ZOOM 606 GUITAR

Operation Manual

Introduction

Thank you for selecting the *ZOOM 606* (hereafter simply called the "*606*").

Please take the time to read this manual carefully so as to get the most out of the unit and to ensure optimum performance and reliability.

Retain this manual, the warranty card and all other documentation for future reference.

Contents

SAFETY PRECAUTIONS

In this manual, symbols are used to highlight warnings and cautions for you to read so that accidents can be prevented. The meanings of these symbols are as follows:

⚠ **Warning** This symbol indicates explanations about extremely dangerous matters. If users ignore this symbol and handle the device the wrong way, serious injury or death could result.

⚠ **Caution** This symbol indicates explanations about dangerous matters. If users ignore this symbol and handle the device the wrong way, bodily injury and damage to the equipment could result.

Please observe the following safety tips and precautions to ensure hazard-free use of the 606.

About power

⚠ **Warning**
• Since power consumption of this unit is fairly high, we recommend the use of an AC adapter whenever possible. When powering the unit from a battery, use only an alkaline type.

AC adapter operation
• Be sure to use only an AC adapter which supplies 9 V DC, 300 mA and is equipped with a "center minus" plug (Zoom AD-0006). The use of an adapter other than the specified type may damage the unit and pose a safety hazard.
• Connect the AC adapter only to an AC outlet that supplies the rated voltage required by the adapter.
• When disconnecting the AC adapter from the AC outlet, always grasp the adapter itself and do not pull at the cable.
• If the unit is not to be used for a long time, disconnect the AC adapter from the outlet.

Battery operation
• Use four IEC R6 (size AA) 1.5 V batteries (alkaline/manganese).
• The 606 cannot be used for recharging. Pay close attention to the labelling of the battery to make sure you choose the correct type.
• If the 606 is not to be used for an extended period of time, remove the battery from the unit.
• If battery leakage has occurred, wipe the battery compartment and the battery terminals carefully to remove all remnants of battery fluid.
• While using the unit, the battery compartment cover should be closed.

Environment
⚠ **Caution** Avoid using your 606 in environments where it will be exposed to:
• Extreme temperature
• High humidity or moisture
• Excessive dust or sand
• Excessive vibration or shock

Handling
⚠ **Caution**
• The 606 is a precision instrument. Except for the foot switches, do not push other parts with your feet or subject them to strong force.
• Take care that no foreign objects (coins or pins etc.) or liquids can enter the unit.
• Be sure to turn the power to all equipment off before making connections.
• Before moving the unit, turn the power off, and disconnect all cables and the AC adapter.

Alterations
⚠ **Caution** Never open the case of the 606 or attempt to modify the product in any way since this can result in damage to the unit.

Features

The 606 is a sophisticated multi-effect processor for guitar with the following great features.

• **Outstanding performance**
The 606 provides a palette of 35 built-in high-quality effects, including a wide variation of distortion settings and flexible modulation effects. Up to nine effects can be used simultaneously. In terms of performance and features, the 606 far surpasses everythings in its class.

• **Built-in expression pedal**
The integrated pedal makes it easy to adjust effect depth or volume during play. Whether you choose pedal wah or gutsy pitch bend, the range of available sounds is on par with top of the line.

• **Smooth operation feel**
The intuitive operation of the unit is derived from the highly popular ZOOM 505 II. Dedicated selectors for the most important distortion effects make the 606 a snap to use. Controlling distortion type and intensity during a performance is smooth and easy.

• **Built-in auto-chromatic tuner**
The integrated auto-chromatic tuning function is tailored to the needs of the guitarist and can be used on stage.

• **Dual power supply enables operation anywhere**
The dual power supply principle allows the unit to be powered either from an AC adapter or from four IEC R6 (size AA) batteries. Continuous operation time on batteries is 7 hours with manganese batteries and 24 hours with alkaline batteries.

Basic Terms

This section explains some important terms that you will find in this manual.

■ Effect module

As shown in the illustration below, the effect sound of the 606 is created by routing the signal through a series of different effects. Each of these effects is called an effect module.

IN → COMP → WAH → DRIVE → EQ → ZNR → AMP → MOD/PITCH → DLY/REV → OUT

In addition to effect modules such as DRIVE (distortion), MOD/PITCH (modulation), or DLY/REV (delay and reverb), you can also use the ZNR (Zoom Noise Reduction) and amp simulator simultaneously. Parameters such as effect intensity can be adjusted for each module, and modules can be switched on and off as needed.

■ Effect type

Each effect module of the 606 contains a variety of effects in the same general family. These are called effect types, and you can select one of these at a time. For example, the MOD/PITCH module comprises the effect types chorus, flanger, pitch shifter, etc.

■ Effect parameter

Each effect module has various parameters that control how the effect operates. By adjusting the parameters for each module, you have a considerable amount of control over the final sound.

■ Patch

In the 606, effects are stored and called up in patches. A patch contains information about module on/off settings, selected effect types, and effect parameter settings. The 606 can store 42 patches in its internal memory.

■ Bank

A combination of 6 patches is called a bank. The 606 has a total of 7 banks which are labelled A through G. The patches in each bank are
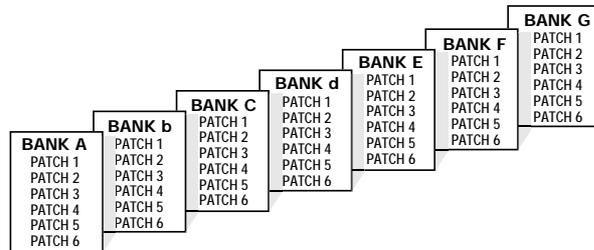
numbered 1 through 6. To select a patch, you specify the bank and the patch number. A1 selects patch 1 in bank A, and F4 selects patch 4 in bank F.

■ Play mode/edit mode

These terms refer to the operation state of the 606. The mode is selected with the PLAY/EDIT selector. In play mode, you select the effects for playing, and in edit mode, you can change the effect settings.

Operating the Unit on Battery Power

1. Turn the unit over, push the latch of the battery compartment cover, and lift the cover up.

Bottom of 606

Latch

Battery compartment cover

2. Insert four fresh IEC R6 (size AA) batteries into the battery compartment. All four batteries must face in the same direction.

