GUITAR PERFORMANCE EFFECTOR
OWNER'S MANUAL

SPECIAL MESSAGE SECTION (USA)

This product utilizes batteries or an external power supply (adapter). DO NOTconnect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

This Product should be used only with the components supplied or; a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE:
The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist. IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

NOTICE:
Service charges incurred due to lack of knowledge relating to how a function or effect works(when the unit is operating as designed)are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES:
Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals . In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice: This product MAY contain a small non-rechargeable battery which (if applicable)is soldered in Place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

This Product may also use "household"type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix old batteries with new, or with batteries of a different type. Batteries MUST be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning: Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area.

Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice: Should this Product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. if your dealer is unable to assist you, Please contact Yamaha directly.

NAME PLATE LOCATION:
The name Plate is located on the bottom of the product. The model number, serial number, power requirements, etc., are located on this plate. You should record the serial number and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.

Model **GW33**

Serial No. _____

Purchase Date _____

92-BP

PLEASE KEEP THIS MANUAL

Congratulations and thank you for purchasing the Yamaha GW33 Guitar Performance Effector!

The GW33 is a portable and convenient multi-effect device designed especially for guitar. The comprehensive variety of high-quality effects and convenient Pedal Switch control functions make the highly portable GW33 ideal for signal processing in home recording, studio, and live performance applications.

Some of the advanced features of the GW33 include:

- Eight independent effect blocks, including Compressor, Distortion/Insert, Equalizer/Amp Simulator, Modulation 1/2, Delay, Reverb, and Noise Gate. The two Modulation blocks allow you to have two different modulation effects simultaneously.
- A wide variety of high-quality distortion effects, utilizing both analog and digital distortion circuits.
- Twenty-five professionally created Preset effect programs, for use in a wide variety of processing applications, plus twenty-five User memory locations for saving your own effect programs.
- A separate send/return loop (Insert) for integrating external effects into the GW33 effect chain.
- Convenient parameter control over all effects, yet exceptional ease-of-use — you can adjust the parameters of the effect blocks much as you would on conventional pedal effects.
- Consistent, continuous Delay/Reverb decay, letting you switch between similarly set programs without cutting off the Delay/Reverb sound.
- Foot Controller input, for connection of an optional FC7 Foot Controller, giving you convenient volume control as well as realtime adjustment of the Pedal Wah effect.
- Built-in tuner, allowing you to tune your instrument without removing it from the signal chain.
- Built-in metronome, with fully adjustable time signature and tempo. The metronome provides both visual indication and an audio click for maximum flexibility.

HOW TO USE THIS MANUAL ***READ THIS FIRST!!)***

You are probably eager to try out your new GW33 right away and hear what it can do, rather than have to read through a lot of instructions before you can even get a sound out of it.

Before you do anything else, however, you should read the ***PRECAUTIONS*** section (page 3). This tells you briefly how to care for your new GW33, how to avoid damaging it, and how to ensure long-term, reliable operation.

Next, read the ***GW33 SYSTEM OVERVIEW*** (page 7). This provides an important introduction to the internal organization of the GW33, enabling you to better understand its various functions and use the device to its full potential.

To actually start using the GW33, read the ***GUIDED TOUR*** (page 10). It guides you step-by-step in setting up your GW33, connecting it properly, and (most importantly!) getting sound out of it. The section also introduces you to the effect programs by letting you hear what they are capable of, and explains how to use some of the other main functions of the device.

The ***REFERENCE*** section (page 16), on the other hand, is a comprehensive guide to all functions. You won't need (or want) to read through all of it at once, but it is there for you to refer to when you need information about a certain feature or function.

The ***PANEL CONTROLS AND TERMINALS*** (page 4) is also mainly for reference. In general, look through this section to familiarize yourself with the controls, and refer to it when necessary.

The ***INDEX*** in the ***APPENDIX*** section (page 40) is also very helpful. It lists page numbers for virtually every function, feature, control and terminal found on the GW33, and lets you find the information you need quickly and easily.

Other parts of the ***APPENDIX*** section (page 36) provide additional useful information: lists of the effect programs of the GW33, tips on troubleshooting (when something doesn't work as expected), and other important information.

TABLE OF CONTENTS

PRECAUTIONS

■ USE THE CORRECT POWER SUPPLY

Power to the GW33 should be supplied only from the appropriate Yamaha AC adaptor (the PA-3, or another adaptor recommended by Yamaha). Use of another adaptor may cause serious damage to the unit. **(Never use the PA-3B.)** Also make sure that the adaptor you have is appropriate for the AC mains supply voltage in the area where you intend to use the GW33. (The correct input voltage is marked on the adaptor.)

■ AVOID EXCESSIVE HEAT, HUMIDITY, DUST AND VIBRATION

Keep the unit away from locations where it is likely to be exposed to high temperatures (such as direct sunlight) or humidity. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage.

■ AVOID PHYSICAL SHOCKS

Although the GW33 has been constructed to withstand the normal rigors of stage and studio use for optimum sturdiness and reliability, avoid subjecting it to strong physical shocks (such as dropping or hitting it), since this may damage the unit. Since the GW33 is a precision-made electronic device, also avoid applying excessive force to the various controls.

■ DO NOT OPEN THE CASE OR ATTEMPT REPAIRS OR MODIFICATIONS YOURSELF

This product contains no user-serviceable parts. Refer all maintenance to qualified Yamaha service personnel. Opening the case and/or tampering in any way with the internal circuitry will void the warranty.

■ MAKE SURE POWER IS OFF BEFORE MAKING OR REMOVING CONNECTIONS

Always turn the power off prior to connecting or disconnecting cables.

■ HANDLE ALL CONNECTIONS CAREFULLY

Always be careful to connect and disconnect all cables and cords by gripping the connector itself, not by pulling on the cord.

■ CLEAN WITH A SOFT, DRY CLOTH

Never use solvents such as benzine or thinner to clean the unit, since these will damage the finish. Wipe clean with a soft, dry cloth. If necessary, use a soft, clean slightly moistened cloth — making sure to wipe the case off again with a dry cloth.

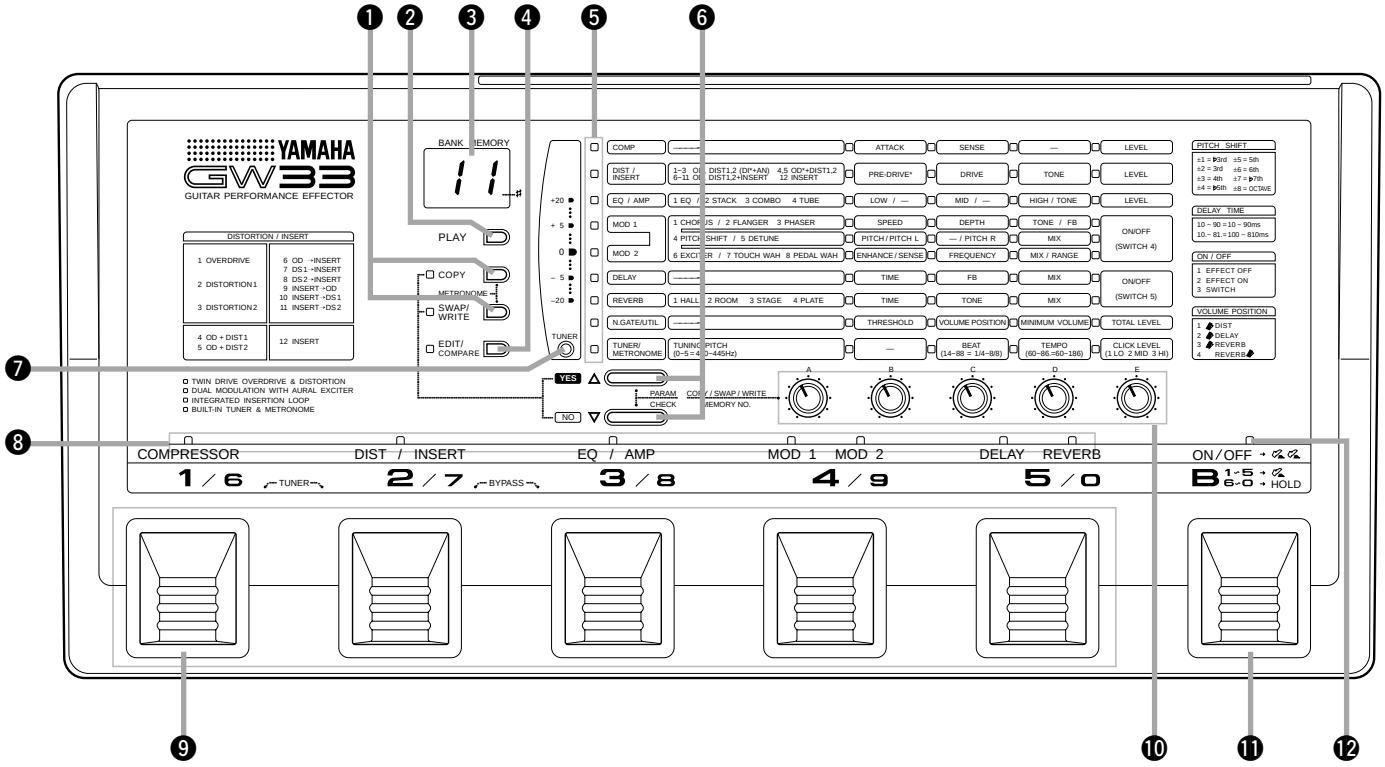
■ ELECTRICAL INTERFERENCE

Since the GW33 contains digital circuitry, it may cause interference and noise if placed too close to TV sets, radios or similar equipment. If such a problem occurs, move the GW33 further away from the affected equipment.

PANEL CONTROLS AND TERMINALS

This section shows and explains all of the controls and terminals of the GW33. Since the explanations below are fairly brief, you should turn to the page references given for more information on individual buttons and features. Refer to this section also as necessary when using the GW33, when you need specific information on a certain control or terminal.

■ TOP PANEL



❶ COPY, SWAP/WRITE Buttons

These two buttons call up the Copy and Swap/Write operations, respectively. (See pages 32 and 33.) Copy and Swap are called up from the Play mode, while Write is called up from the Edit mode. The **COPY** and **SWAP/WRITE** lamps are lit when the respective Copy or Swap/Write operation is active.

When pressed together simultaneously, these buttons start the built-in Metronome function. When the Metronome is on, the lamps of the two buttons flash in time with the audio click. (See page 35.)

❷ PLAY Button

Enables the Play mode, from which the effect programs can be selected and played.

❸ BANK/MEMORY Indicator

Displays the program number. During Tuner operation, this displays the name of the note or string played. (See page 34.) The LED dot (♯) at the bottom right serves as a sharp indicator during Tuner operation (functioning along with the note name shown in the **BANK/ MEMORY** indicator), and lights to indicate values of 100 and higher.

❹ EDIT/COMPARE Button

For enabling the Edit mode, from which the selected effect program can be edited. In the Edit mode, this also serves as a Compare switch for toggling between the newly edited settings and original settings of an effect program.

❺ Effect Parameter/Tuner Lamps

In the Edit mode: These indicate the effect block and parameters currently selected for editing. (See page 13.)

In the Play mode: These indicate the effect block currently selected for checking parameter values. (See page 19.)

In the Tuner mode: These indicate whether the input signal is in tune or not; when the center lamp (to the right of 0) flashes, the signal is in tune. (See page 34.)

❻ YES/△ and NO/▽ Buttons

In the Edit mode: These are used to select an effect block (and its parameters) for editing. (See page 13.)

When pressed together (in the Edit mode): These call up the Parameter Check mode, for checking the currently edited parameter values. (See page 19.) Pressing one of the buttons again returns to normal editing.

In the Play mode: These are used to select the effect block for checking parameter values. (See page 19.)

In the Copy, Swap and Write operations: These are used to execute (**YES**) or cancel (**NO**) the respective operation.

❼ TUNER Button

For enabling the Tuner mode (from the Play mode). (See page 34.) Pressing the button again returns to the Play mode.

❽ Effect Block ON/OFF Lamps

These light when the corresponding effect block is on.

❾ Pedal Switches 1 – 5

In the Play mode: When the ON/OFF lamp (above Pedal Switch B) is off, these are used to select effect programs. (See page 12.)

In the Edit or Play modes: When the ON/OFF lamp (above Pedal Switch B) is flashing, these are used to turn individual effect blocks on or off. (See page 17.)

Also, pressing Pedal Switches 1 and 2 together simultaneously enables the Tuner mode. (See page 34.) Pressing Pedal Switches 2 and 3 together simultaneously enables the Bypass function. (See page 17.)

❿ Parameter Dials

For selecting the effect type and adjusting the parameters of a selected effect. The parameters in a single column correspond to the dial in that column.

⓫ Pedal Switch B (Bank)

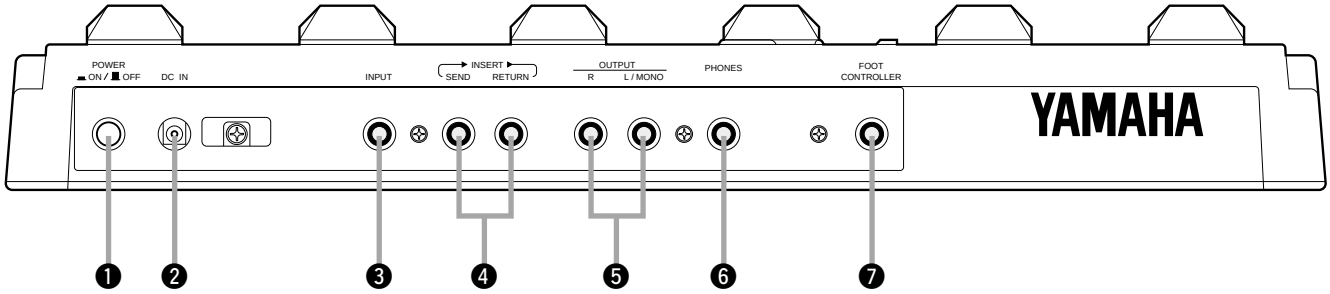
In the Play mode: Pressing this once enables selection of banks 1 – 5. Holding this down enables selection of banks 6 – 0.

