 0~9 and PRESET 0~9

(2) **Effect names**
These are the available individual effects. Only one of the modulation group and one of the reverb group effects can be used at a time.

- COMP — DIST — EQ — PITC — DEL1 — DEL2

Modulation Group PHA   REV1 *Reverb Group*
                          FLA   REV2
                          CHO

- SFX - Special effects can be combined with any other effects except for modulation group effects.
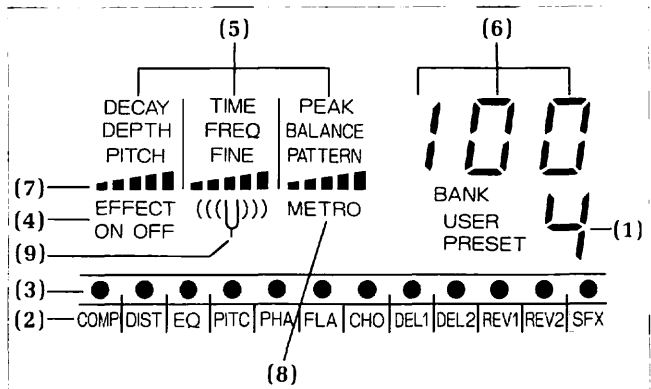
(3) **Effect marks**
Dots indicate individual effects in use. A flashing dot indicates the effect being edited.

(4) **Effect on/off mark**
Shows effect on/off status.

(5) **Parameter names**
Indicates parameters that may be adjusted in selected effect.

(6) **Parameter value**
Readout shows precise parameter value. Changes as you adjust PARAMETER control.

(7) **Parameter bars**
Bars give general indication of parameter value. Changes as you adjust PARAMETER control.
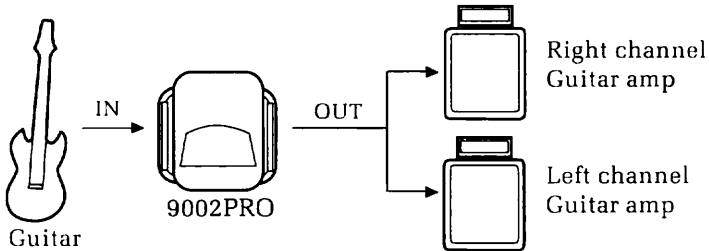
(8) **Metronome mark**
Appears when metronome is on.

(9) **Tuning mark**
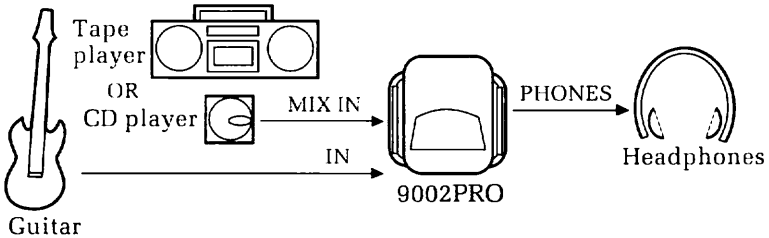Appears when tuning reference pitch is on.

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Connection Examples

- The 9002PRO has stereo output so you can connect the left and right channels separately to two amplifiers. This increases the spaciousness of the stereo
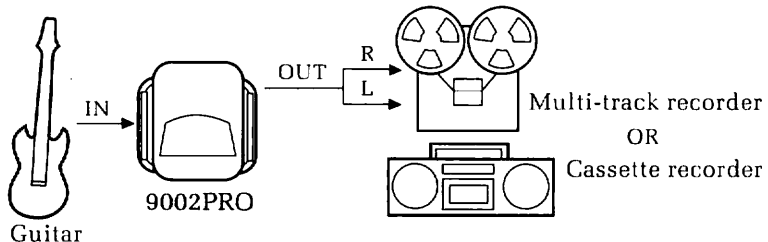
IN → 9002PRO OUT → Right channel Guitar amp / Left channel Guitar amp

Guitar

* White end of supplied cable goes to left channel, red to right.