Four IEC R6 (size AA) batteries

3. Close the battery compartment cover. Make sure that the latch snaps shut.
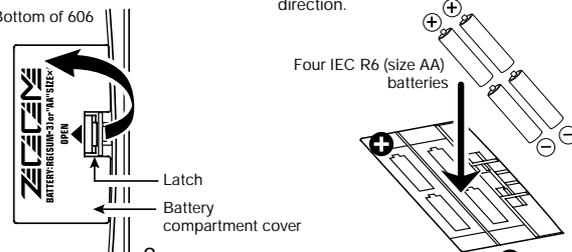
NOTE
- When a dot (.) flashes on the display, the batteries are almost exhausted. Replace them as soon as possible.
- While not using the 606, you should disconnect the cable plugged into the INPUT jack, to prevent draining the batteries.

Controls and Functions / Connections

Top Panel

Display
Shows various information necessary for operation of the 606, such as patch number, parameter settings, etc.

DRIVE LED
Indicates the on/off status of the DRIVE module.
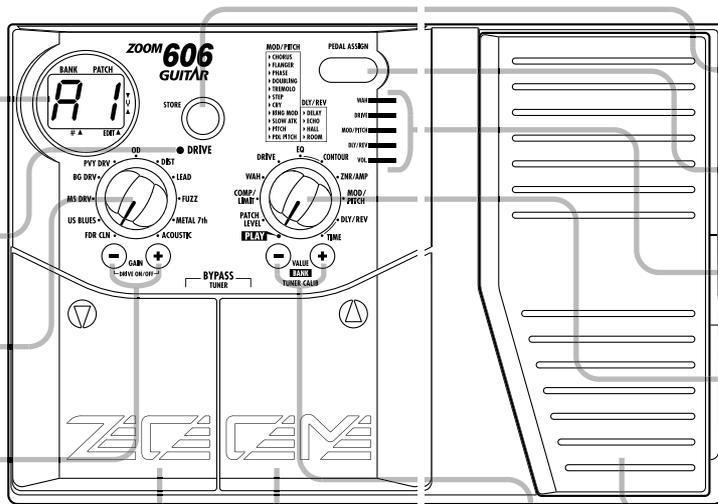
DRIVE selector
Selects the distortion (effect type) used in the DRIVE module.

GAIN [+] / [-] keys
Adjust the DRIVE module distortion intensity and gain.

[▼] / [▲] foot switches
These switches let you select patches, operate the tuner function, etc.
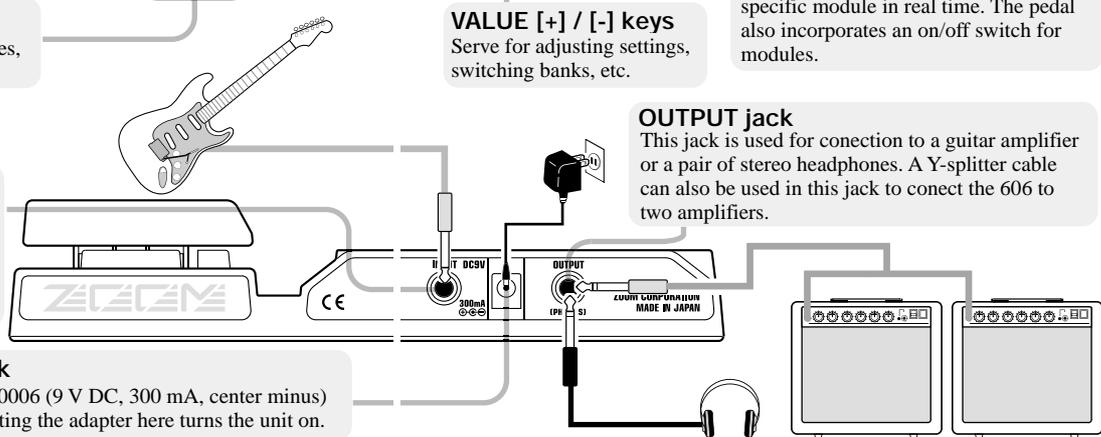
Rear Panel

INPUT jack
Connect the guitar to this jack. When the 606 is operated on battery power, the jack also serves as on/off switch. Plugging a cable into the jack turns the unit on.

DC 9V (AC adapter) jack
The dedicated AC adapter AD-0006 (9 V DC, 300 mA, center minus) can be connected here. Connecting the adapter here turns the unit on.

VALUE [+] / [-] keys
Serve for adjusting settings, switching banks, etc.

STORE key
Serves for storing an edited patch or copying an existing patch to another location.

PEDAL ASSIGN key
Selects the module to be controlled by the expression pedal.

PEDAL ASSIGN LEDs
Indicate which module is being controlled by the expression pedal.

PLAY/EDIT selector
Switches between play mode and edit mode and also serves to select the module for editing.

Expression pedal
Serves to adjust the intensity or level of a specific module in real time. The pedal also incorporates an on/off switch for modules.

OUTPUT jack
This jack is used for conection to a guitar amplifier or a pair of stereo headphones. A Y-splitter cable can also be used in this jack to conect the 606 to two amplifiers.

Selecting Patches for Play

To try out the 606, we recommend that you simply play your instrument while switching patches. This will let you quickly see what the 606 can do.

❶ Power-on

● When using the 606 on batteries, plug a shielded cable with mono phone plug into the INPUT jack of the 606.

● When using the 606 with the AC adapter, plug the adapter into the outlet and plug the cable from the adapter into the DC 9V jack on the 606.

● Turn on the guitar amplifier and adjust the volume to a suitable position.

❷ Set 606 to play mode

● When the [PLAY/EDIT] selector is set to a different position, set it to "PLAY". The currently selected bank and patch number are shown on the display

(HINT) Immediately after turning on power to the 606, the unit will be in play mode even if the [PLAY/EDIT] selector is set to a different position.

Bank   Patch number

❹ To directly switch the bank

● You can use the VALUE [+] / [-] keys to directly switch among the banks A - G.

❺ To adjust the master volume

● Keep both VALUE [+] / [-] keys depressed for more than 1 second.

● While the master volume setting is shown, pressing the VALUE [+] / [-] key changes the setting.
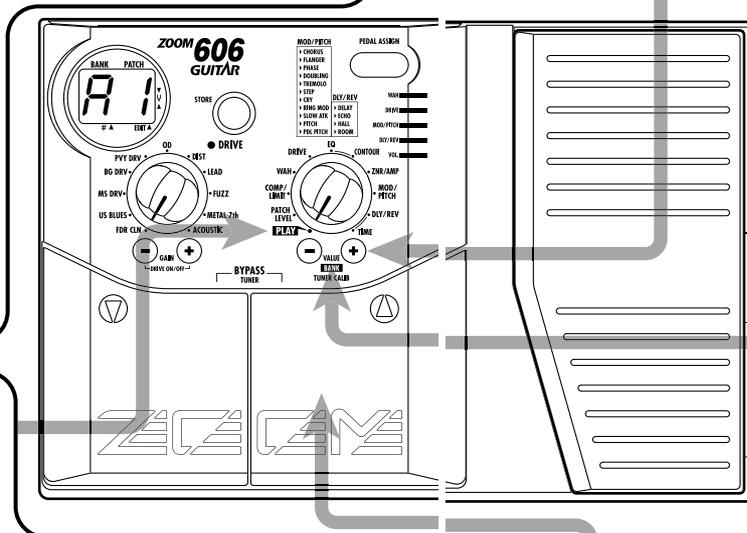
The setting range is 0 - 50. When the unit is turned off and on again, the setting will be reset to 40.