Pressing this twice quickly enables effect block on/off switching. (See page 17.)

⓬ ON/OFF Mode Lamp

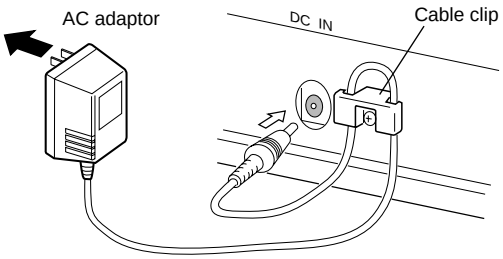
This flashes to indicate that Pedal Switches 1 – 5 can be used to turn individual effect blocks on or off.

■ REAR PANEL



❶ POWER ON/OFF Switch

❷ DC IN Terminal
For connection to the PA-3 AC adaptor (or another adaptor recommended by Yamaha). (Never use the PA-3B.) Wrap the adaptor cord firmly around the cable clip as shown, to prevent accidental unplugging of the power cord during use.



❸ INPUT Jack
For connection of an instrument (guitar, bass, etc.). (See page 10 for more information on input/output connections.)

❹ INSERT SEND and RETURN Jacks
For connection of an external effect device or devices. Use the SEND jack to output the signal from the GW33, and use RETURN to input the signal from the external effect device(s).

❺ L/MONO and R OUTPUT Jacks
For stereo or mono output of the instrument and metronome sound. Connect both of these to the corresponding left and right channels of your stereo amplification system to take full advantage of the stereo effects of the GW33. For mono operation, connect your system only to the L/MONO jack; this provides a mono mix of the instrument sound when the R OUTPUT jack is not connected.

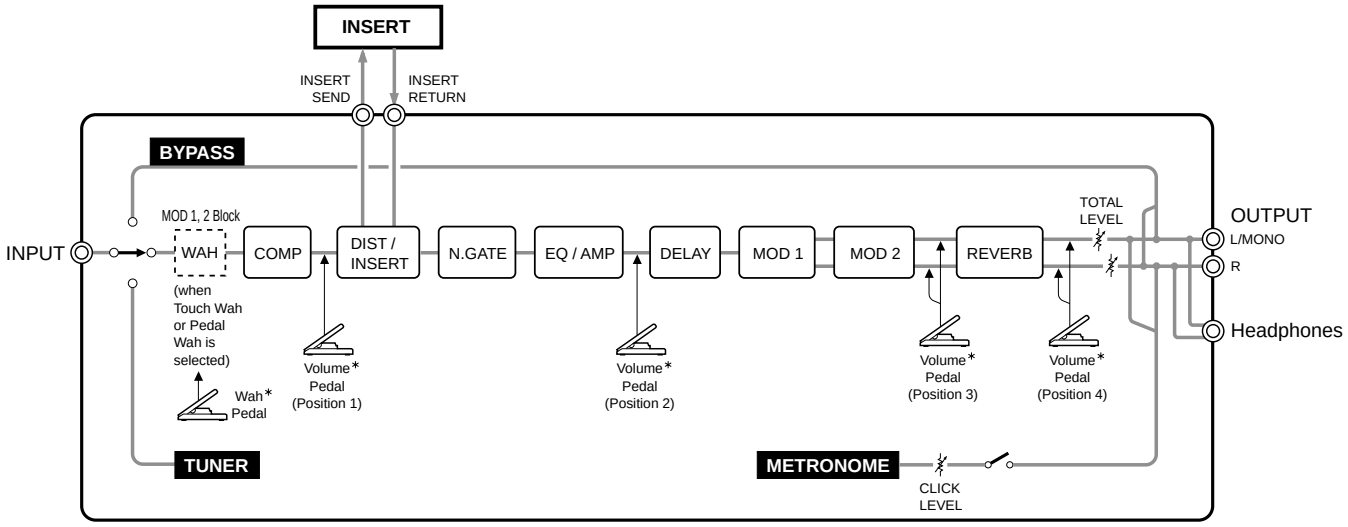
❻ PHONES Jack
For stereo output of the guitar/effect and metronome sound to a set of stereo headphones.

❼ FOOT CONTROLLER Jack
For connection of an optional foot controller (use ONLY the Yamaha FC7), for controlling the volume or the Pedal Wah effect. (See page 30.)

This section provides a brief overview of the GW33 — the basic structure of its various functions and the memory system. Once you gain a general understanding of the internal workings of the GW33 as given here, you'll have the tools for taking full advantage of its features.

GW33 Internal Structure

The diagram below shows the internal system of the effects and other functions of the GW33.



* Use the optional YAMAHA Foot Controller FC7.

The Effects of the GW33

The GW33 is equipped with a comprehensive set of effects designed specifically for the guitar player. Up to eight different effects can be used simultaneously. Moreover, a special Insert block lets you connect additional external effect units to the multi-effect chain of the GW33. Individual effects (excepting Noise Gate) can be turned on and off as needed with the Pedal Switches and can be quickly and easily adjusted with the Parameter Dials.

There are eight main effect blocks and a total of thirty-one different effect types:

(Refer to the **EFFECTS AND PARAMETERS** section, page 20, for more detailed descriptions and explanations of these effects.)

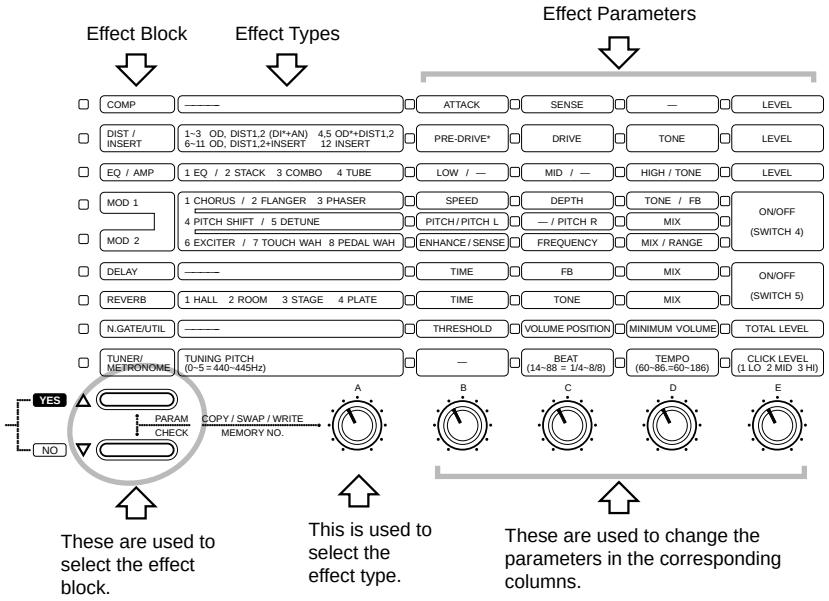
With all these various effects, used individually or simultaneously, the GW33 has all you need to augment your sound, whatever the application. Plus, flexible effect bypass (on/off) functions give you even more realtime control over the sound. A programmable Noise Gate is also included for filtering out hum, hiss and other undesirable noise. (See page 29.)

Effect Block	Effect Type
Compressor	Compressor
Distortion/Insert	Overdrive, Distortion 1, Distortion 2, Overdrive + Distortion 1, Overdrive + Distortion 2, Overdrive → Insert, Distortion 1 → Insert, Distortion 2 → Insert, Insert → Overdrive, Insert → Distortion 1, Insert → Distortion 2, Insert
Equalizer/ Amp Simulator	Equalizer, Stack Amp Simulator, Combo Amp Simulator, Tube Amp Simulator
Modulation 1	Chorus, Flanger, Phaser, Pitch Shift, Detune, Exciter, Touch Wah, Pedal Wah
Modulation 2	(Same as Modulation 1; effects can be used independently.)
Delay	Delay
Reverb	Hall, Room, Stage, Plate
Noise Gate	Noise Gate

The Effect Structure of the GW33

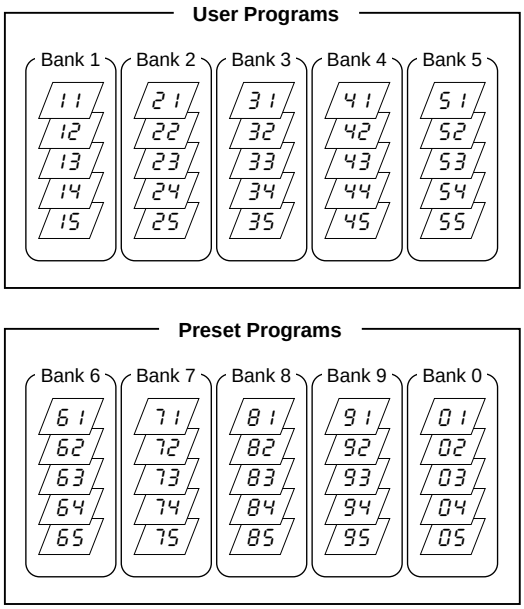
Keep in mind as you use the GW33 that the structure of its effects is basically in a four-part hierarchy: 1) Effect programs, 2) Effect blocks, 3) Effect types, and 4) Effect parameters.

An effect program consists of eight different effect blocks, all of which can be used simultaneously. A block includes one or more effect types, one of which can be used at a time. And each effect type has up to four different parameters, which allow you to set the sound of the effect. The logic of this structure is reflected in the panel layout, with effect blocks, types and parameters printed in a matrix from left to right.



Memory Structure

The GW33 has a total of 50 effect programs, divided into ten banks of five programs each. The 25 programs from 61 – 05 are Preset programs. Programs 11 – 55 are User programs, and your own original settings can be stored to these.



Effect Programs

#	Sound Character		Programmer's comments	#	Sound Character		Programmer's comments
	Main	Sub			Main	Sub	
11	Dist Hard	—	Distortion especially for rock solos.	61	Dist Hard	—	Digital and analog distortion for rock solos.
12	Dist Hard	—	Digital + analog distortion, plus EQ, for heavy metal.	62	Dist Hard	Detune	Analog overdrive + distortion; good for pop music.
13	Dist Softer	Detune	Detune and reverb for a "wet" solo sound.	63	Over Drive	—	Natural overdrive for rock'n'roll.
14	Over Drive	—	Natural, warm overdrive.	64	Clean	Detune	Clean sound, good for wide range of styles (ex., blues, funk, jazz).
15	Clean	Chorus Detune	Clean, spacious sound with Cho./ Detune/Delay/Reverb mix.	65	Clean	Flanger Chorus	Clear sound with flanger and chorus.
21	Dist Hard	—	Hard, metallic lead.	71	Dist Hard	—	Heavy distortion sound with enhanced low and high frequencies.
22	Dist Hard	Touch Wah	Dynamically responds to your plucking technique.	72	Dist Hard	Wah	Distortion sound for backing.
23	Over Drive	Pitch	Stereo pitch shift: 5th above and below.	73	Over Drive	Chorus	Spacious overdrive sound for fusion.
24	Clean	Detune	Clean and dreamy with long delay.	74	Clean	Detune	Natural reverb sound from the 50's. Dynamics "squashed" with compression.
25	Clean	Chorus Detune	Soft, clean sound, ideal for soloing or rhythmic chords.	75	Clean	Phaser	Tremolo sound.
31	Dist Hard	—	Analog overdrive + distortion — hard-edged for backing.	81	Over Drive	—	Digital + analog overdrive for rock or fusion.
32	Dist Hard	Flanger	Analog + digital distortion, plus flanger and delay.	82	Dist Hard	Detune	Powerful sound, good for rock ballads.
33	Over Drive	—	Bright overdrive with delay for American hard rock leads.	83	Dist Softer	—	Overdrive sound for rock leads.
34	Clean	—	British 60's rock sound — simple and straight.	84	Clean	Detune	Mellow, round sound.
35	Clean	Phaser Detune	70's fusion sound, with heavy phaser.	85	Clean	Phaser	Clean sound for rhythmic play.
41	Dist Hard	—	Hard distortion for rock soloing.	91	Dist Hard	Flanger Detune	Hard distortion sound with enhanced attack; for rock leads.
42	Dist Hard	Detune	Slightly bright distortion for hard rock backing.	92	Dist Hard	Detune	Distortion sound with detuning, for rock backing.
43	Over Drive	—	Crunch sound with enhanced low and high frequencies.	93	Over Drive	—	"Dry" overdrive.
44	Clean	Detune	Good, clear sound for rhythmic playing.	94	Clean	—	Multi-purpose program for a wide variety of styles.
45	Clean	Chorus	Ideal for funky rhythmic playing or arpeggios.	95	Clean	Touch Wah	Touch Wah program, good for funk, jazz, blues, etc.
51	Dist Hard	Pitch	Hard distortion sound, with pitch an octave below.	01	Dist Hard	—	Hard digital + analog distortion sound for direct recording.
52	Dist Softer	Pedal Wah	Hard crunch sound for rhythmic playing; with Pedal Wah.	02	Dist Hard	—	Hard distortion program, with stack amp sound, for direct recording.
53	Clean	Detune Pedal Wah	Mellow sound for rhythmic play.	03	Over Drive	—	Warm overdrive sound for direct recording.
54	S.E.	Flanger Touch Wah	Sound effect with dynamic response to plucking technique.	04	Clean	Detune	Clear, distinct sound with detuning and delay, for direct recording.
55	S.E.	Chorus Phaser	Chorus sound with stereo phaser.	05	Clean	Chorus	Clean sound for direct recording.