- You can connect a CD player or tape player to the MIX input, and play along while listening on amp/headphones.
The MIX input sound can not be effected by the effects.

Tape player OR CD player → MIX IN → 9002PRO → PHONES → Headphones
IN

Guitar

- The 9002PRO has a built-in amp simulator so you can connect directly to your recording equipment or mixing console.
For stereo output, use a standard 6.3mm or 1/4" stereo plug to two mono plag converter cable.

IN → 9002PRO OUT R / L → Multi-track recorder OR Cassette recorder

Guitar

Effects and Parameters

Guitar amp effects

COMP:Compressor

Use DEPTH (range of 0~12) parameter to adjust sustain level.
Sustains notes without adding distortion. A clean sound that keeps the
signal level consistent.
This provides studio quality analog compression effects.

DIST:Distortion

Use DEPTH (0~12) parameter to adjust the amount of distortion.
The PATTERN(1 or 2) switches guitar amp simulator on/off(1;off, 2;on).
To use amp simulator without distortion, turn on DIST and set DEPTH at 0.

EQ:Equalizer

First, select one of the two patterns, then use the DEPTH and FINE para-
meters to adjust the effect.
Use the PATTERN (1 or 2) parameter to select which pattern you want.

PATTERN 1: High Boost, Low Cut EQ
DEPTH (0~10) controls low range boost or attenuation and FINE (0~10)
controls high range boost or attenuation.Use with plenty of distortion to
produce a heavy metal sound. Also adjustable for a restrained sound. This
is a high-low shelving effect.

PATTERN 2: Exciter
DEPTH (0~10) and FINE (0~10). A bright tube amp tone using an exciter
effect where DEPTH controls enhance level and FINE controls frequency.

Modulation effects

MODULATION GROUP
(PITC, PHA, FLA, CHO)
One from this group can be used at a time (but not with SFX).

PITC:Pitch shift

Use PITCH (-12~0~+12 range) to shift pitch in semitone steps up to one octave higher or lower.
Use FINE (-10~0~+10) for fine adjustment above or below PITCH setting.
Use BALANCE (0~10) to adjust between shifted and direct sound.
This is used for harmonies, doubling, and thickening effects. First adjust PITCH, then FINE. Try creating unison, fifths, and non-cyclic chorus-like effects.

PHA:Phaser and Midrange Boost

Use PATTERN (1 or 2) to select Phaser or Midrange Boost.

PATTERN 1: Phaser
Use DEPTH (0~10) to adjust the amount of modulation and resonance.
Use FREQ (0~50) to adjust modulation speed.
This creates rotating speaker sounds and other phase shifted effects.

PATTERN 2: Midrange Boost
Use DEPTH (0~10) to adjust level of peak boost.
Use FREQ (0~50) to adjust midrange frequency.
Midrange boost gives different amplifier characteristics. It allows the guitarist to create a wide range of personal tonal styles.

FLA:Flanger

Use DEPTH (0~10) to adjust amount of modulation.
Use FREQ (0~50) to adjust modulation speed.
Use PEAK (0~10) to adjust strength of the resonance peak.
Flanging produces peaks that are harmonically related, unlike simple phasing. At high peak levels it produces almost metallic ringing sounds.

CHO:Chorus

Use DEPTH (0~10) to adjust the amount of modulation.
Use FREQ (0~10) to adjust modulation speed.
Use PATTERN (1 or 2) to select mono or stereo.
Like flanging, chorus depends on the interaction between delayed and non-delayed signal components. Like phasing, it can help create a full-bodied sound.

Delay effects

DEL1 Delay 1

Use DECAY (0~10) to adjust the number of echoes (0 is single).
Use TIME (1~100) to adjust the delay time from 1/100 of a second to 1 second in ten millisecond increments.
Use BALANCE (0~10) to adjust balance between direct (0) and delay (10).
This is used for echo effects.

REVERB GROUP

(DEL2, REV1, REV2)
One from this group can be used at a time.