(HINT) When using headphones, the master volume setting can be used to adjust the listening volume.

❸ Switch patches

● To switch patches in play mode, use the [▼]/[▲] foot switches.

Using the Expression Pedal

The 606 has a built-in expression pedal which can be used to control a selected effect parameter or the volume level with your foot.

1 Select the module to be controlled by the pedal

● Press the PEDAL ASSIGN key until the LED corresponding to the desired module is lit.

The LED indicators show which module is currently assigned to the pedal.
The following modules can be selected.
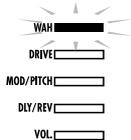
WAH
Effect parameter or WAH module
DRIVE
Effect parameter of DRIVE module
MOD/PITCH
Effect parameter of MOD/PITCH (modulation/pitch) module
DLY/REV
Effect parameter of DLY/REV (delay/reverb) module
VOL.
Overall patch volume
All PEDAL ASSIGN LEDs out
Expression pedal is inactive.

NOTE The actual effect of operating the expression pedal will depend on which effect parameter is selected for the respective module.

HINT
• If you select a module that is set to OFF in the current patch, the module becomes ON when the pedal is assigned to it. If you later assign the pedal to another module, the previous module becomes OFF again.
• In the bypass mode (effects temporarily switched off), the pedal is automatically assigned to VOL.

2 Operate the pedal

● Rock the pedal back and forth while playing your instrument.
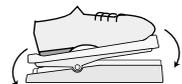
Rock back and forth

The effect of operating the pedal will differ, depending on which module was selected in step 1 Try moving the pedal to hear the actual sound change.

3 To switch the module on and off

● Push the pedal fully down.

The currently lit PEDAL ASSIGN LED starts to flash, and the corresponding module is turned off. To return to the on setting, push the pedal down once more.
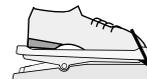
Push fully down
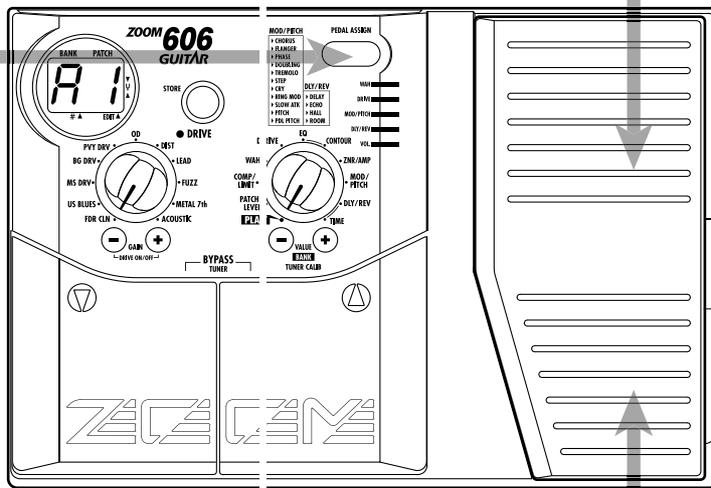
HINT
• Assignment of modules to the pedal and module on/off status can be stored as part of a patch (→ p. 18).
• The pedal sensitivity can be adjusted (→ p. 23).

NOTE When VOL is assigned, the pedal does not perform on/off switching.

Using the Tuner Function

Using the Tuner Function

The 606 incorporates an auto-chromatic tuner for guitars. To use the tuner function, the built-in effects must be bypassed (temporarily turned off) or muted (original sound and effect sound turned off).

NOTE The tuner function is not available if the PLAY/EDIT selector is set to a position other than PLAY.

1 Switch to bypass or mute

● Press both [▼] / [▲] foot switches together.

Pressing and immediately releasing the switches sets the unit to the bypass condition. Pressing and holding the switches for at least 1 second sets the unit to the mute condition.

Bypass   Mute
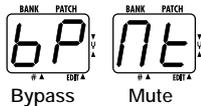
2 Tune the guitar

● Play the open string you want to tune, and watch the display.

The left side of the display shows the note which is closest to the current pitch.

A = A	D# = d.		
A# = A.	E = E		
B = b	F = F		
C = C	F# = F.		
C# = C.	G = G		
D = d	G# = G.		

3 Adjusting the reference pitch of the tuner

The default reference pitch of the tuner (the setting which is established when the unit is turned on) is center A = 440 Hz. You can fine-adjust this reference pitch if desired.

● Press one of the VALUE [+] / [-] keys.

The current reference pitch is shown for about 2 seconds. The default setting is "40" (center A = 440 Hz).

● Use the VALUE [+] / [-] keys to adjust the setting.

The setting range is 35 - 45 (center A = 435 to 445 Hz).

(HINT) When power to the unit is turned off and on again, the setting reverts to the default of "40" (center A = 440 Hz).

4 Return to play mode

● Press one of the [▼] / [▲] foot switches.

Pitch is high	Pitch is correct	Pitch is low

Indication turns faster the more the pitch is off.

The right side of the display shows a symbol that indicates by how much the tuning is off.

● Tune the other strings in the same way.

Making/Changing DRIVE Module Settings

The DRIVE module comprises various distortion types and gain settings, which can be adjusted with the dedicated selector and keys at any time.

HINT The following operation can be carried out in play mode or edit mode.
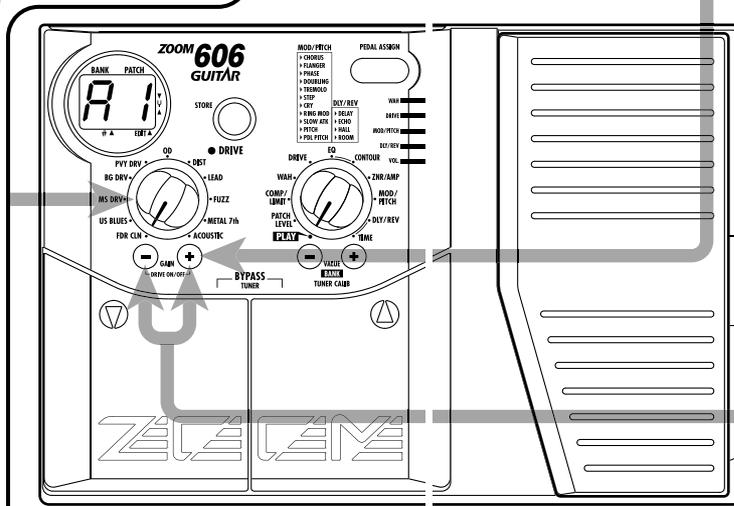
1 Select the DRIVE module distortion type

● Use the DRIVE selector to select the desired distortion type (effect type).