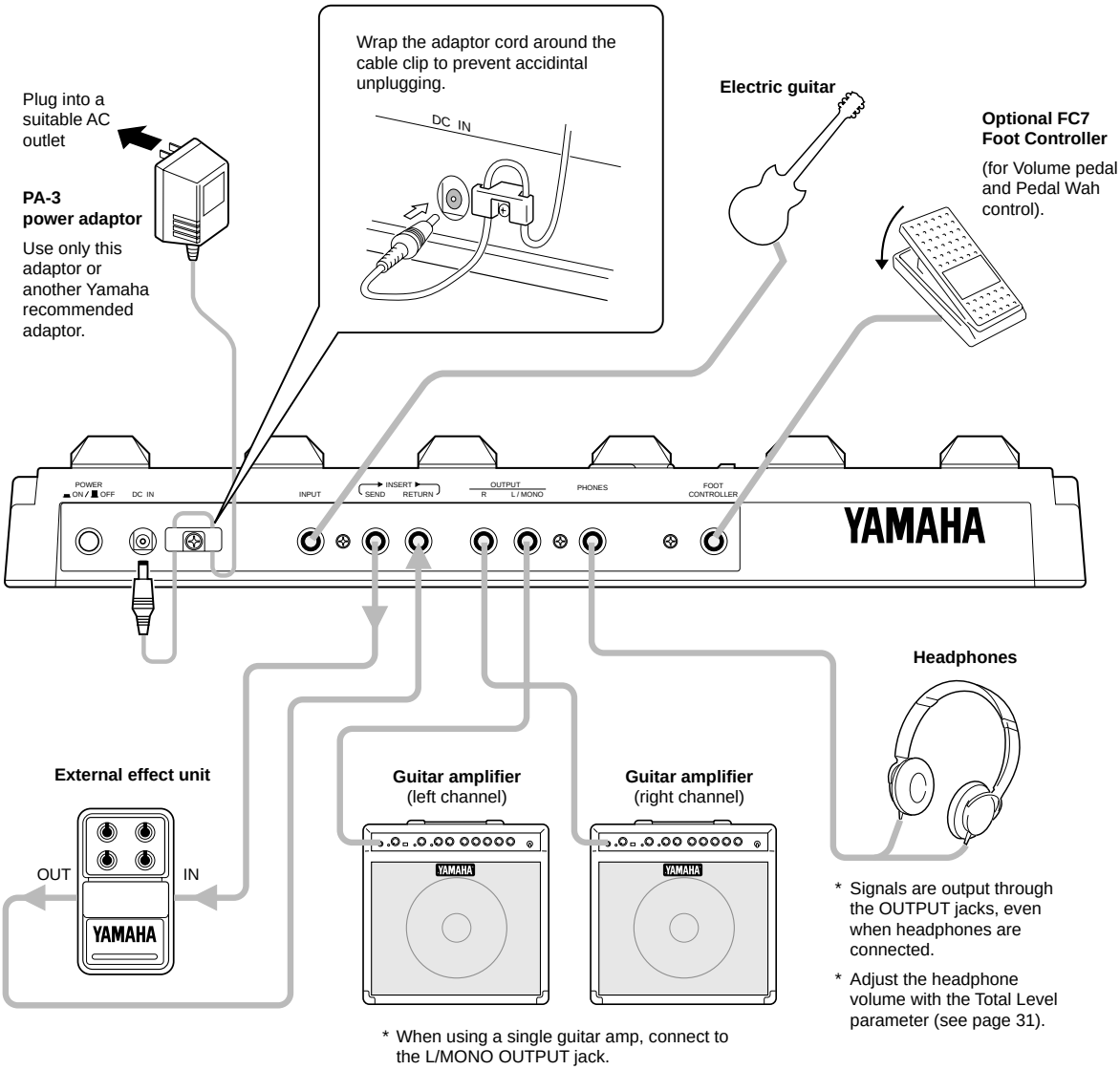
GUIDED TOUR

When using your GW33 for the first time, read through this short section of the manual. It guides you step-by-step in all basic operations: setting the instrument up, connecting it properly to other equipment, and playing the effect programs.

◆

SETTING UP AND PLAYING YOUR GW33

Once you've taken your GW33 out of the box and are ready to use it, you'll have to make a few connections and follow some simple instructions on setting it up.



* When using a single guitar amp, connect to the L/MONO OUTPUT jack.

* Signals are output through the OUTPUT jacks, even when headphones are connected.

* Adjust the headphone volume with the Total Level parameter (see page 31).

1 First, make sure that the power switch on the GW33 is off before making ANY connections.

2 Plug the DC output cable from the supplied PA-3 adaptor (or another adaptor recommended by Yamaha) (Never use the PA-3B.) into the DC IN terminal on the rear panel, then plug the adaptor into a convenient AC outlet.

The cable clip located next to this terminal helps to prevent accidental unplugging of the power supply during use. Wrap the adaptor cord firmly around the clip (see the Rear Panel illustration, page 10).

CAUTION! ■ ***Do not attempt to use a different AC adaptor with the GW33. (See the precaution*** USE THE CORRECT POWER SUPPLY ***on page 3.)***

3 Plug your instrument into the INPUT jack on the rear panel.

For the sake of these instructions, we'll assume you're using an electric guitar; however, most any electronic instrument can be used.

NOTE ■ *You should be careful if you are connecting a synthesizer or electronic keyboard. Since their output level is generally much higher than that of a guitar, the volume control on the instrument should be turned down accordingly.*

4 Connect the GW33 output or outputs to your amplifier/speaker system, as shown on page 10. Before you do this, however, make sure that the power on the system is first turned off and all volume controls are set to zero — this includes the guitar controls and the volume on the connected amp(s).

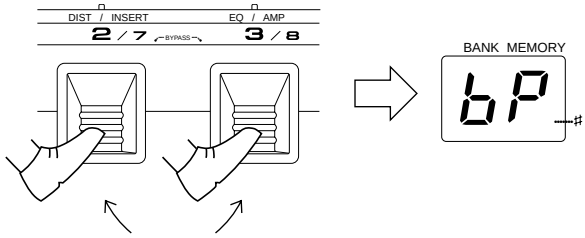
NOTE ■ *Use the clean channel of the amplifier for best results.*

5 If you are using an optional FC7 Foot Controller with the GW33, connect it to the FOOT CONTROLLER input jack on the rear panel. Make sure that the pedal is at or near the maximum position.

6 Turn on the power of all the equipment, starting with the GW33, and turning on the connected amplifier last.

7 Before you turn up the volume and try to play, set all the effects to off by using the Bypass function.

To do this, simultaneously press and hold down Pedal Switches 2 and 3. Keep holding them down (for roughly one second) until "bP" (Bypass) appears in the **BANK/MEMORY** indicator.



Firmly press and hold these down for about one second.

This temporarily turns off all effect processing, and lets you hear the "dry" input signal.

8 Now, set your guitar to a suitable volume. Next, slowly bring up the level of the connected amplifier as you play, until the level is suitable.

9 Finally, turn the Bypass function off by pressing any one of the Pedal Switches (1 – 5 or B).

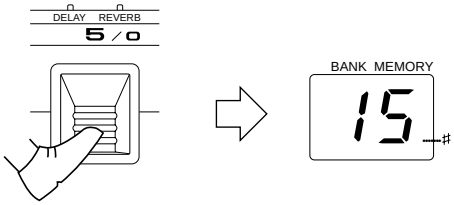
If you've followed all these instructions carefully, you should now be able to hear the sound of your guitar processed by the effects of the GW33, and are able to try out some of the other effect programs of the GW33. If no sound is output or the sound isn't as you expect, refer to the **Troubleshooting** section on page 36.

PLAYING WITH THE EFFECTS

Now that you've set up your GW33 and have got sound out of it, let's try playing with some of the effects. (If you haven't already done so, read through the **GW33 SYSTEM OVERVIEW** section on page 7 for information on the basic structure of the GW33.)

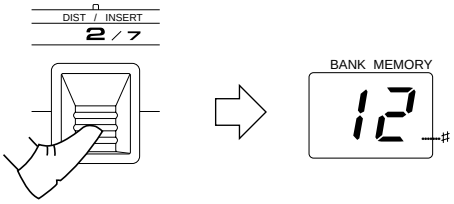
1 First, make sure that the Play mode is enabled. Press [PLAY].

2 Let's start with a clean chorus/delay effect. Use Pedal Switch 5 to select program number 15.



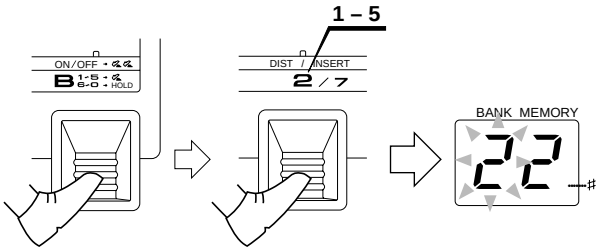
NOTE ■ *If you're using the FC7 Foot Controller, make sure that it is at or near the maximum position to ensure proper volume.*

3 Next, try a heavy distortion sound. Press Pedal Switch 2 to select program number 12.



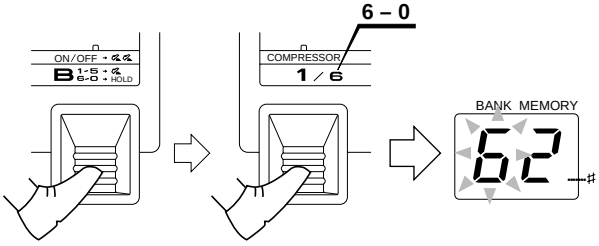
Notice that all the program numbers have two digits. The first digit indicates the bank and the second indicates the program number. By pressing one of the Pedal Switches 1 – 5, you can select one of five programs in the currently selected bank.

To change the bank, use the Bank (B) Pedal Switch. To select one of banks 1 – 5, press it once, then press the appropriate Pedal Switch 1 – 5.



Press this once... ...then press one of these to select bank 1 – 5.

To select one of banks 6 – 0, hold the Bank Pedal Switch down and simultaneously press the appropriate alternate numbered Pedal Switch 6 – 0.



While holding this down... ...press one of these to select bank 6 – 0.

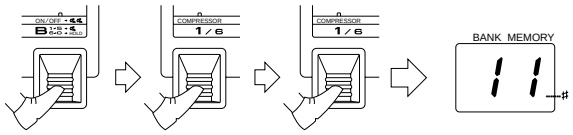
4 Now that you know how to select banks and programs, try exploring some of the other effect programs of the GW33. Look through the **Effect Programs** list on page 9 for more information about the programs, and play with a few of them to hear how they sound.

EDITING AN EFFECT PROGRAM AND SAVING IT

The GW33 makes it extremely easy to adjust or change the sound of the effects. In this section, you'll learn how to change the effect type and use the Parameter Dials to change effect settings. You'll also learn how to compare the edited program with the original. Finally, you'll learn how save the new effect program you've created.

Editing an Effect Program

1 **Select one of the User or Preset effect programs. Although any effect program will do, select program number 11 for this example.**



Press the Bank (B) Pedal Switch once, and press Pedal Switch 1 to select Bank 1. Then, press Pedal Switch 1 again (if needed) to select program number 11.

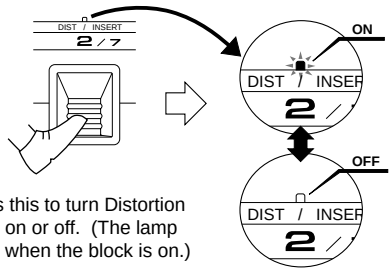
NOTE ■ *Even though creating and saving your own effect program erases the previously stored program, you can restore that particular factory Preset program. Refer to* ***RESTORING FACTORY-SET EFFECT PROGRAMS*** *on page 33 for details. Keep in mind, however, that restoring the factory Preset program will irretrievably erase the effect you've created. For this reason, you may want to keep a written record of the settings you make (using a copy of the Blank Effect Parameter Chart on page 38), so that you can reprogram the effect later if necessary.*

2 **Next, press the** EDIT/COMPARE **button to enable the Edit mode.** (The **EDIT/COMPARE** lamp lights and the **ON/OFF** lamp above the Bank Pedal Switch flashes.)

Press this.

Notice that the ON/OFF lamp above the Bank Pedal Switch flashes. This means that you can turn individual effect blocks on and off.

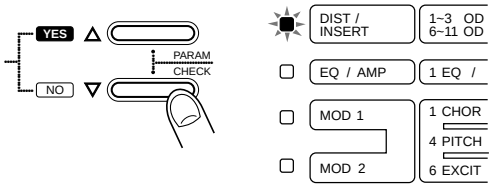
3 **Try turning an effect block on and off now; press Pedal Switch 2 to turn the Distortion block on or off.**



Press this to turn Distortion block on or off. (The lamp lights when the block is on.)

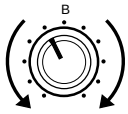
NOTE ■ *The on/off switching of the MOD 1/2 and Delay/Reverb blocks is determined by the On/Off parameter of those blocks. (See pages 24 and 27.)*

4 **Use the** YES △ **and** NO ▽ **buttons to select the desired effect block row (in the parameter matrix printed on the panel).** (The lamp at the left of the corresponding block lights.) For this example, press either button repeatedly until the Distortion/Insert block is selected.