DEL2 Delay 2

Use DECAY (0~10) to adjust the number of repeats. (For mono output, the repeats will be half the tempo of the stereo repeats.)
Use TIME (1~90) to adjust delay time from 1/100 of a second to 9/10 of a second in ten millisecond increments.
Use BALANCE (0~10) to adjust the level of the delayed sound.
Delay 2 is a stereo ping-pong delay where the sound echoes from the left to the right channel (if reproduced in stereo).

REV1 Reverb 1 (Large Hall)

Use TIME (0~10) to adjust the reverb time.
Use BALANCE (0~10) to adjust the level of the reverb sound.
Reverberation effects are essential for recording and for simulating larger performance environments. The longest reverb time is 4000ms.

REV2 Reverb 2 (Small Room)

Use TIME (0~50) to adjust the reverb time.
Use BALANCE (0~10) to adjust the level of the reverb sound.
Reverb 1 gives the reverb sound of a concert hall, and Reverb 2 gives the reverb of a small room.
The conventional 9002 and 9002PRO have the Reverb 2 configuration. Previously, the harmonics of the guitar amplifier have been simulated, but the PRO has added an amplifier simulator to the DIST PATTERN, so that the amplifier simulator is not included in Reverb 2. When using the PRO, set DIST on, DEPTH to 0 and PATTERN to 2 if you want to get the equivalent 9002 setting of Reverb 2 with DIST off.

Special effects

SFX

Use PATTERN (1,2,3) to select STEP, CRY, or METALLIC effects.

PATTERN 1: STEP
Use DEPTH (0~10) to adjust amount of modulation.
Use FREQ (0~50) to adjust modulation speed.
This gives random, stepped sample&hold for sequencer and arpeggio type effects.

PATTERN 2: CRY
Use DEPTH (0~10) to adjust amount of modulation.
Use FREQ (1 or 2) to select 1: Voice type effect; or 2: Fast attack and sweep down.
This gives dynamic pick wah and talking box type effects.

PATTERN 3: METALLIC
Use DEPTH (0~10) to adjust amount of modulation.
Use FREQ (0~50) to adjust modulation speed.
This gives ring modulator type effects.

User Programs and Preset Programs

About the banks

Each factory preset bank offers a choice of four "patches." Each patch is a chain of effects specially prepared to create a specific sound or effect for live performance or recording.

For example, one of the preset bank patches creates an instantly recognizable heavy metal sound. Another sounds just right for good old '50s rock and roll.

A patch may contain up to six effects, in a "chain" like this:

COMP — DIST — EQ — PITC (etc.) — DEL1— REV 1 (etc.)

The user banks are set up in the same way. However, you can actually change what is stored in the user bank patches. (The factory preset bank patches always come up sounding the same, each time you select them.)

To recover factory preset data in user banks
To input the factory preset data into the user banks again, turn the power off, then hold the STORE key down and turn the power on again. All 40 user patches will now contain the factory preset patches.
When all 40 patches are initialized, any patches that you have stored will be lost. If any of that patch data is necessary, keep a memo of it.

User banks

User banks

Ten "user" memory banks (0 through 9), each bank holds four patches, are preloaded with the patches created by world top guitarists and created by ZOOM's voicing expert with their advice and sound simulation.
Your original patches and the edited patches can be stored in the 40 user patch memory locations.

Preset banks

The ten(0 through 9)preset banks contain pre-programmed patches that are ready to use for a wide variety of musical applications. You can adjust the parameter values of individual effects within each patch as you like. Then you can store the results in patches in the user banks.
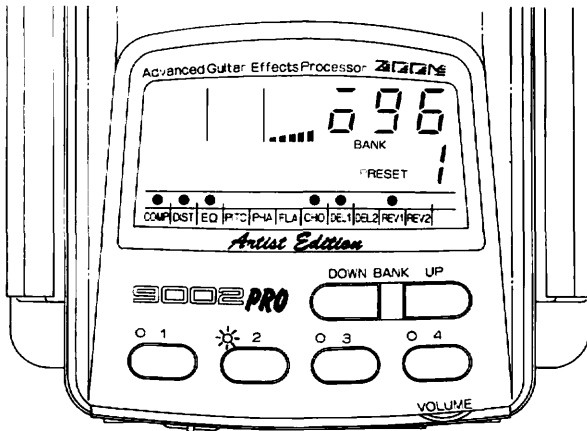
Operation