The selected effect type name is shown for about 2 seconds on the display. For a detailed list of effect types, see the section "Effect Parameters" at the end of this manual.

HINT By setting the PLAY/EDIT selector to the DRIVE position, you can check the current effect type.

NOTE When the DRIVE LED is out, the DRIVE module is off. If you switch to a different effect type in this condition, the module is automatically turned on.

2 Adjust the DRIVE module gain

● Press one of the GAIN [+] / [-] keys.

Depending on which effect type is currently selected, distortion depth or signal gain changes. The GAIN parameter value is shown for about 2 seconds on the display.

3 To switch the DRIVE module on or off

● Press the GAIN [+] / [-] keys together.

When the DRIVE module is switched off, the DRIVE LED at the top right of the DRIVE selector goes out.

HINT The change made in this way is only temporary. When you select a different patch, the setting will revert to the original condition. If you want to keep the change, store the patch, as described on page 18.

Editing a Patch

Editing means changing the various effect parameter settings of a patch. Use an existing patch as a starting point and adjust the parameters to create your own and original sound.

1 Select the effect parameter

● Use the PLAY/EDIT selector to select the module and parameter you want to edit.

The 606 switches to the edit mode and the value of the currently selected effect parameter appears on the display. When the 606

is in edit mode, a dot is shown in the bottom right corner of the display.

Parameter value

Lit

For information on effect modules and parameters, see the section "Effect Parameters" at the end of this manual.

HINT The DRIVE module can also be directly edited by using the DRIVE selector and GAIN [+] / [-] keys (→ p. 14).

2 Adjust the parameter setting value

● Use the VALUE [+] / [-] keys.

The keys operate as follows.
• Keeping one key depressed: Value changes continuously.
• Hold down one key while pressing the other key: Value increases rapidly.
• Pressing both keys simultaneously: Switch to next effect type in same module.

3 Changing the module on/off setting

● Press both [▼] / [▲] foot switches together.

This switches the effect module selected with the PLAY/EDIT selector on or off.

NOTE When the PLAY/EDIT selector is set to "CONTOUR" or "TIME", pressing the [▼] / [▲] foot switches together has no effect.

4 Terminate the edit mode

● Set the PLAY/EDIT selector to "PLAY". The unit reverts to the play mode.

NOTE The editing changes made in this way are only temporary. When you return to the play mode and select a different patch, the settings will revert to the original condition. If you want to keep the change, store the settings before switching the patch (→ p.18).

Storing/Copying Patches
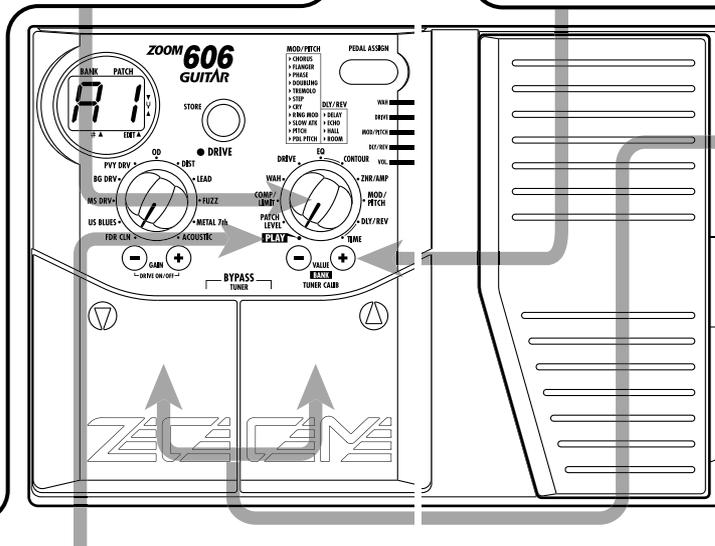
An edited patch can be stored at any desired location in the internal memory of the unit. It is also possible to copy an existing patch and store it at another location.

1 Press the STORE key in play mode or edit mode.

The bank and patch number on the display are flashing.

3 Press the STORE key once more.

When the store/copy process is completed, the unit reverts to the original mode, with the target patch being selected.

NOTE When the store/copy process is executed, the previous content of the store target is overwritten and cannot be restored if it was a user-created patch. You should therefore take care when selecting a target patch. However, the factory default settings of an individual patch or all patches can be restored, as described on page 22.

2 Use the [▼]/[▲] foot switches to select the target location in which to store the patch.

NOTE When storing or copying a patch, it is not possible to use the VALUE [+]/[-] keys to switch only the bank number.

4 To cancel the store/copy process

● Press the VALUE [+]/[-] key instead of the STORE key.

The store process is aborted and the unit reverts to the previous mode.

NOTE The store process is also canceled when [PLAY/EDIT] selector is operated instead of the VALUE [+]/[-] key.

Changing the "Patch Call" Method
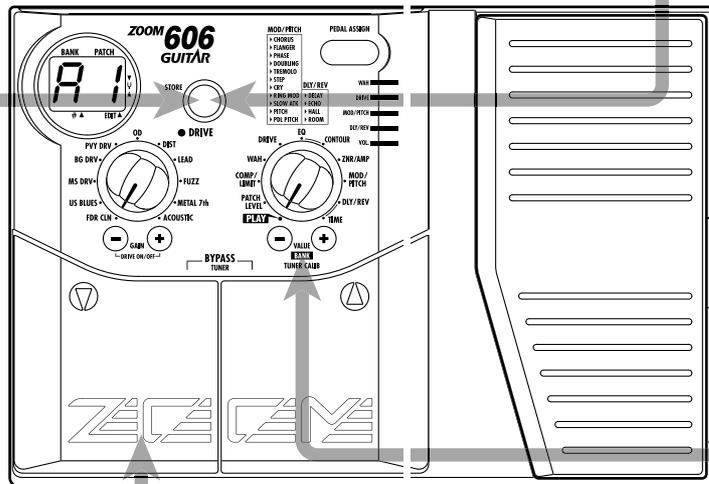
In normal operation, the sound of the 606 will change immediately if a patch is selected in play mode. This may be undesirable if a patch from a distant memory location is called and the sound of other unwanted patches in between is heard. If desired, you can change the "Patch call"

method from direct selection to the pre-select method. In pre-select mode, you first specify the desired patch and then confirm the selection. The sound will only change after you have confirmed the operation.
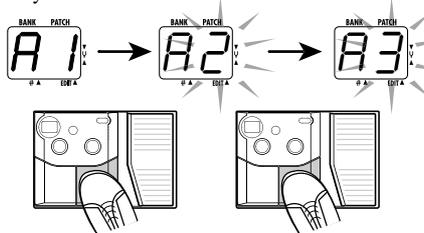
1 Changing the "Patch call" method to pre-select