NOTE ■ *The TUNER/METRONOME row cannot be selected in the Edit mode.*

5 **Use the Parameter Dials to adjust the effect parameters.** For example, if you want to change the amount of Pre-drive in the Distortion effect (selected above), adjust Parameter Dial **B**.



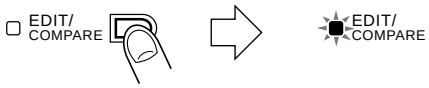
Parameter Dial **A** is used to change the effect type of the selected block; **B** – **E** are used to change the corresponding parameters.

6 **If you wish, you can simply view the parameter values that you are currently editing (without changing them) by using the Parameter Check mode.** (See page 19 for details.)

For information about each of the effects and their parameters, refer to the section **EFFECTS AND PARAMETERS** on page 20.

Comparing the Edited Effect Program with the Original

You can compare the sound of the newly edited program with the sound of the original one. To do this, press the EDIT/COMPARE button again (so that the **EDIT/COMPARE** lamp flashes).



In this condition, you can hear the sound of the original effect program. You can also view the original parameter values by selecting the desired effect block with the YES △ or NO ▽ buttons and turning the Parameter Dials. Doing this doesn't change the value, it simply displays it so that you can check it against the value you've edited.

Each press of the EDIT/COMPARE button switches back and forth between the original program (lamp flashes) and your new edits (lamp lights continuously).

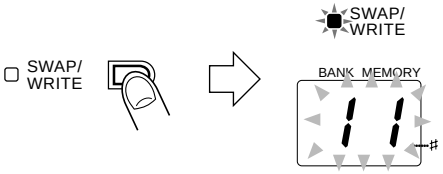
When you've adjusted the sound to your satisfaction, you may wish to save it for future recall. You can either copy the settings down on paper (using a copy of the Blank Effect Parameter Chart on page 38) or go on to the next section and save the settings to the GW33's memory.

CAUTION! ■ ***Be careful not to press the PLAY button while editing. If you do, the original effect program's settings will be called up, erasing all settings you had made to that point.***

Saving an Effect Program

Now that you've created your own original effect program, you will want to save the settings to a program number, so that you can recall your new effect program in the future. (For more information on saving effect programs and other matters relating to memory, see the **SYSTEM OVERVIEW** section on page 7.)

1 **If you've continued from the last section and have new settings you want to save, press the SWAP/WRITE button.**

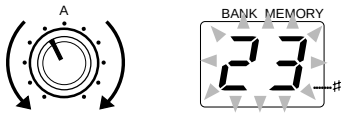


The **SWAP/WRITE** lamp lights and the program number in the **BANK/MEMORY** indicator flashes to indicate that the GW33 is ready to write the settings to memory at the selected program number. If you want to save the program to the current number, skip to step #3. If you want to select a different program for saving the new program, go to the next step.

NOTE ■ *Edited programs can be saved to the User effect programs, in banks 1 – 5. Banks 6 – 0 are reserved for the Preset effect programs, and cannot be used to save edited programs.*

NOTE ■ *When you've edited one of the Preset programs (61 – 05) and try to save it, "—" appears in the **BANK/MEMORY** indicator until you select one of the User program numbers (11 – 55).*

2 **If desired, select the destination User program number (11 – 55) by using Parameter Dial A.**

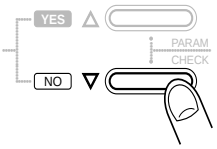


Keep in mind that the programs that you edit can only be saved to one of the User program numbers, and not to the Preset program numbers.

3 **To actually save the new settings, press the YES △ button. (Operation returns to the Edit mode.)**

To cancel the operation without saving, press the NO ▽ button.

Pressing NO ▽ returns to the program that you've been editing. The settings are saved temporarily, and you can continue editing the program.



This concludes your short tour of the important functions of the GW33. To find out more about how to best use your GW33, look through the Reference section and read about some of the functions that interest you.

REFERENCE

This section of the manual explains briefly, yet completely, all of the features and functions of the GW33. Refer to it when you need information about a specific feature or function.

◆

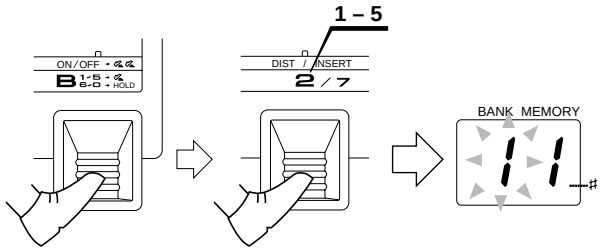
SELECTING EFFECT PROGRAMS

OPERATION

1 With the Play mode enabled (press [PLAY]), first select the desired bank of programs.

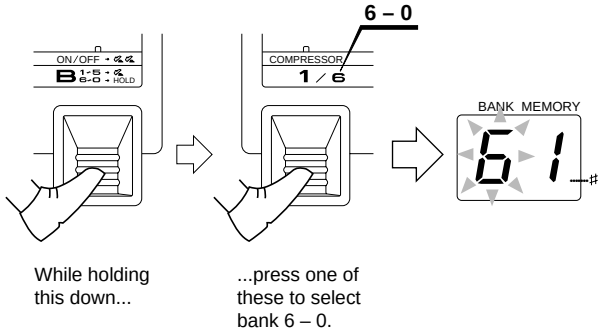
● To select one of banks 1 – 5

To select one of banks 1 – 5, press the Bank Pedal Switch once, then press the appropriate Pedal Switch 1 – 5.



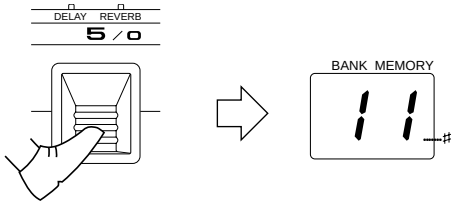
● To select one of banks 6 – 0

To select one of banks 6 – 0, hold the Bank Pedal Switch down and simultaneously press the appropriate alternate numbered Pedal Switch 6 – 0.



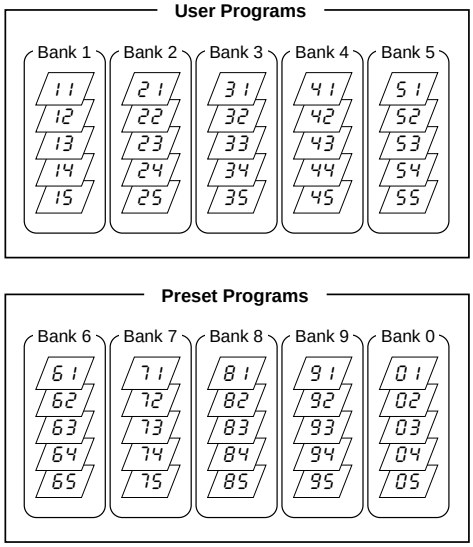
2 With the bank now selected, press one of Pedal Switches 1 – 5 to select the desired program.

Refer to the **Effect Programs** list on page 9 for more information on the programs of the GW33.



You can continue to select other programs in the same bank by pressing the other Pedal Switches.

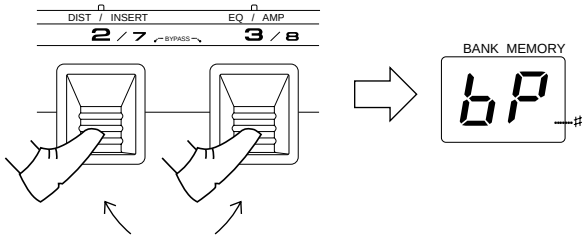
User programs are in banks 1 – 5, and Preset programs are in banks 6 – 0. Each bank contains five programs.



TURNING ALL EFFECTS OFF ♩ BYPASS FUNCTION

While playing, you can instantly get a clean, unprocessed sound by using the Bypass function. This effectively cancels all currently active effects to give you a "dry" sound.

● **To use the Bypass function:**
Simultaneously and firmly press and hold down Pedal Switches 2 and 3. Keep holding them down (for roughly one second) until "bP" (Bypass) appears in the **BANK/MEMORY** indicator.



Firmly press and hold these down for about one second.

Now, when you play your guitar, you should hear the guitar sound unprocessed by the effects.

NOTE ■ *If a Foot Controller has been connected, it is also disabled when Bypass is on.*

To return to normal Play mode operation and the current effect program, press any one of Pedal Switches 1 – 5 or Pedal Switch B.

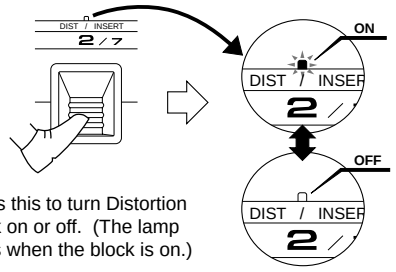
NOTE ■ *As you press and hold Pedal Switches 2 and 3, the **BANK/MEMORY** indicator may briefly show the program number corresponding to one of those switches. However, the program you selected before using Bypass remains selected, and is the one returned to when turning Bypass off.*

TURNING EFFECT BLOCKS ON AND OFF

In the Play or Edit modes, any of the main effect blocks can be individually turned on or off with the Pedal Switches. (Switching of Modulation 1/2, and Delay/Reverb is dependent on the On/Off settings of those effect blocks; see pages 24 and 27.)

● OPERATION

1 With the Play mode enabled (press the PLAY button if necessary), press Pedal Switch B twice quickly so that the lamp above the Pedal Switch flashes. This same condition is called up automatically when entering the Edit mode.



Press this to turn Distortion block on or off. (The lamp lights when the block is on.)

2 Press the appropriate Pedal Switch to turn the desired effect block on or off. (The lamp above the Pedal Switch lights or goes out accordingly.)

3 To cancel the effect on/off operation and return to normal effect program selection, press Pedal Switch B again. (The lamp goes out.)

NOTE ■ *The effect on/off changes that you make here are temporary. The original on/off settings are restored as soon as you change programs. The on/off switching of the MOD 1/2 and Delay/Reverb blocks is determined by the On/Off parameter of those blocks. (See pages 24 and 27.)*

EDITING EFFECT PROGRAMS

Effect programs can be edited in the Edit mode. Once you've edited a program, you can save it to a User memory location. (See **SAVING EFFECT PROGRAMS** on page 31.)

> **CAUTION! ■** ***Be careful not to press the PLAY button at any time during editing. Doing so will call up the original effect program's settings and erase all settings you had made to that point.***

OPERATION

1 Select an effect program for editing and press the EDIT/COMPARE button to enable the Edit mode. (The **EDIT/COMPARE** lamp lights and the **ON/OFF** lamp above Pedal Switch B flashes.)

2 Use Pedal Switches 1 – 5 to turn on the desired effect blocks.

> **HINT ■** *Since you'll probably want to listen to the changes as you make them, make sure that all relevant effect blocks are turned on. Better yet, turn off all blocks except the one you are editing. This lets you clearly hear only the effect you wish to edit. (One possible exception to this guideline is the Amp Simulator effect, changes to which are easier to hear when Distortion is also on.)*

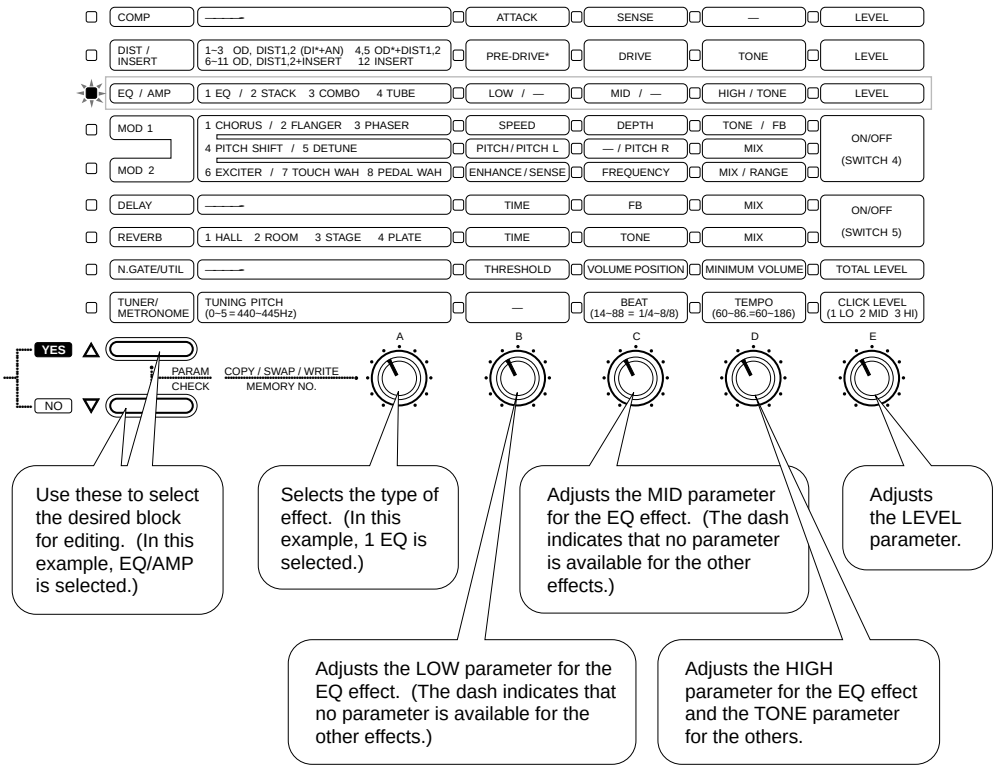
3 Use the YES △ and NO ▽ buttons to select the desired effect block row (in the parameter matrix printed on the panel). (The lamp at the left of the corresponding block lights.)