Basic operation

- **Turn on POWER switch.**

  The BANK part of the display will show USER 0, and the PATCH LED 1
  will light. The Parameter Value display area will show the output level
  This means that the currently selected patch is the first (of four) patches in
  user bank 0.

- **Call your desired bank and patch.**

  Use the BANK keys (UP and DOWN) to select your desired bank. Use the
  PATCH keys (1 through 4) to choose a patch within the bank. As an
  example, let's select preset 1, patch 2.

Selecting patch 2 in preset bank 1.

* Display illustrations shown here do not necessarily match those during actual use.
  They are provided for general reference only.

(1) Press either of the BANK keys several times and notice how the BANK part of the display indicates each of the USER (0~9) and PRESET (0~9) banks. Try setting it to PRESET 1. The bank number will flash.

(2) Next, select your desired patch number by pressing one of the four PATCH keys (located below the BANK keys). Press the PATCH 2 key so that its LED lights. The bank number will stop flashing.

You have now selected preset bank 1, patch 2.

Editing

Each patch is a chain of individual effects. You can select which individual effects to use in a patch. And you can adjust the parameters of each effect. You can also adjust the signal output level and noise reduction level of the total patch.
(such as "time" in a delay effect). Each effect has different adjustable parameters. Refer to the "Effects and Parameters" section of this manual. Edited patches can be stored in user banks for later use.
To edit and store a patch, you follow these steps:

(1) Select bank and patch to start from (Preset 2, patch 3, for example)

(2) Select individual effect (FLA, for example)

(3)Adjust effect parameters (DEPTH and PEAK, for example)

(4)Adjust output level (To compensate for increased or decreased total volume resulting from change in effects used and/or their readjusted parameter values)
(5)Adjust noise reduction
(6)Store(Store in user bank4, patch 1, for example)

Effect editing procedure

First, press the left or right CURSOR key to move the flashing effect mark until it is above the individual effect that you want to edit (in the list of effects at the bottom of the display).
The adjustable parameter names for that effect will appear below the three sliding PARAMETER controls. (The number of adjustable parameters is usually two or three, depending on the effect.)
(If parameter names do not appear, press the BYPASS key so that the 1at effect on/off mark turns on.)
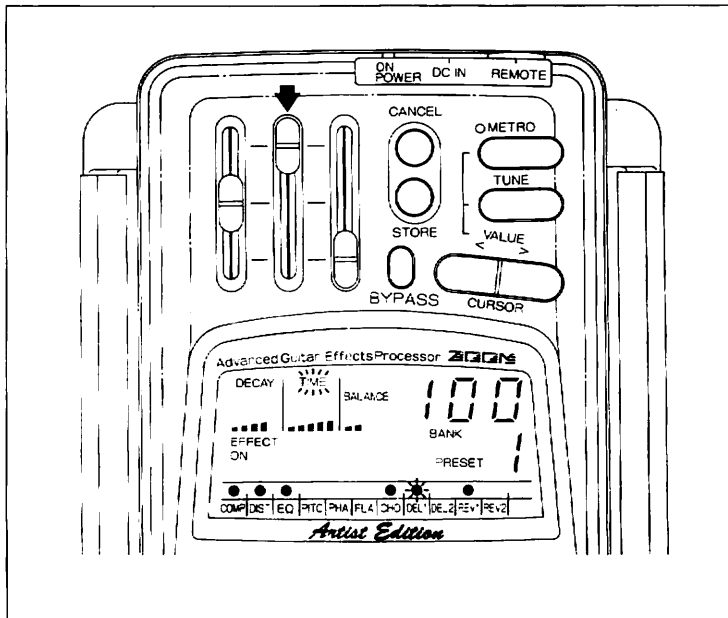One of the parameter names will be flashing. Adjust the PARAMETER control above the flashing name. As you slide the control up or down, the parameter bars (below the parameter name) and the parameter value readout in the display will change to indicate the current value (within the possible range).