To change the "Patch call" method to pre-select, you must turn the unit on while holding down the [▲] foot switch.
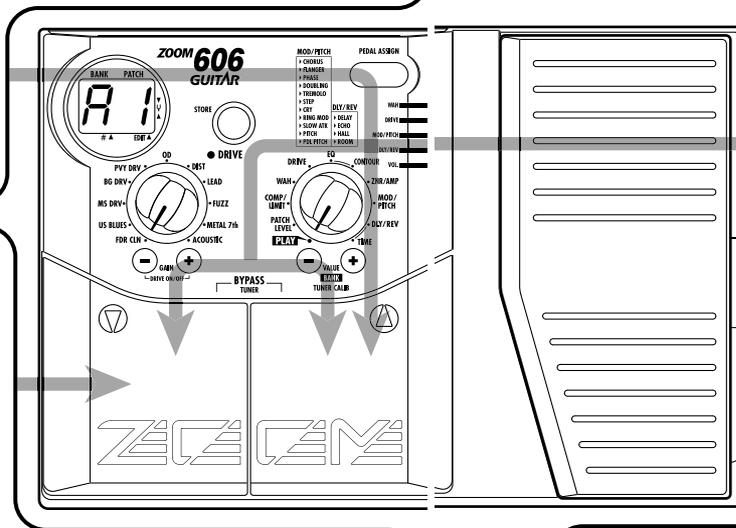
2 Specifying the desired patch

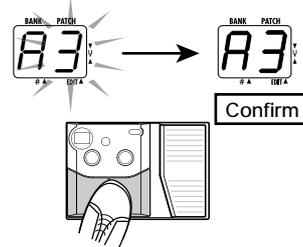● Use the [▼]/[▲] foot switches to select the patch you want to use next.

You can also use the VALUE [+]/[-] keys to only switch the bank.

The bank and patch number of the patch to be used next will be shown on the display, but the sound does not yet change.

3 Confirm the patch change

● When the desired patch is shown, press the [▼]/[▲] foot switches together.

Confirm

The patch change is confirmed, the sound changes, and the display stops flashing and stays constantly lit.

4 Changing the "Patch call" method back to direct select

● To change the "Patch call" method back to normal direct select operation, simply turn the unit off and back on again.

This will return the patch select method to the default setting.

Restoring the Factory Defaults

The 606 comes with 42 recommended patches (factory default patches). Even if you overwrite any of these patches, you can restore the original contents of the patch at any time.

There are two ways of restoring factory defaults. "All Initialize" returns the entire set of patches to the original condition. "Factory Recall" restores a specific patch to the original condition.

1. While holding down the STORE key, turn the unit on.

The indication "AL" flashes on the display.

■ To perform All Initialize

2. Press the STORE key once more.

All patch settings are returned to the factory default condition, and the unit switches to play mode. To cancel All Initialize, press the VALUE [-] key.

> **NOTE**
> All user-created patches will be lost when performing All Initialize. Use this function with care.

■ To perform Factory Recall

2. Use the [▼] / [▲] foot switches to select the patch you want to return to the original condition.

The specified bank and patch number flashes on the display.

During Factory Recall, the VALUE [+] / [-] keys cannot be used to switch the bank only.

3. Press the STORE key once more.

The settings of the specified patch are returned to the factory default condition.

If desired, repeat steps 2 and 3 to restore other patches. To terminate the Factory Recall operation, press the VALUE [-] key. The unit will switch to the play mode at this point.

Adjusting the Expression Pedal

The expression pedal of the 606 is adjusted for optimum operation at the factory, but sometimes, readjustment may be necessary. If the action of the pedal seems to be insufficient, or if a large change occurs even if the pedal is only lightly pushed, adjust the pedal as follows.
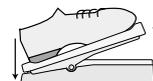
1. While holding down the PEDAL ASSIGN key, turn the unit on.

The indication "dn" flashes on the display.

2. With the expression pedal fully raised, press the STORE key.

The display indication changes to "UP".

Pedal fully raised

3. Push the expression pedal fully down and then lift your foot off the pedal.

When you release your foot, the pedal goes back a little.
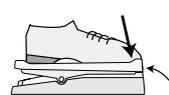
Push strongly, so that pedal touches here
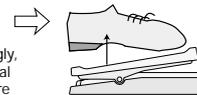
When foot is lifted, pedal returns slightly

4. Press the STORE key.

The adjustment is completed, and the unit returns to the play mode.

> **HINT**
> The point where the STORE key is pressed in step 3 determines the module on/off switching point. If you want the pedal to perform on/off switching with a lighter touch, push the key at a somewhat higher position of the pedal.

Effect Sequence

A patch of the 606 can be thought of as 8 effect modules connected in series, as shown in the illustration below. Depending on the on/off setting of the individual modules, you can use all eight effect modules together or use only specific modules.
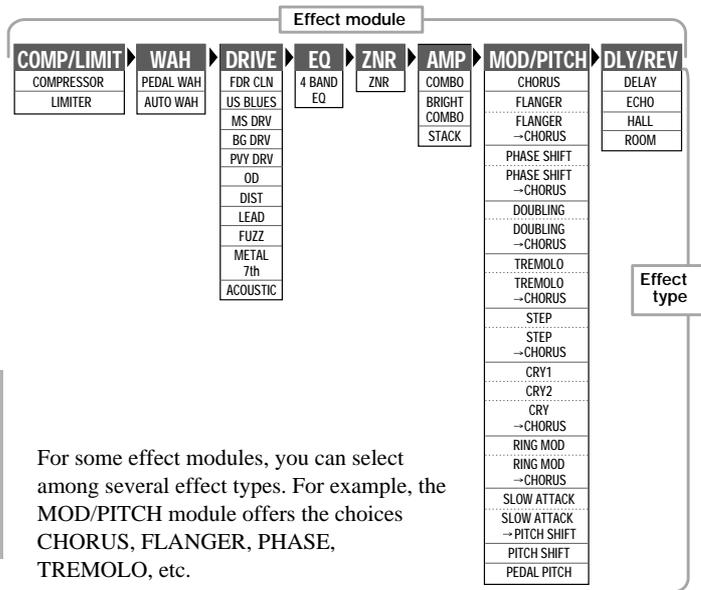
Effect module sequence and effect types

For some effect modules, you can select among several effect types. For example, the MOD/PITCH module offers the choices CHORUS, FLANGER, PHASE, TREMOLO, etc.