> **NOTE ■** *The TUNER/METRONOME row cannot be selected in the Edit mode.*

4 Use the Parameter Dials to adjust the effect parameters.

Parameter Dial **A** is used to change the effect type of the selected block; **B** – **E** are used to change the corresponding parameters.

In the example shown below, the EQ/AMP block has been selected.



HINT 1 ■ *When editing an effect, make sure that the Level or Mix parameters of the effect are set to relatively high values before adjusting any other parameters. Doing this ensures that any changes you make with the other Parameter Dials will be fairly noticeable.*

For information about each of the effects and their parameters, refer to the section **EFFECTS AND PARAMETERS** on page 20.

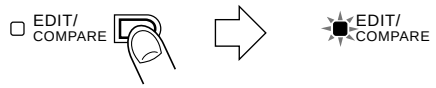
HINT 2 ■ *If you are using the optional FC7 Foot Controller, try experimenting with the Foot Controller-related Volume Position, Minimum Volume and Total Level parameters in the Noise Gate/Utility block. (See **FOOT CONTROLLER OPERATIONS** on page 30.)*

5 **Save the new settings to memory, if desired. (See the section SAVING EFFECT PROGRAMS on page 31 for details.)**

■ Compare Mode

While editing an effect program, you can compare the sound of the newly edited program with the original one.

To do this, press the [EDIT/COMPARE] button (during editing). (The **EDIT/COMPARE** lamp flashes to indicate the Compare mode is active.)



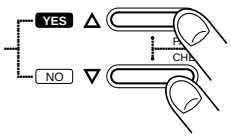
Each press of the [EDIT/COMPARE] button switches back and forth between the original program (lamp flashes) and your new edits (lamp lights continuously).

While the **EDIT/COMPARE** lamp is flashing (Compare mode), you can hear the sound of the original effect program. You can also view the original parameter values: simply select the desired effect block with the **YES** △ and [NO] ▽ buttons and turn the Parameter Dials. Values cannot be changed in this condition; they are only displayed so that you can compare them with values you've edited.

■ Parameter Check Mode

When editing an effect program, the Parameter Check mode allows you to view the newly edited parameter values of a selected effect block without changing them.

To do this, select an effect block (during editing, when the **EDIT/COMPARE** lamp is lit continuously). Then, simultaneously press the **YES** △ and [NO] ▽ buttons. (The selected effect block lamp flashes to indicate the Parameter Check mode is active.)



To view the edited parameter values for the selected effect block, turn the corresponding Parameter Dials. As in the Compare mode, values cannot be changed in this condition.

To return to normal editing, press one of the **YES** △ and [NO] ▽ buttons.

Checking Parameter Values in the Play Mode

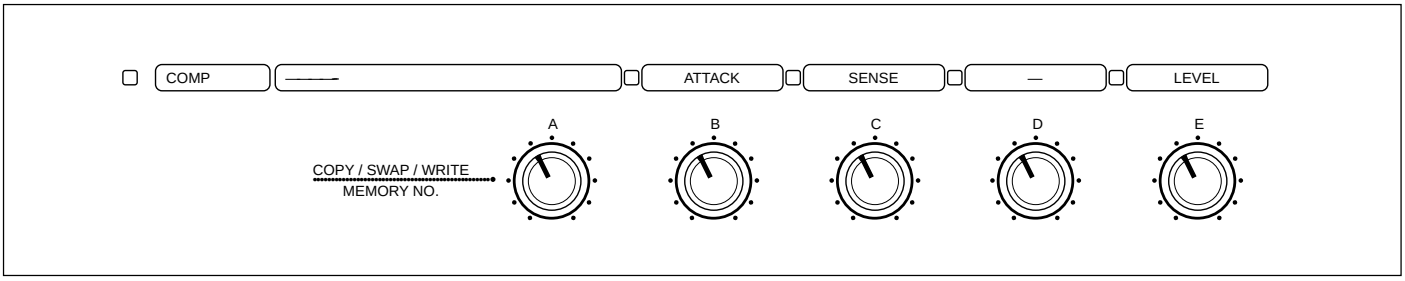
You can also check parameter values while in the play mode. To do this:

1 **Use the YES △ and [NO] ▽ buttons to select the desired effect block row.**

2 To view the current parameter values for the selected block, turn the corresponding Parameter Dials.

This section briefly explains each of the effect types and their parameters. For information on how to select effects and edit them, see the sections **SELECTING EFFECT PROGRAMS** (page 16), and **EDITING EFFECT PROGRAMS** (page 18).

Compressor Block



The Compressor is especially effective for guitar since it smooths out the “peaks” and “valleys” in the sound. Compression “squashes” the dynamic range of the signal, making loud signals softer and soft signals louder. Normally, the Compressor limits signals of widely varying loudness to a dynamic range more suitable for use with the other effects. For this reason, compression is effective on guitar in smoothing out the level differences caused by uneven picking technique.

A —

(No parameter for this Parameter Dial.)

B Attack Range: 1 – 16

Determines the amount of time it takes for compression to begin after an input signal is detected. Longer attack times let through more of the natural attack of the input signal.

C Sense Range: 1 – 16

Determines the degree of compression. Maximum values result in a smaller dynamic range, where originally loud sounds become soft, and vice versa. This increases the sustain of the sound.

D —

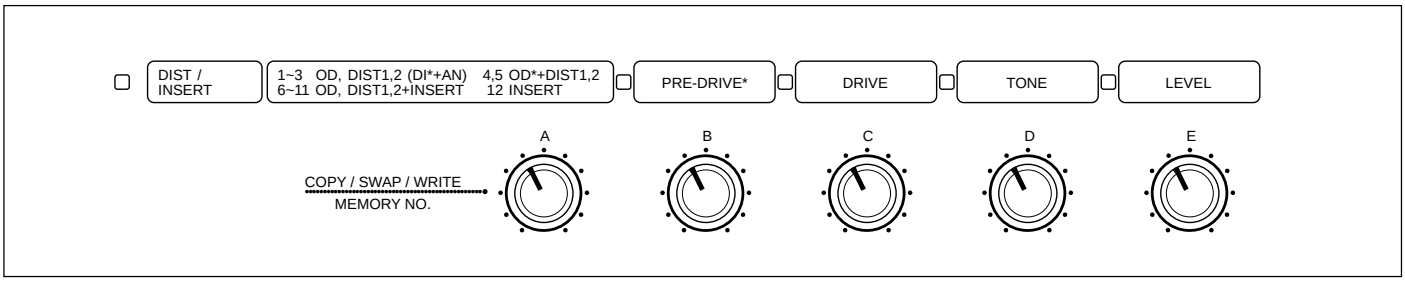
(No parameter for this Parameter Dial.)

E Level Range: 0 – 15

Determines the level of the Compressor sound. Higher settings are used for boosting the overall signal to an appropriate level, since compression effectively lowers the level of the sound.

HINT ■ *The Level parameter should be set to an appropriate value to avoid sudden jumps or drops in level when switching the Compressor block on and off.*

Distortion/Insert Block



The Distortion/Insert block features three basic Overdrive and Distortion effects arranged in twelve different types. (The types are printed on the left side of the panel for easy reference.)

The block also features an Insert section, letting you put an external effect into the effect chain of the GW33. (Connect the external effect to the SEND and RETURN jacks on the rear panel.)

The Distortion effects of the GW33 are made up of both analog and digital distortion circuits, giving you exceptional quality and flexibility in creating distortion sounds.

A Effect Type Settings: 1 – 12

The Distortion types are shown below. Also shown are the Pre-drive and Drive parameters (where applicable) and the signal path.

■ Types 1 – 5

These types feature two distortion circuits, the first controlled with the Pre-drive parameter and the second with the Drive parameter. The first three types are a combination of digital and analog distortion, letting you blend just the right amount of digital "bite" and analog warmth in your distortion effects.

TYPE	Pre-drive 1st distortion circuit	Drive 2nd distortion circuit
1 OVERDRIVE	Digital Overdrive	Analog Overdrive
2 DISTORTION 1	Digital Distortion 1	Analog Distortion 1
3 DISTORTION 2	Digital Distortion 2	Analog Distortion 2
4 OD + DIST 1	Analog Overdrive	Analog Distortion 1
5 OD + DIST 2	Analog Overdrive	Analog Distortion 2

■ Types 6 – 8

These types have one distortion circuit, followed by the Insert loop. The Drive parameter controls the distortion circuit.

TYPE	Drive Distortion circuit	Insert
6 OD → INSERT	Digital Overdrive	——
7 DIST 1 → INSERT	Digital Distortion 1	——
8 DIST 2 → INSERT	Digital Distortion 2	——

■ Types 9 – 11

These types have one distortion circuit, followed by the Insert loop. The Drive parameter controls the distortion circuit.

TYPE	Insert	Drive Distortion circuit
9 INSERT → OD	——	Digital Overdrive
10 INSERT → DIST 1	——	Digital Distortion 1
11 INSERT → DIST 2	——	Digital Distortion 2

■ Type 12

Type 12 has only the Insert loop. (None of the parameters are available.)

B Pre-drive Range: 0 – 15

Determines the degree of Digital Overdrive/Distortion in types 1 – 3 or the degree of Analog Overdrive in types 4 and 5. The higher the value the greater the distortion. (This parameter is not available in Types 6 – 12.)

NOTE ■ *The asterisk (*) printed in the DIST/INSERT block on the panel also indicates the actual parameter controlled by Pre-drive: Digital (DI), or Analog Overdrive (OD).*

C Drive Range: 0 – 15

Determines the degree of Analog Overdrive/Distortion in types 1 – 5, or the degree of Digital Overdrive/Distortion in types 6 – 11. The higher the value the greater the distortion. (This parameter is not available in Type 12.)

D Tone Range: -7 – 7

Determines the tonal quality of the overall Distortion sound. Negative values result in a "fatter," deeper sound, while positive values make the sound brighter. (This parameter is not available in Type 12.)

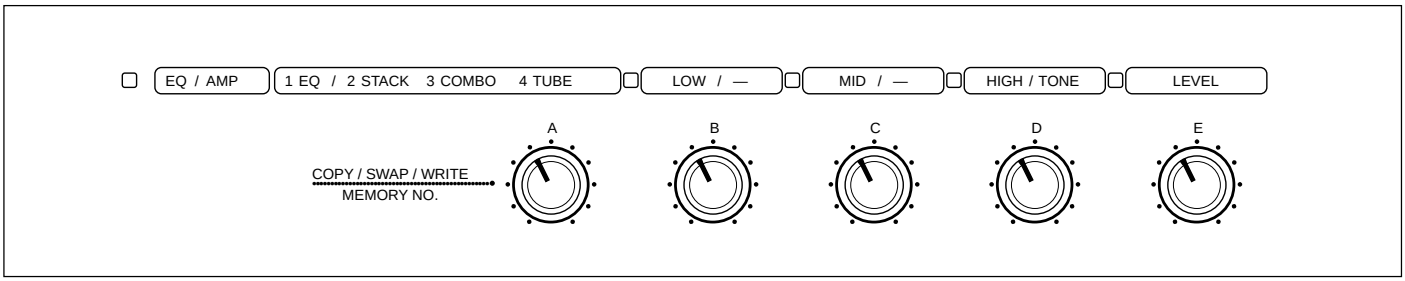
E Level Range: 0 – 15

Determines the level of the overall Distortion sound. (This parameter is not available in Type 12.)

NOTE ■ *If the Pre-drive and Drive parameters are both set to near the maximum, the resulting noise may be so excessive that even the Noise Gate has no effect in cleaning up the signal.*

HINT ■ *The Level parameter should be set to an appropriate value to avoid sudden jumps or drops in level when switching the Distortion block on and off.*

Equalizer/Amp Simulator (EQ/AMP) Block



The EQ/AMP block provides an Equalizer effect and three different Amp Simulator effects.

A Effect Type Settings: 1 – 4
The Equalizer/Amp Simulator types are shown below. Types 2, 3 and 4 are Amp Simulator effects.

1 Equalizer
2 Stack
3 Combo
4 Tube

Type 1 Equalizer

The Equalizer is a three-band graphic type that gives you fine tone control over the sound.

B Low Range: -7 – 7
Determines the amount of boost or cut applied to the low frequencies.

C Mid Range: -7 – 7
Determines the amount of boost or cut applied to the midrange frequencies.

D High Range: -7 – 7
Determines the amount of boost or cut applied to the high frequencies.

E Level Range: 0 – 15
Determines the level of the Equalizer effect.

HINT 1 ■ *Take care when using maximum levels; distortion could result, especially when all parameters are set to around the maximum.*

HINT 2 ■ *The Level parameter of these types should be set to an appropriate value to avoid sudden jumps or drops in level when switching the EQ/AMP block on and off.*

Types 2 – 4 Amp Simulator

The Amp Simulator effect types realistically reproduce the characteristic sound of a guitar amplifier, and provide a natural sound for recording when not using an external amplifier. When using an amplifier, they also provide a convenient way to change the sound characteristics of your amplifier. These are also particularly effective when used with one of the Distortion effects.

Three different types of cabinet sound are available: Stack, Combo and Tube.
Stack (Type 2) recreates the powerful sound of a huge amp/speaker setup, Combo (Type 3) recreates a compact amp cabinet, and Tube (Type 4) recreates the warm sound of a tube amplifier.