Let's try editing the DEL1 effect in our previously selected patch (preset 1, patch 1).

(1) Use the CURSOR keys to move the flashing effect mark to DEL1. Parameter names DECAY, TIME, and BALANCE will appear on the display.

(2) Of the three names, DECAY is flashing. However, let's adjust the TIME parameter first. Gradually raise or lower the position of the control over the TIME indication until TIME starts flashing. (Or press the CANCEL key to move to the next adjustable parameter.)

(3) After TIME starts flashing, movement of the control will affect the value of the TIME parameter, as shown by the parameter bars and the parameter value readout. Slide it all the way down to minimize the delay time. Slide it all the way up to set delay time to the maximum length of one second.

After storing, the data has been rewritten so the original data cannot be recalled. However, you can return all 40 user patches to the factory preset date. For details, see page 15 "To recover factory preset data in user banks" .

(4) Next, move the control above the BALANCE parameter name. Slide it all the way down to get the direct sound only. At the top position you get just the delay sound.

(5) Finally, adjust the control above the DECAY parameter name. This sets the amount of feedback (number of repeats or echoes). At the bottom position you hear a single repeat. At the top position you get the maximum number of repeats.
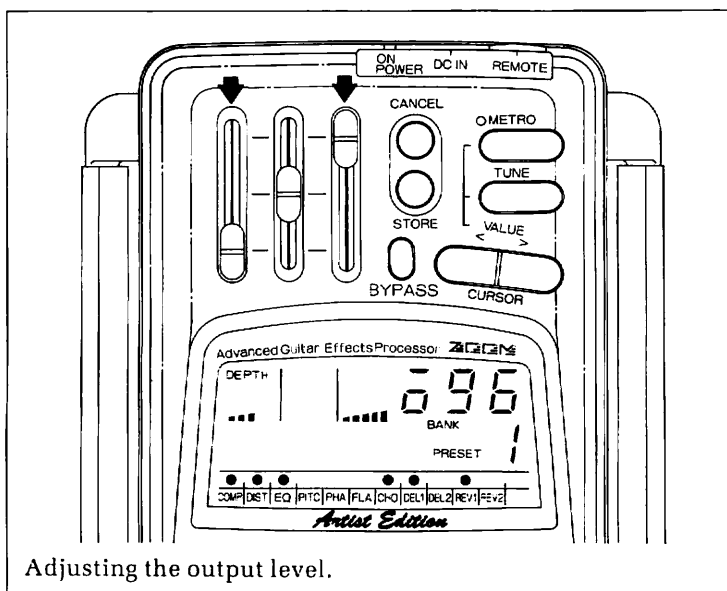
(6) Now, use the CURSOR keys to select other effects, and adjust them in the same way.

• **Undo**

To return a patch to its original value, simply select a different patch and then return to the one that you wanted to reset to its original value. In other words, if you switch to another patch without storing the previous one, any adjustments that you made on the previous one will be cancelled.

• **Output level adjustment**

After adjusting the parameters of individual effects, you can adjust the

Adjusting the output level.

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output level of the selected patch. This may be necessary to compensate for changes in total output level resulting from your parameter settings. This gives you control over changes in output level that may occur when you switch patches while performing.

(1) Use the CURSOR keys to move the effect mark all the way to the right of SFX or to the left of COMP. The bars under the PEAK/BALANCE/PAT-TERN display section will show output level, as will the readout. Or you can go directly to the output level adjustment mode by pressing the currently selected PATCH key again.

(2) Adjust the control above the PEAK/BALANCE/PATTERN display section. Output level is adjustable over a range of 10 to 99, as shown in the parameter value readout.