In this module, you can also have two effect types operating in succession, such as FLANGER → CHORUS or TREMOLO → CHORUS.

Effect Parameters

This section explains all effect types and parameters in the effect modules.

How to read the "Effect Parameters" listing

Display
Shows the settings that can be selected for each module with the VALUE [+] / [-] keys. Depending on the selected effect module, the effect type, parameter setting value, or both are shown.

Effect type only shown
Effect type

Parameter setting value only shown
Setting value

Effect type and parameter setting value shown
Effect type — Setting value

PLAY/EDIT selector
The illustration shows the selector position for calling up the effect module/effect parameter.

WAH
WAH module
This module comprises auto wah and pedal wah for use with the expression pedal. Use the VALUE [+] / [-] keys to select the effect type and adjust the effect intensity.

PEDAL WAH
This effect type allows using the expression pedal for pedal wah. Higher setting values result in higher emphasized frequency.

NOTE: Simply selecting PEDAL WAH as effect type is not enough to obtain a wah effect when moving the pedal. To enable this function, you must assign the expression pedal to the WAH module with the PEDAL ASSIGN key.

...sensitivity for the ...ces also with low input signal levels.

Adjusts the auto wah sensitivity.

OFF
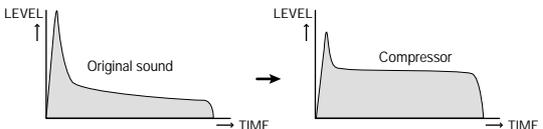Turns the WAH module off.

Module on/off
For every effect module, one of the settings is " oF ". When this is selected, the respective module is turned off.
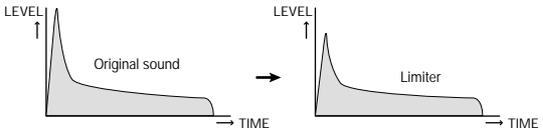
Pedal icon
The effect of moving the pedal when the expression pedal has been assigned to the module with the PEDAL ASSIGN key is explained here.

PATCH LEVEL
PATCH LEVEL

Adjusts the overall volume of the patch. A value of 25 corresponds to unity gain (input level and output level are equal).

COMP/LIMIT
COMP/LIMIT module

This module is comprised of the compressor and limiter effect types. Use the VALUE [+] / [-] keys to select the effect type and adjust the effect intensity.

COMPRESSOR (Compressor)

This effect type attenuates high-level signal components and boosts low-level signal components, thereby keeping the overall signal level within a certain range. The effect prolongs sustain and makes the sound more uniform. Higher setting values result in stronger compression.

LEVEL   LEVEL

Original sound   →   Compressor

→ TIME   → TIME

LIMITER (Limiter)

This effect type attenuates peak levels and prevents overload of the next module. Higher setting values result in stronger limiter action.

LEVEL   LEVEL

Original sound   →   Limiter

→ TIME   → TIME

OFF (Off)
Turns the COMP/LIMIT module off.

WAH
WAH module

This module comprises auto wah and pedal wah for use with the expression pedal. Use the VALUE [+] / [-] keys to select the effect type and adjust the effect intensity.

PEDAL WAH

This effect type allows using the expression pedal for pedal wah. Higher setting values result in higher emphasized frequency.

NOTE Simply selecting PEDAL WAH as effect type is not enough to obtain a wah effect when moving the pedal. To enable this function, you must assign the expression pedal to the WAH module with the PEDAL ASSIGN key.

HINT Values 1 - 9 set a frequency to be emphasized even when the pedal is not operated. This results in an effect similar to half-open pedal wah.

Shifts the frequency emphasized by the wah effect up or down.

AUTO WAH

This effect type applies the amount of wah which is dependent on playing intensity. Higher setting values result in higher input sensitivity for the auto wah effect, so that wah operates also with low input signal levels.

Adjusts the auto wah sensitivity.

OFF
Turns the WAH module off.

DRIVE
DRIVE module

In addition to 9 distortion type effects, this module also comprises two clean effect types.
Use the VALUE [+] / [-] keys to select the effect type and the GAIN [+] / [-] keys to adjust the gain.

Adjusts the drive module gain over the range of 1 - 30 (common to all effect types in the DRIVE module).

Fd	**FDR CLN (FDR Clean)** Simulates the clean sound of a built-in type tube amplifier.
Ub	**US BLUES** Solid crunch sound for playing the Blues.
MS	**MS DRV (MS Drive)** Drive sound emulating a British style tube stack amp.
bG	**BG DRV (BG Drive)** Drive sound emulating a tube stack amp with a tight and controlled midrange.
Pu	**PVY DRV (PVY Drive)** High-gain tube amplifier drive sound, great for heavy metal.
od	**OD (Overdrive)** Extended overdrive sound with the character of tube amplifier distortion.
dt	**DIST (Distortion)** Distortion similar to driving a three-stack amp in the hard rock style.
Ld	**LEAD (Lead)** Smooth, bright distortion sound.
FU	**FUZZ (Fuzz)** Sixties style fuzz sound with fat bass.

nt	**METAL 7th** Heavy metal type sound with emphasized bass and treble. Also suitable for 7-string guitar sound.
Ac	**ACOUSTIC (Acoustic)** Changes the sound of an electric guitar into that of an acoustic guitar.
oF	**OFF (Off)** Turns the DRIVE module off.

EQ
EQ module (basic parameter)

This module contains a 4-band equalizer. Use the VALUE [+] / [-] keys to select the EQ characteristics.

4 BAND EQ (4-Band Equalizer)
Allows boost or cut in the bass/middle/high/presence band. You can select one of 50 available patterns (1 - 50).

1 - 10: Lower values result in attenuated highs and emphasized lows.
11 - 20: Lower values result in lower emphasized frequency.
21 - 24: Lower values result in emphasized midrange.
25: Flat characteristics
26 - 30: Higher values result in emphasized highs.
31 - 40: Higher values result in higher emphasized frequency.
41 - 50: Higher values result in emphasized presence and lows.

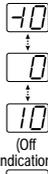|	
oF	**OFF (Off)** Turns the EQ module off.