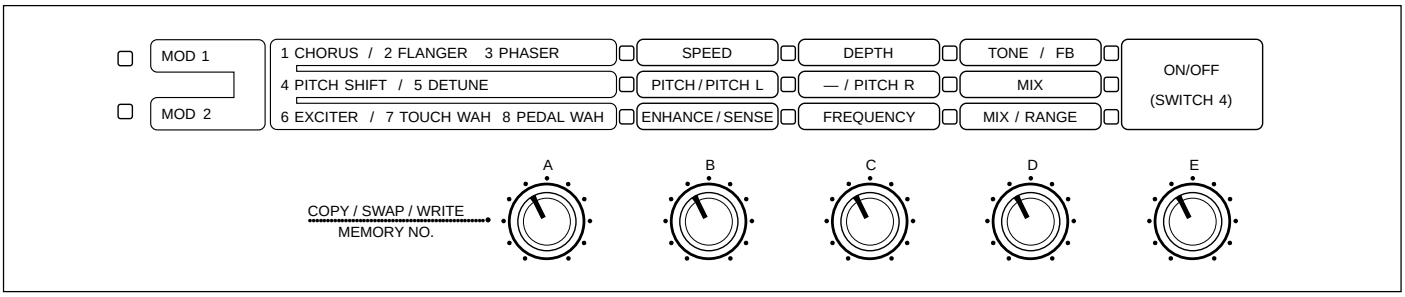
B —
(No parameter for this Parameter Dial.)

C —
(No parameter for this Parameter Dial.)

D Tone Range: -7 – 7
Determines the degree to which high frequencies are cut or boosted. Lower values decrease the high frequencies, and higher values boost them.

E Level Range: 0 – 15
Determines the level of the Amp Simulator effect.

Modulation (MOD) 1 and 2 Blocks



The Modulation blocks feature a wide range of modulation and pitch change effects, including Chorus, Flanger, Phaser, Pitch Shift and Detune. Exciter, Touch Wah and Pedal Wah effects are also available. Modulation 1 and 2 have the same set of effects, and since each block is independent, two different Modulation effects can be used at the same time.

All Modulation effects, excepting Pitch Shift, Exciter, Touch Wah and Pedal Wah, are in stereo. (However, Pitch Shift can be used in stereo if both blocks are set to that effect.)

A Effect Type Settings: 1 – 8

1 Chorus
2 Flanger
3 Phaser
4 Pitch Shift
5 Detune
6 AURAL EXCITER®
7 Touch Wah
8 Pedal Wah

Type 1 Chorus

Chorus uses modulation of the pitch and separation of the signal into stereo to greatly enhance the sound, generally making it richer, fatter and warmer.

B Speed Range: 1 – 16

Determines the speed of the pitch modulation. The higher the value, the greater the speed.

C Depth Range: 1 – 16

Determines the depth of the pitch modulation, or how widely the pitch is varied. The higher the value, the greater the pitch depth.

D Tone Range: -7 – 7

Determines the degree to which high frequencies are cut or boosted. Lower values decrease the high frequencies, and higher values boost them.

E On/Off (Switch 4) Settings: 1 – 3

Determines how Pedal Switch 4 affects on/off switching for the Modulation 1/2 blocks.

■ **Settings:**

1 (Effect Off)
This leaves the selected block (Modulation 1 or 2) always off, no matter if Pedal Switch 4 is pressed or not.

2 (Effect On)
This leaves the selected block (Modulation 1 or 2) always on, no matter if Pedal Switch 4 is pressed or not.

3 (Switch)
This enables on/off switching of the selected block (Modulation 1 or 2) with Pedal Switch 4.

Type 2 Flanger

Flanger is a stereo effect that uses modulation to create an animated, swirling motion effect. It is effective in emphasizing the metallic sound of a guitar.

B Speed Range: 1 – 16

Determines the speed of the pitch modulation. The higher the value, the greater the speed.

C Depth Range: 1 – 16

Determines the depth of the pitch modulation, or how widely the pitch is varied. The higher the value, the greater the pitch depth.

D Feedback Range: 0 – 15

Determines the amount of the Flanger-processed signal that is fed back to the Flanger input. Higher values result in stronger, more pronounced flanging.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (For more information, see the same parameter in the Chorus section above.)

Type 3 Phaser

The stereo Phaser effect is similar to the sound of a rotary speaker, but with a stronger and deeper modulation.

B Speed Range: 1 – 16
Determines the speed of the phase modulation. Settings close to the maximum produce very high speed modulation.

C Depth Range: 1 – 16
Determines the depth of the phase modulation, or how widely the pitch is varied.

D Feedback Range: 0 – 15
Determines the amount of the Phaser-processed signal that is fed back to the Phaser input. Higher values result in a stronger, more pronounced phasing sound.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (For more information, see the same parameter in the Chorus section above.)

Type 4 Pitch Shift

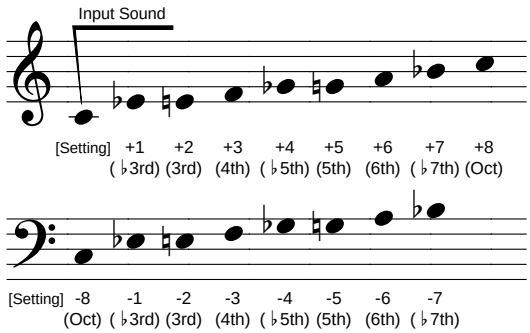
Pitch Shift lets you change the pitch of the sound and mix the pitch-shifted sound with the original signal. The pitch can be shifted up to an octave above or below the pitch of the input signal.

When both the Modulation 1 and 2 blocks are set to Pitch Shift, the effect is automatically produced in stereo. This means that the degree of pitch shift can be set independently for the left and right channels, creating three separate pitches (including the original direct signal). When set to stereo operation, Modulation 1 is output from the left channel and Modulation 2 from the right.

Applications for Pitch Shift include setting the pitch shift to an octave below or above (to make a six-string guitar sound like a twelve-string), or setting the pitch to other intervals (such as a fourth or fifth) to create instant harmonies and fill out the sound.

B Pitch Settings: -8 – 8
Determines the amount by which the pitch is shifted relative to the original signal.

The illustration below shows the relationship between the settings and the actual pitch produced. The example pitches below are produced when the input sound is C.



C —
(No parameter for this Parameter Dial.)

D Mix Range: 0 – 15
Determines the level of the Pitch Shift sound. At 0, the Pitch Shift level is zero; at 15, the level of the Pitch Shift sound is roughly equal to that of the original signal.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (For more information, see the same parameter in the Chorus section above.)

Type 5 Detune

Detune, like Pitch Shift, allows you to change the pitch of the sound. However, it gives you finer control, letting you shift the pitch slightly. It is also a stereo effect. Detune is good for creating a natural, spacious stereo chorus effect in which the left and right pitches are detuned slightly relative to the direct sound.

B Pitch L (Left) Range: -8 – 8
Determines the degree of detuning for the left channel.

■ **Settings:**

±1: ±2 cents	±5: ±10 cents
±2: ±4 cents	±6: ±20 cents
±3: ±6 cents	±7: ±30 cents
±4: ±8 cents	±8: ±50 cents

* Fifty cents is equal to 1/2 of one semitone (half-step).

C Pitch R (Right) Range: -8 – 8
Determines the degree of detuning for the right channel.

D Mix Range: 0 – 15
Determines the level of the Detune sound. At 0, the Detune level is zero; at 15, the level of the Detune sound is roughly equal to that of the original signal.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (See page 24.)

Type 6 AURAL EXCITER®

The Exciter effect enhances the sound by giving it greater definition and clarity. Generally used with the Distortion effect off, it adds sparkle and presence to the sound. It is especially effective when used in tandem with the Amp Simulator effect. With Distortion on, it functions much like an equalizer.

B Enhance Range: 0 – 15
Determines the degree or depth of the Exciter effect. If this is set to 0, there is no Exciter processing, and the other parameters have no effect on the sound.

C Frequency Range: 1 – 16
Determines the center frequency for the Exciter effect. Maximum values emphasize the high frequencies, while minimum values emphasize the low frequencies.

D Mix Range: 0 – 15
Determines the level of the Exciter sound. At 0, the Exciter level is zero; at 15, the level of the Exciter sound is roughly equal to that of the original signal.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (See page 24.)

Type 7 Touch Wah

Type 8 Pedal Wah

Wah is a filter sweep effect that, as its name implies, produces a "wah" type sound. Two different Wah effects are available: Touch and Pedal. Touch lets you vary the sweep of the filter according to the input level (how hard or loud you play) while Pedal lets you "play" the Wah effect with a connected Foot Controller.

NOTE ■ *When Touch Wah or Pedal Wah is selected, the Modulation block using Wah is placed first in the effect chain, just before the Compressor. (See page 7.)*

■Touch Wah
The Touch type lets you control the Wah effect by the level of the input signal (or how hard you play). In Touch, the filter sweep (or "wah" sound) starts at the beginning each time it is triggered.

■Pedal Wah
Pedal Wah lets you sweep the filter manually with a connected Yamaha FC7 Foot Controller. When Pedal Wah is selected and the block is on, volume control with the Foot Controller is automatically disabled. (See page 30.) When the Foot Controller is disconnected, the Pedal Wah effect automatically is set to the center frequency.

B Sense (Touch Wah only) Range: 1 – 16
Determines how sensitive the Wah effect is to the instrument input. The higher the value, the more sensitive the trigger of the Wah effect becomes to low level signals; even with a low level input, the band pass filter of the Wah effect is applied.

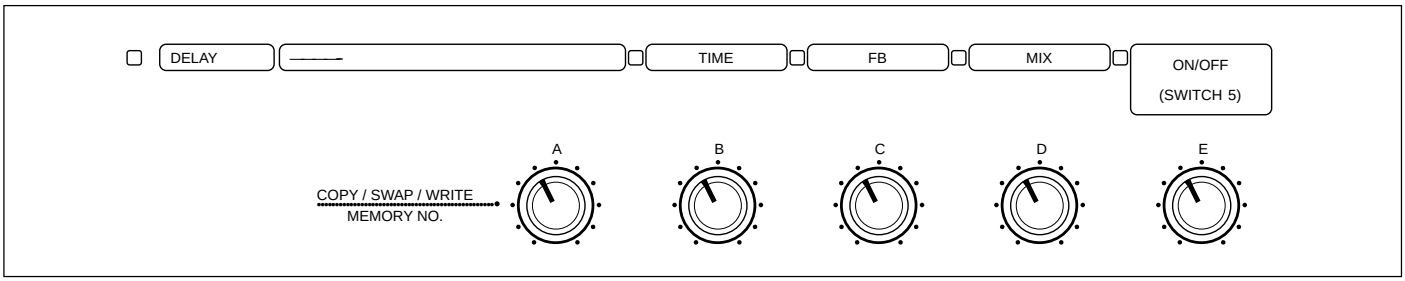
HINT ■ *For best results, when playing a solo or a line, try setting Sense to a high value; when performing backing or rhythm parts, try setting Sense to a low value. (This is because playing a single string results in a lower level than playing all six strings.)*

C Frequency Range: 1 – 16
Determines the center frequency of the Wah effect. The Wah effect sweeps this frequency over the frequency range set in the Range parameter.

D Range Range: 0 – 15
Determines the width of the frequency sweep, or how far the sweep extends above and below the center frequency. Higher values create a more pronounced "wah" sound.

E On/Off (Switch 4) Settings: 1 – 3
Determines how Pedal Switch 4 affects on/off switching for the selected Modulation block. (See page 24.)

Delay Block



The Delay effect allows you to add delayed, echo-like repeats to the original sound. Subtle use of Delay helps in creating a sense of space and depth in the sound. Delay can also be used for special applications, such as creating rhythmic repeats in the sound.

NOTE ■ *Since Delay is a mono effect, it is placed just before the Modulation 1/2 blocks in the effect chain.* *(See page 7.)*

HINT ■ *One convenient function of the GW33 is that it lets you change between effect programs having similar Delay settings without cutting off the delay sound. To take advantage of this, the Delay Time parameters of the respective programs must be set to the same value.*

Even if the programs change from Delay ON to Delay OFF, setting the same value for the Delay Time parameters will make the transition sound smoother.

NOTE ■ *Keep in mind that when you change between effect programs having similar Delay settings, the continuing Delay sound from the previous program will be processed with the other effect blocks of the new program. For example, when changing from program "A" (in which Mix is set to 0) to program "B" (in which Mix is at or near the maximum), the Delay sound will suddenly jump in level.*

B Time Range: 10 – 90 (10 – 90 msec), 10. – 81. (100 – 810 msec)

Determines the time between delayed repeats of the main delay. Very short delays make it possible to make one instrument sound like two separate instruments. Slightly longer delays can be used for creating slap-back echo or a reverb-type effect. Longer times are used for special effects, like creating long echoes or steady rhythmic pulses. Since the **BANK/MEMORY** indicator only has two digits, Delay Times of 100 or over are indicated by the dot in the display. (The dot represents the final zero in the value.)

C Feedback Range: 1 – 16

Determines the number of the delayed repeats. Lower settings result in a single repeat or a few repeats, while settings toward the maximum result in the repeats carrying on almost indefinitely. The repeat sounds gradually decay to silence, and the time it takes for them to decay is also controlled by Feedback.

D Mix Range: 0 – 15

Determines the level of the Delay sound. At 0, the Delay level is zero; at 13, the level of the Delay sound is roughly equal to that of the original signal.

E On/Off (Switch 5) Settings: 1 – 3

Determines how Pedal Switch 5 affects on/off switching for the Delay block.