Noise reduction(NR) adjustment

Finally, adjust the noise reduction. NR lowers the noise during standby. it can be adjusted and stored for each patch.

(1)NR is adjustable over a range of 0 to 7, as shown in the parameter value readout, with the data slider on the left. Raise the slider/value until the noise lowers to acceptable level.

• **Patch storage**

To save your edited effect patch, follow these steps.

(1) Press the STORE key once. The selected BANK number and patch LED will flash to indicate that you are in the storage mode.

(2) Use the BANK and PATCH keys to select the user bank number and patch into which you wish to save the sound. (You cannot use a factory preset bank to store edited sounds.)

(3) At this point you can still press the CANCEL key to cancel the storage mode and return to the state that existed before you pressed the STORE key. If you do not wish to cancel, go on to step 4, below.

(4) Press the STORE key again and the BANK number and patch LED will stop flashing and remain lit. This confirms storage.

Pre-loaded patch data recall

To load the factory pre-load data into the user banks again, turn the power off, then hold the STORE key down and turn the power on again. All 40 factory pre-load data will be loaded into the user patch memories.

NOTE;With this operation, all patches you have stored will be lost.

Necessary patch data should be kept with a memo in the blank patch chart.

Other Functions

Tuning mode

Press the TUNE key once and the tuning fork mark will appear on the
display. The 9002PRO will emit a pitch of 440Hz. Tune your A string to this
pitch. If you want a slightly higher reference pitch, use the CURSOR keys
to change to 441Hz or 442Hz. In the tuning mode all effects turn off and
parameter names and indications are not displayed. To return to normal
use, press the TUNE key again.
(A)
The pitch can be turned on and off with the BYPASS key.

Metronome mode

Press the METRO key once and the "METRO" mark will appear on the dis-
play. The metronome LED will flash in time with the beat which is adjust-
able over a range of 40 to 250 beats per minute, using the CURSOR keys. In
the metronome mode, effects remain on and you can change patches, but
parameter names and indications turn off. To turn off the metronome,
press the METRO key again. For live performance, you may want just the
metronome LED indication and not the audible beat: from the power-off
condition, while holding down the METRO key, turn on the POWER
switch.

Remote control

(B)
With the optional remote controller 9002R, 9002F, or FC02, you can
conveniently select patches and banks from any location.
   o The 9002R is a compact controller that is ideal for hand-held use.
     It can only select patches within the current bank. Change banks
     with the controls on the main unit.
   o The 9002F is a foot controller that can only select patches within
     the current bank. change banks with the controls on the main unit.
   o The FC02 is a foot controller that can be used to select patches
     and control bank changing, but only for the user group. with each
     push of the bank pedal, the bank is switched as follows:
     0 -> 1 -> 2 -> 3 -> 4 -> P -> 5 -> 6 -> 7 -> 8 -> 9
     pressing the patch pedal while "P" is displayed activates the
     bypass condition.

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Specifications

Effect Programs:	Compressor, Distortion, EQ, Pitch Shifter, Phaser, Flanger, Chorus, Delay1, Delay2, Reverb1, Reverb2, SFX (6 effects can be used at once)
Memory:	40 Preset Patches/40 User's Patches
A/D D/A Converter:	16-bit linear
Inputs:	Guitar × 1 ($^1/_4$", -10/-20dBm, 470kΩ) Mix × 1 (Mini, Stereo)
Outputs:	Line × 1 ($^1/_4$" Stereo/Mono, -10dBm, 10kΩ) Headphones × 2 (Mini, Stereo)
Display:	60 × 30mm Custom LCD
Control:	Remote
Power:	Rechargeable Battery/AC Adapter 24 hours initial charging time. two and half hou use at full charge.
Dimensions:	102(W) × 119.5(D) × 39(H) mm
Weight:	280g (0.62lbs.)
Accessories:	AC adaptor, Rechargeable battery × 1,

All specifications and appearances subject to change without notice.

ZOOM

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