CONTOUR
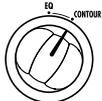
EQ module extended parameters

These parameters serve to adjust the effect operation for the effect type selected with the EQ module basic parameters.

CONTOUR (Contour)

`-10` ↕ `0` ↕ `10` (Off indication) `- -`

Using the 0 value as a reference (flat setting), negative values cause an increasing boost in the low range and positive values cause an increasing boost in the high range. When the EQ module is On, this parameter is always active. Check this parameter if the 4-band EQ effect type setting does not seem to produce the desired results.

ZNR/AMP

ZNR/AMP module

This module comprises ZNR (ZOOM Noise Reduction) for reducing noise during play pauses or silent passages, and an amp simulator which simulates the sound of various guitar amplifiers. Use the VALUE [+] / [-] keys to adjust the ZNR threshold or select the type of amplifier.

ZNR

`1` ↕ `9`

ZNR (ZOOM Noise Reduction) serves for reducing noise during play pauses or silent passages. Higher setting values result in more efficient noise reduction. Set the value as high as possible without causing the sound to be cut off unnaturally.

COMBO

`C1`

Simulates a combo type amplifier. When this setting is selected, the amp simulator is on and ZNR is off.

ZNR + COMBO

`C2` ↕ `C9`

ZNR and combo amp simulator are both on. Increasing the right-digit value results in more efficient noise reduction.

BRIGHT COMBO

`b1`

Simulates a bright sounding combo type amplifier. When this setting is selected, the amp simulator is on and ZNR is off.

ZNR + BRIGHT COMBO

`b2` ↕ `b9`

ZNR and bright combo amp simulator are both on. Increasing the right-digit value results in more efficient noise reduction.

STACK

`S1`

Simulates a stack type guitar amplifier. When this setting is selected, the amp simulator is on and ZNR is off.

ZNR + STACK

`S2` ↕ `S9`

ZNR and stack amp simulator are both on. Increasing the right-digit value results in more efficient noise reduction.

OFF

`oF`

The ZNR/AMP module is off.
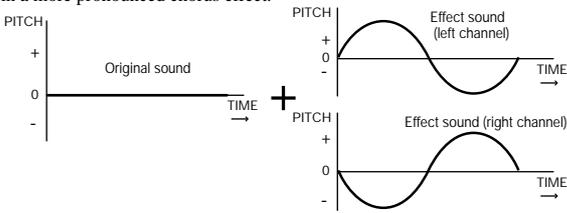
MOD/PITCH

MOD/PITCH module

This module comprises modulation effects such as chorus and flanger, as well as a pitch shifter. Use the VALUE [+] / [-] keys to select the effect type and adjust the effect intensity.
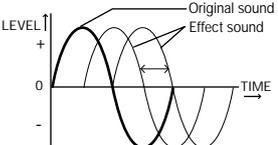
CHORUS (Chorus)

This effect mixes a variable pitch-shifted component to the original signal, resulting in full-bodied and expansive sound. Higher setting values result in a more pronounced chorus effect.

`C1` ↕ `C9`

Adjusts the depth of the effect.

FLANGER (Flanger)

`F1` : `F6`

This effect produces a unique, undulating sound by shifting the pitch up and down. Higher setting values result in faster modulation.

Adjusts the modulation rate of the effect sound.

FLANGER➔CHORUS (Flanger➔Chorus)

`F7` : `F9`

This effect type is a serial connection of flanger and chorus. Higher setting values result in faster flanger modulation. (Chorus intensity is fixed.)

Adjusts the modulation rate of the flanger.

PHASE SHIFT (Phaser)

`H1` : `H6`

This effect mixes a phase-shifted component to the original sound, resulting in a pulsating character. Higher setting values result in faster modulation.

Adjusts the modulation rate of the effect sound.

PHASE SHIFT➔CHORUS

`H7` : `H9`

This effect type is a serial connection of phaser and chorus. Higher values result in faster phaser modulation. (Chorus intensity is fixed.)

Adjusts the modulation rate of the phaser.

DOUBLING (Doubling)

`d1` : `d6`

This effect adds very short delay components to the original signal, which gives the sound a more full-bodied character such as when several instruments are playing in unison. Higher setting values result in a more pronounced doubling effect.

Adjusts the depth of the doubling effect.

DOUBLING➔CHORUS (Doubling➔Chorus)

`d7` : `d9`

This effect type is a serial connection of doubling and chorus. Higher values result in a more pronounced doubling effect. (Chorus intensity is fixed.)

Adjusts the depth of the doubling effect.

TREMOLO (Tremolo)

`t1` : `t6`

This effect periodically varies the volume. Higher setting values result in a faster tremolo.

Adjusts the tremolo speed.
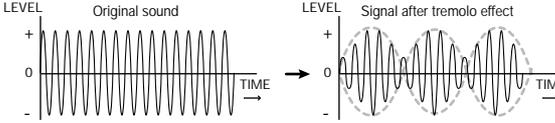
TREMOLO➔CHORUS (Tremolo➔Chorus)

`t7` : `t9`

This effect type is a serial connection of tremolo and chorus. Higher setting values result in faster tremolo. (Chorus intensity is fixed.)

Adjusts the tremolo speed.

STEP (Step)

`S1` : `S6`

This effect introduces a filter which changes randomly, resulting in an auto-arpeggio sound. Higher setting values result in faster step sound change.

Adjusts the step effect speed.

STEP➔CHORUS (Step➔Chorus)

`S7` : `S9`

This effect type is a serial connection of step and chorus. Higher setting values result in faster step sound change. (Chorus intensity is fixed.)

Adjusts the step effect speed.

Effect Parameters

CRY1 (Cry 1)

`c1` `c3`

This effect changes the sound in a way similar to a talking simulator. Higher setting values result in a more pronounced sound change.

Adjusts the cry effect input sensitivity.

CRY2 (Cry 2)

`c4` `c6`

This is a cry effect with a different sound character. Higher setting values result in a more pronounced sound change.

Adjusts the cry effect input sensitivity.

CRY➤CHORUS (Cry➤Chorus)

`c7` `c9`

This effect type is a serial connection of cry and chorus. Higher setting values result in a more pronounced cry type sound change. (Chorus intensity is fixed.)

Adjusts the cry effect input sensitivity.

RING MOD (Ring Modulator)

`r1` `r6`

This effect adds amplitude modulation to the signal, resulting in a metallic sound. Higher setting values result in higher modulation frequency.

Adjusts the modulation frequency.

RING➤CHORUS (Ring➤Chorus)

`r7` `r9`

This effect type is a serial connection of ring modulator and chorus. Higher setting values result in higher ring modulator frequency. (Chorus intensity is fixed.)

Adjusts the ring modulator frequency.