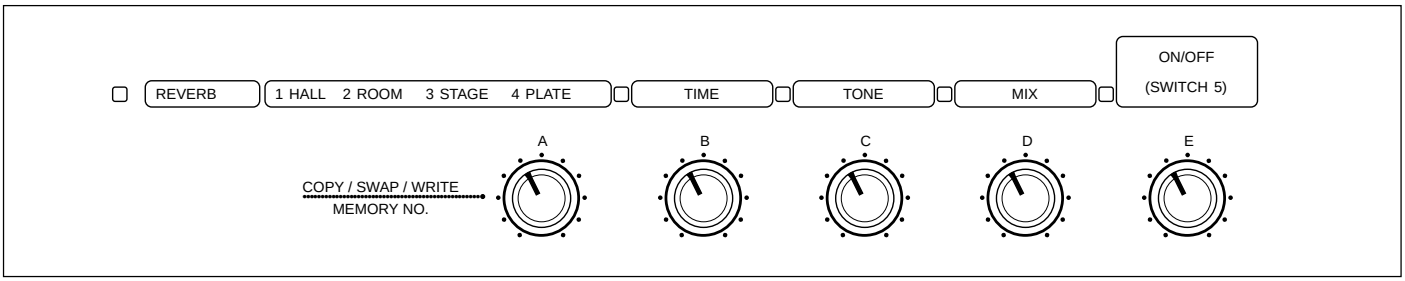
■ **Settings:**

1 (Effect Off)
This leaves the selected block (Delay or Reverb) always off, no matter if Pedal Switch 5 is pressed or not.

2 (Effect On)
This leaves the selected block (Delay or Reverb) always on, no matter if Pedal Switch 5 is pressed or not.

3 (Switch)
This enables on/off switching of the selected block (Delay or Reverb) with Pedal Switch 5.

Reverb Block



Reverb is an important effect in the guitarist's sonic palette. Without it, the sound is flat, dry and unnatural. Used judiciously, it is an effective way to bring the sound to life and make it sound more natural. Reverb comes last in the effect chain, since it is used to reproduce the ambience that follows a sound when heard in an actual performance environment. Four different Reverb types are available: Hall, Room, Stage and Plate.

HINT ■ *One convenient function of the GW33 is that it lets you change between effect programs having similar Reverb settings without cutting off the Reverb sound. To take advantage of this, the Reverb Type parameters of the respective programs must be set to the same value.*

NOTE ■ *Keep in mind that when you change between effect programs having similar Reverb settings, the continuing Reverb sound from the previous program will be processed with the other effect blocks of the new program. For example, when changing from program "A" (in which Mix is set to 0) to program "B" (in which Mix is at or near the maximum), the Reverb sound will suddenly jump in level.*

A Type Settings: 1 – 4

Determines the type of simulated reverb environment. Hall (1) recreates a concert hall sound, Room (2) simulates a smaller performance environment, Stage (3) features a bright and "live" reverberation, and Plate (4) reproduces the warm sound of plate reverb.

B Time Range: 1 – 16

Determines the time it takes for the reverberation to decay. Higher values create a larger apparent room size.

C Tone Range: 1 – 10

Determines the sound quality of the Reverb. Lower values decrease the brightness, and higher values increase it, creating a more "live" room sound.

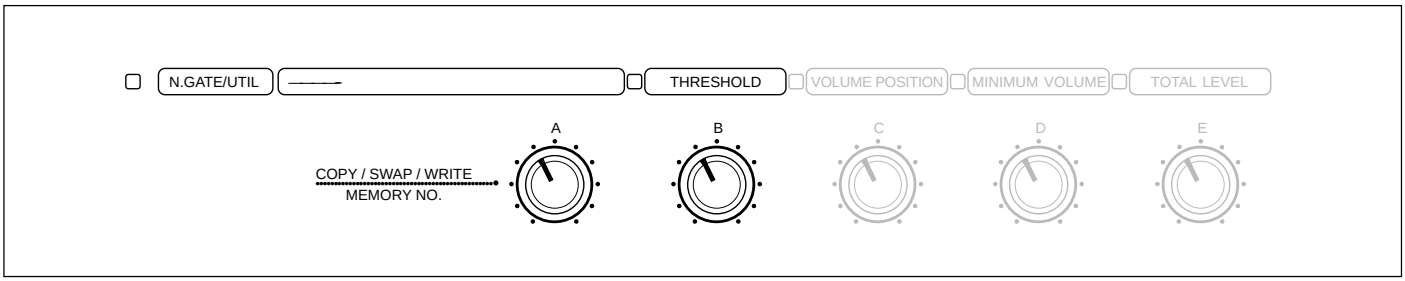
D Mix Range: 0 – 15

Determines the level of the Reverb sound. At 0, the Reverb level is zero; at 15, the level of the Reverb sound is roughly equal to that of the original signal.

E On/Off (Switch 5) Settings: 1 – 3

Determines how Pedal Switch 5 affects on/off switching for the Reverb block. (For more information, see the same parameter in the Delay section on page 27.)

Noise Gate



Noise Gate is a separate effect that is placed just after the Distortion block, and is used to eliminate any noise or hum in the signal when the instrument isn't being played. All signals below the Threshold point are filtered out, thus cutting off the noise.

A —

(No parameter for this Parameter Dial.)

B Threshold Range: 0 – 15

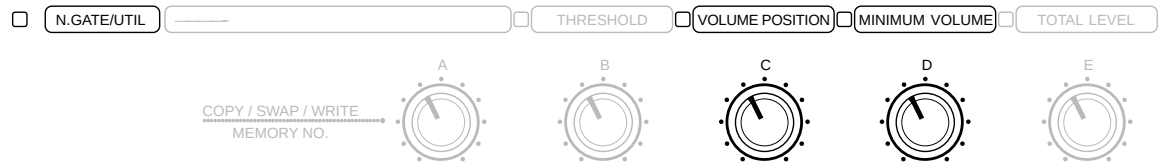
Determines the sensitivity of the noise gate, or how loud an input signal is required to open the gate (letting the signal through).

The higher the Threshold value, the louder the signal needs to be to open the gate. For optimum operation, Threshold should be set just above the level of the noise; setting it too high may cause notes to be cut off too abruptly. Setting it too low, however, will result in little or no effect. (At a value of 0, the Noise Gate is not applied.)

FOOT CONTROLLER OPERATIONS

An optional FC7 Foot Controller can be connected to the GW33 for use as a volume pedal or as a realtime controller for the Pedal Wah effect. When used as a volume pedal, it can be placed in one of four positions in the effect chain, and be given a Minimum Volume setting (for when you need to easily change between two different volume settings).

Setting the Volume Position and Minimum Volume



OPERATION

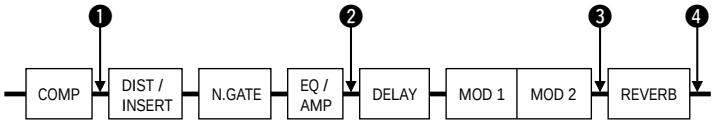
1 **Enable the Edit mode (press the EDIT/COMPARE button), and select the Noise Gate/Utility block.**

2 **Change the desired Foot Controller parameter value with the corresponding Parameter Dial: C or D.**

Parameter Dial **C** controls Volume Position and **D** controls Minimum Volume. (Parameter Dial **B** applies only to the Noise Gate effect; see page 29.)

Volume Position
Determines the point in the effect chain at which the volume pedal control is placed.

■ **Settings:**
1: Before the Distortion/Insert block (❶)
2: Before the Delay block (❷)
3: Before the Reverb block (❸)
4: After the Reverb block (❹)



Minimum Volume
Determines the level that is output when the connected Foot Controller is at the minimum position. (Range: 0 – 15)

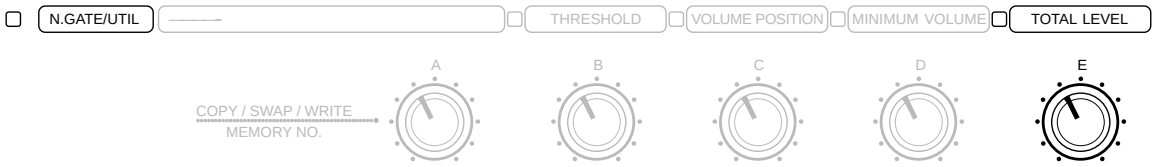
Minimum Volume can be set to a level somewhere between no sound at all and maximum volume, letting you use the Foot Controller to easily move between two volume settings. For example, if you set the Minimum Volume to a level somewhat less than maximum, you can instantly change from a solo level to a backing level by bringing the Foot Controller up to the minimum position.

Using the Foot Controller for Pedal Wah Control

The connected Foot Controller can also be used to continuously change the sound of the Pedal Wah effect. To do this, simply select the Pedal Wah type for the Modulation 1 and/or Modulation 2 blocks, and make sure that the effect is properly turned on. (For more information on using Pedal Wah and the Foot Controller, see page 26.)

NOTE ■ *When Pedal Wah control is enabled in this way, Volume control with the Foot Controller is automatically disabled.*

TOTAL LEVEL



This determines the overall level of the GW33's output. Make sure to set this to an appropriate value. If Total Level is set to zero, no sound will be output from the GW33.

NOTE ■ *When all effect blocks are off and this parameter is set to 15, the output level is equal to the level when Bypass is on.*

OPERATION

1 Enable the Edit mode (press the EDIT/COMPARE button), and select the Noise Gate/Utility block.

2 Change the Total Level parameter value with Parameter Dial E.

SAVING EFFECT PROGRAMS

Once you've edited an effect program, you can save the settings to one of the User program numbers for future recall of the program. (Also see page 15 for information on saving effect programs.)

OPERATION

1 After making the desired parameter settings to the selected program in the Edit mode (see page 18), press the SWAP/WRITE button. (The SWAP/WRITE lamp lights.)

2 If desired, select the destination User program number (11 – 55) by using Parameter Dial A.

If the selected program is in the User banks and you want to replace the original settings with the ones you've just made, you can skip to step #3.

NOTE ■ *When you've edited one of the Preset programs (61 – 05) and try to save it, "—" appears in the **BANK/MEMORY** indicator until you select one of the User program numbers (11 – 55).*

3 To actually save the new settings, press the YES △ button. (Operation returns to the Play mode.)

To cancel the operation without saving, press the NO ▽ button.

Pressing NO ▽ returns to the program that you've been editing. The settings are saved temporarily, and you can continue editing the program.

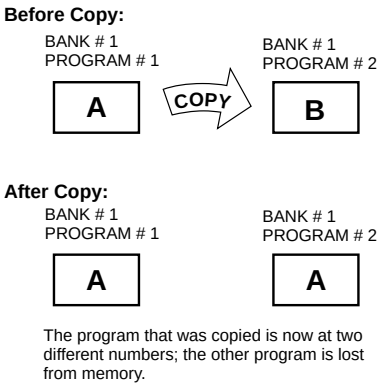
HINT ■ *Even if you have properly saved your new settings to a program, you may want to write down those settings on a piece of paper or on a copy of the Blank Effect Parameter Chart (on page 38) to avoid the possibility of losing them later, should you decide to edit over the same program.*

COPY AND SWAP OPERATIONS

The GW33 has two convenient operations that allow you to manage the effect programs: Copy and Swap. These operations let you organize the effect programs of the GW33 and put them in any order you wish, or put programs that are often used together in the same bank, so that you can call up the right effect programs quickly and easily onstage or in the studio.

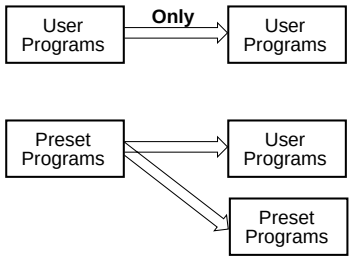
Copying One Effect Program to Another Program Number

The Copy operation copies the settings of one program number to another program number. The program at the destination is erased and replaced with the copy.



NOTE ■ *User programs can only be copied to other User program numbers.*

Preset programs can be copied to any program number, User or Preset.



CAUTION! ■ ***Keep in mind that when you copy a program to another number, the program at the destination number is erased. (However, you can restore any erased programs; see page 33 for details.)***

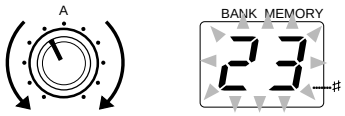
HINT ■ *If you do any appreciable amount of copying and swapping of programs, you may soon lose track of which program is at which number and which programs have been erased. For this reason, you should carefully plan how you intend to reorder the programs and keep a written record of copy and swap operations you've performed.*

OPERATION

1 With the Play mode enabled, select the source program (the effect program to be copied).

2 Press the [COPY] button. (The COPY lamp lights, and the BANK/MEMORY indicator flashes.)

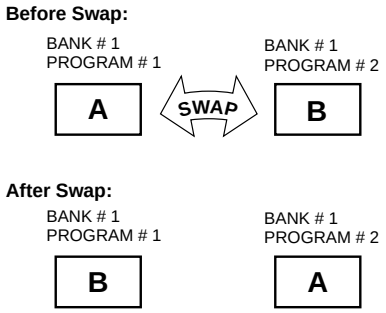
3 Use Parameter Dial A to select the destination program number.



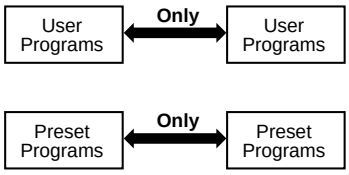
4 To actually copy the program to the destination number, press the [YES] △ button. To cancel the operation, press the [NO] ▽ button.

Swapping One Effect Program with Another

The Swap operation simply exchanges two selected programs, swapping the data of one program number for that of the other.



NOTE ■ *Effect programs cannot be "cross-swapped" between memory locations. In other words, User programs can only be swapped with other User program numbers, and Preset programs can only be swapped with other Preset program numbers.*

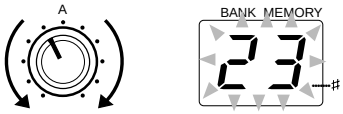


OPERATION

1 With the Play mode enabled, select one of the effect programs to be swapped.

2 Press the SWAP/WRITE button. (The SWAP lamp lights, and the BANK/MEMORY indicator flashes.)

3 Use Parameter Dial A to select the other program number.



4 To actually swap the program to the destination number, press the YES △ button. To cancel the operation, press the NO ▽ button.

Restoring Factory-set Effect Programs

If you've erased one or more of the effect programs by replacing it with one of your own creation, you can use this function to restore the original program or programs.

NOTE ■ *Remember that restoring a Preset program will irretrievably erase whatever effect that you created and saved to the corresponding effect program number. For this reason, you should always make a written record of the settings you make (using a copy of the Blank Effect Parameter Chart on page 38), so that you can reprogram the effect later if necessary.*

OPERATION

1 Simultaneously hold down the PLAY button and turn the power on.

2 Select the program number of the effect you wish to restore. Do this using Parameter Dial A, bringing up the desired number to the BANK/MEMORY indicator.

NOTE ■ *Effect programs can be restored to their original program number location.*

3 Press the YES △ button to restore the selected effect program, or press the NO ▽ button to cancel and return to normal operation.

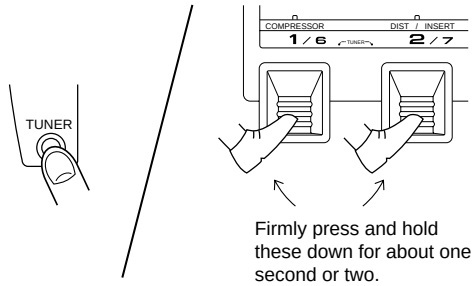
4 Repeat steps #2 and #3 above to restore other programs, if desired.

The Tuner function allows you to quickly and accurately tune your guitar without having to disconnect it from the GW33. It also temporarily cuts off the sound, so that you can tune it silently and inconspicuously during a performance.

Tuning the Pitch of the Connected Instrument

OPERATION

1 While in the Play mode, press the [TUNER] button. Alternately, simultaneously press and hold down Pedal Switches 1 and 2 together for a second or two, and release them. (All lamps of the GW33 go out).

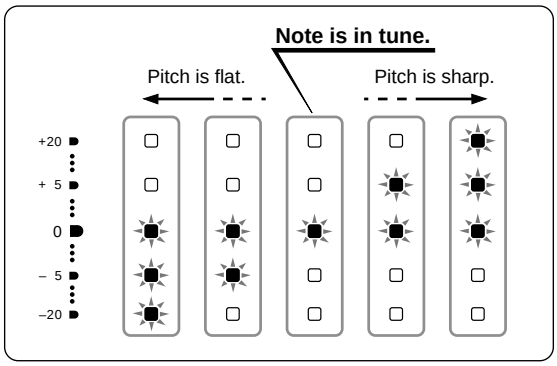


NOTE ■ *While the Tuner function is on, effect processing is muted and all other functions are inactive.*

2 Play a single note on your instrument (an open string, in the case of a guitar).

String number	6	5	4	3	2	1
Note name	E	A	d	G	b	E

The string number and note name appear in the **BANK/MEMORY** indicator. Accidentals (sharps) are indicated by the lit Sharp (♯) lamp. How close the note is to being in tune is indicated by the five middle Effect Block/Tuner lamps, as shown below.



NOTE ■ *Fifty cents is equal to 1/2 of a half-step or semitone.*

3 Let the note ring out consistently, and tune the instrument so that the center indicator flashes.

4 Continue with other notes (the other strings on your guitar) until the instrument is in tune.

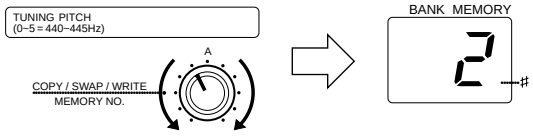
5 Exit from the Tuner function by pressing the [TUNER] button again.

You can also exit by pressing any of the Pedal Switches (1 – 5, B) or the [PLAY] button.

Changing the Standard Pitch of the Tuner Function

The default standard pitch setting of the Tuner (when power is turned on) is A = 440 Hz. However, this can be raised to as high as A = 445 Hz (in 1-Hz steps).

To change the standard pitch, use Parameter Dial **A**.



Indicator	0	1	2	3	4	5
Pitch value (Hz)	440	441	442	443	444	445

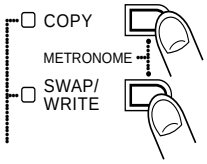
The pitch value is indicated briefly in the **BANK/ MEMORY** indicator; "0" corresponds to 440, "1" to 441, "2" to 442, and so on up to 445.

METRONOME

The built-in Metronome function supplies an audio click (output through the rear panel outputs) for practice purposes. The time signature, tempo and level of the click are all adjustable.

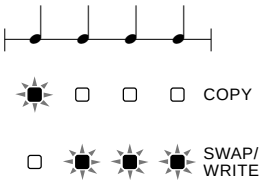
OPERATION

1 **While in the Play mode, simultaneously press both the [COPY] and [SWAP/WRITE] buttons.**

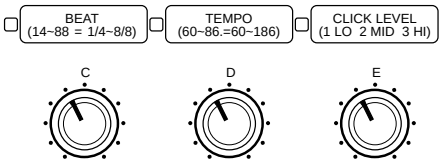


The click sound is output from the rear OUTPUT jacks, along with the guitar/effect sound. The click is also indicated visually with the **COPY** and **SWAP/ WRITE** lamps: the **COPY** lamp flashes on the first beat of a measure and the **SWAP/WRITE** lamp flashes on the other beats.

■ Beat click (example: Beat setting = 4/4)



2 **Set the desired time signature, tempo, and level values with Parameter Dials C, D and E.**



3 **To stop the metronome, press the [PLAY], [COPY] or [SWAP/WRITE] button.**

B —

(No parameter for this Parameter Dial.)

C Beat Settings: 1/4 – 8/4, 1/8 – 8/8

Determines the time signature of the Metronome. The first digit in the display indicates the top number of the time signature (the number of beats in a bar), while the second digit indicates the bottom number (the kind of note used for the beat). For example, "34" in the display indicates a time signature of 3/4.

HINT ■ *You can automatically double the speed of the tempo by setting the Beat value to a "double" denominator. For example, when Beat is set to 4/4, you can double the tempo by setting it to 4/8.*

D Tempo Range: 60 – 186 (86.)

Determines the tempo, or speed, of the Metronome (in even-numbered values). Tempo values of 100 or greater are represented by a dot in the display.

E Click Level Settings: 1 Lo, 2 Mid, 3 Hi

Determines the level of the click sound.

APPENDIX

◆

TROUBLESHOOTING

Even though the GW33 is exceptionally easy to use, it may occasionally not function as you expect it to. Note that the problems covered here are not malfunctions of the GW33.

PROBLEM	POSSIBLE CAUSE AND SOLUTION
The instrument (guitar) sound cannot be heard.	• Check that all connections have been properly made and that all levels have been appropriately set (including the Foot Controller, if you are using one). • Make sure that the Tuner is not active.
No sound is output, even when Bypass is on.	• Check the volume controls on your guitar and amplifier. • Check all connections, including your guitar cord, amplifier cords and headphones.
Sound can only be heard when Bypass is on.	• Is the Total Volume set to 0? • Is the Foot Controller set to the minimum position? • If the Compressor, Distortion and/or EQ/AMP blocks are on, are any of their Level parameters set to 0?
The effect processing cannot be heard.	• Check that effect blocks in the selected program are turned on. • Make sure that Bypass is off.
The Pedal Switches cannot be used to turn effect blocks on and off.	• In the Play mode, press the **B** Pedal Switch twice quickly. • Switching on and off of the MOD 1/2 and Delay/Reverb blocks is determined by the On/Off parameter in those blocks.
Even when adjusting the parameter value, there is no change in the sound.	• Make sure that the Edit mode is active. • Check that the desired effect block is turned on.
Even though Distortion is off, the sound is distorted.	• Check the output level of the guitar. • Check that the Level parameter of Comp and EQ, and Total Level parameter are set to an appropriate value.

PROBLEM	POSSIBLE CAUSE AND SOLUTION
There is too much noise in the sound or the sound is unexpectedly distorted.	• Check that the Pre-Drive and Drive parameters in the Distortion/Insert block are set to appropriate levels. • Make sure that you are using the clean channel of the amplifier.
The external effect device doesn't work or affect the sound.	• Check all connections to the device. • Make sure that the Distortion/Insert block is turned on, and that the effect type is correct (6 – 12).
Even though the program is changed, the Delay or Reverb sound continues.	• If both programs use either Delay or Reverb and have similar settings, the Delay or Reverb sound continues.
The Pedal Wah effect doesn't work.	• Make sure that the corresponding Modulation block is on, and that effect type 8 is selected.
The Volume pedal control doesn't work.	• Check that the Minimum Volume parameter is set to an appropriately low value. • When Pedal Wah is selected and the block is on, the volume pedal control function is disabled.
The Copy operation cannot be used, even when the [COPY] button is pressed.	• The Copy operation cannot be used in the Edit mode.
The Swap operation cannot be used, even when the [SWAP/WRITE] button is pressed.	• The Swap operation cannot be used in the Edit mode. Be careful here, though, since this calls up the Write operation.
The Metronome cannot be turned on	• Make sure that the Play mode is active. • Make sure that you press both the [COPY] and [SWAP/WRITE] buttons simultaneously.
The Tuning function cannot be used.	• Make sure that the Play mode is turned on.
When the power is turned on, an "Er" message appears in the BANK/MEMORY indicator.	• This indicates that an internal error has been found by the GW33. Contact your dealer or local Yamaha service center as soon as possible.

● BLANK EFFECT PARAMETER CHART

BANK MEMORY	MEMO				
Block \ Parameter	**A**	**B**	**C**	**D**	**E**
COMP	———	ATTACK	SENSE	———	LEVEL
DIST / INSERT	TYPE	PRE-DRIVE	DRIVE	TONE	LEVEL
EQ / AMP	TYPE	LOW / —	MID / —	HIGH / TONE	LEVEL
MOD 1	TYPE	SPEED PITCH / PITCH L ENHANCE/SENSE	DEPTH — / PITCH R FREQUENCY	TONE / FB MIX MIX / RANGE	ON / OFF (SWITCH 4)
MOD 2	TYPE	SPEED PITCH / PITCH L ENHANCE/SENSE	DEPTH — / PITCH R FREQUENCY	TONE / FB MIX MIX / RANGE	ON / OFF (SWITCH 4)
DELAY	———	TIME	FB	MIX	ON / OFF (SWITCH 5)
REVERB	TYPE	TIME	TONE	MIX	ON / OFF (SWITCH 5)
N.GATE / UTIL	———	THRESHOLD	VOLUME POSITION	MINIMUM VOLUME	TOTAL LEVEL

● PROGRAM MEMO

BANK		BANK	
1		1	
2		2	
3		3	
4		4	
5		5	

BANK		BANK	
1		1	
2		2	
3		3	
4		4	
5		5	

SPECIFICATIONS

Memory

25 preset memory effect programs
25 user-programmable effect programs

Effect Blocks/Types

- **Compressor Block**
- **Distortion/Insert Block**
  Overdrive, Distortion 1, Distortion 2, OD + Dist.1, OD + Dist.2, OD → Insert, Dist.1 → Insert, Dist.2 → Insert, Insert → OD, Insert → Dist.1, Insert → Dist.2, Insert
- **EQ/Amp Simulator Block**
  Equalizer, Stack Amp Simulator, Combo Amp Simulator, Tube Amp Simulator
- **Mod 1, Mod 2 Block**
  Chorus, Flanger, Phaser, Pitch Shift, Detune, Exciter, Touch Wah, Pedal Wah
- **Delay Block**
- **Reverb Block**
  Hall, Room, Stage, Plate
- **Noise Gate**

Metronome Function

Built-in metronome, with adjustable time signature (1/4 – 8/4, 1/8 – 8/8) and tempo (60 – 186 bpm; in even-numbered values)

Tuner Function

Built-in chromatic tuner, with adjustable standard pitch (440 – 445 Hz; in 1-Hz steps)

Input Jacks

INPUT jack:	0 dBm (1 MΩ)
INSERT RETURN jack:	0 dBm (1 MΩ)

Output Jacks

OUTPUT L/MONO, R jacks:	0 dBm
(recommended impedance: 10 KΩ or greater)	
INSERT SEND jack:	0 dBm
(recommended impedance: 10 KΩ or greater)	
PHONES jack:	10 mW/33 Ω

Other Controls, Fittings

POWER switch, DC IN jack, AC adaptor cable clip
FOOT CONTROLLER jack (ONLY Yamaha FC7)

Power Supply

PA-3 AC adaptor (or another Yamaha recommended adaptor). (Never use the PA-3B.)

Dimensions (W x D x H)

499 x 230 x 56 mm (19-2/3" x 9-1/16" x 2-1/4")

Weight

2.1 kg (4 lbs., 10 oz.)

Supplied Accessories

Owner's Manual

* Specifications subject to change without notice.

INDEX

FCC INFORMATION (U.S.A)

1. **IMPORTANT NOTICE : DO NOT MODIFY THIS UNIT!**
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. **IMPORTANT:** When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. **NOTE:** This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class"B"digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the user's manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures :

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

   If these corrective measures do not produce satisfactory results, please contact the your local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA 90620

* The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

CANADA

THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

* This applies only to products distributed by Yamaha Canada Music LTD.
* Ceci ne s'applique qu'aux produits distribués par Yamaha Canada Music LTD.

The serial number of this product may be found on the bottom of the unit. You should note this serial number in the space provided below and retain this manual as a permanent record of your purchase to aid identification in the event of theft.

Model No. **GW33**

Serial No. _____