SLOW ATTACK (Slow Attack)

`A1` `A6`

This effect reduces the attack rate of the sound, resulting in a volume playing style sound. Higher setting values result in a slower attack rate.

Adjusts the rise time.

SLOW ATTACK➤PITCH SHIFT (Slow Attack➤Pitch Shift)

`A7` `A9`

This effect type is a serial connection of slow attack and pitch shifter. Higher setting values result in a slower attack rate. (The pitch shifter is fixed to the 1 octave up setting.)

Adjusts the rise time.

PITCH SHIFT (Pitch Shift)

`P1` `P9`

This effect varies the pitch of the original sound. You can select one out of nine preset pitch shift patterns (P1 - P9).

- P1: A component shifted by 1 octave down is mixed to the original sound.
- P2: A component shifted by a perfect fifth down is mixed to the original sound.
- P3: A chorus effect is added to the P2 setting.
- P4: A component shifted by a perfect fourth up is mixed to the original sound.
- P5: A chorus effect is added to the P4 setting.
- P6: A component shifted by 1 octave up is mixed to the original sound.
- P7: A slightly pitch-shifted component is mixed to the original sound, resulting in a chorus with slight modulation.
- P8: A component shifted by a perfect fourth up and down is mixed to the original sound.
- P9: A component shifted by 1 octave up and down is mixed to the original sound.

Adjusts the mixing ratio between input signal and effect sound.

PEDAL PITCH

`L1` `L9`

This effect uses the expression pedal to shift the pitch of the input signal up or down.

NOTE: Simply selecting PEDAL PITCH as effect type is not enough to obtain a pitch change when moving the pedal. To enable this function, you must assign the expression pedal to the MOD/PITCH module with the PEDAL ASSIGN key.

Adjusts the amount of pitch shift. The relation between pitch shift range and setting values is shown in the table on the next page.
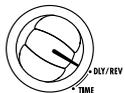
PEDAL PITCH shift range

	Pedal fully raised	Pedal fully pushed down
L1	± 0 cent	-100 cent (semitone down)
L2	± 0 cent	+1 octave
L3	± 0 cent	+2 octaves
L4	± 0 cent	-1 octave
L5	± 0 cent	-2 octaves
L6	+1 octave + original sound	-1 octave + original sound
L7	-700 cent (7 semitones down) + original sound	+500 cent (5 semitones down) + original sound
L8	-∞ (0 Hz) + original sound	+1 octave
L9	-∞ (0 Hz) + original sound	+1 octave + original sound

OFF (Off)
Turns the MOD/PITCH module off.

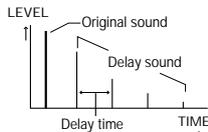# DLY/REV

DLY/REV module (basic parameters)

This module comprises delay and reverb effects. Use the VALUE [+] / [-] keys to select the effect type and adjust the effect intensity.

Adjusts the ratio between original and effect sound (common to all effect types in the DLY/REV module).
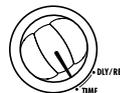
DELAY (Delay)

This is a conventional digital delay effect. By using the output in stereo, you can achieve a ping-pong delay where the delay sound alternates between the left and right channels. The right-digit setting values control the feedback (number of repetitions) and the mixing ratio between original sound and effect sound.

LEVEL
— Original sound
Delay sound
Delay time   TIME

ECHO (Echo)

This is a delay effect with a warm sound similar to a tape echo. By using the output in stereo, you can achieve a ping-pong delay where the delay sound alternates between the left and right channels. The right-digit setting values control the feedback (number of repetitions) and the mixing ratio between original sound and effect sound.

HALL (Hall)

This is a reverb effect that produces a sound similar to the reverberation in a concert hall. Higher right-digit setting values result in stronger reverb.

ROOM (Room)

This is a reverb effect that simulates the reverberation in a room. Higher right-digit setting values result in stronger reverb.

OFF (Off)

Turns the DLY/REV module off.

TIME

DLY/REV module (extended parameters)

These parameters serve to adjust the delay time or reverb time for the effect type selected with the DLY/REV module basic parameters.
The parameters are linked to the DLY/REV module and are off when the DLY/REV module is off.

DELAY TIME (Delay Time)

(When DELAY or ECHO is selected as effect type)
Sets the delay time in the range from 1 - 37. The actual delay time is the setting value x 10 (ms). (Example: A setting of "15" results in a delay time of 150 ms.)

REVERB TIME (Reverb Time)

(When HALL or ROOM is selected as effect type)
Sets the reverb time in the range from 1 - 10. Higher right-digit setting values result in longer reverb time.

(Off indication)
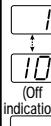
Specifications

Built-in effects	max. 9 simultaneous / 35 total
Effect modules	max. 8 simultaneous
Banks and patches	7 banks x 6 patches = 42 patches (rewritable, with memory store capability)
A/D converter	20 bit, 64 times oversampling
D/A converter	20 bit, 8 times oversampling
Sampling frequency	31.25 kHz
Input	GUITAR input: standard mono phone jack (rated input level -20 dBm/input impedance 470 kilohms)
Output	Standard stereo phone jack (doubles as line and headphone jack) (maximum output level +5 dBm/output load impedance 10 kilohms or more)
Display	2-digit 7-segment LED PEDAL ASSIGN LEDs, DRIVE LED
Power requirements	Separately available AC adapter, 9 V DC, 300 mA (center minus plug) (ZOOM AD-0006) Four IEC R6 (size AA) batteries Battery life: approx. 24 hours continuous operation (alkaline batteries) / approx. 7 hours continuous operation (manganese batteries)
Dimensions	233 mm (D) x 159 mm (W) x 54 mm (H)
Weight	600 g (without batteries)

• 0 dBm = 0.775 Vrms

• Design and specifications subject to change without notice.

Usage Precautions

• **Electrical interference**
  For safety considerations, the 606 has been designed to provide maximum protection against the emission of electromagnetic radiation from inside the device, and protection from external interference. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves should not be placed near the 606, as the possibility of interference cannot be ruled out entirely.

  With any type of digital control device, the 606 included, electromagnetic interference can cause malfunctioning and can corrupt or destroy data. Care should be taken to minimize the risk of damage.

• **Cleaning**
  Use a soft, dry cloth to clean the 606. If necessary, slightly moisten the cloth. Do not use abrasive cleanser, wax, or solvents (such as paint thinner or cleaning alcohol), since these may dull the finish or damage the surface.

  Please keep this manual in a convenient place for future reference.

Troubleshooting

No power	Patch does not change
Refer to "1. Power-on" on page 8.	Check whether patch call method is set to pre-select (see page 20).

No sound	High level of noise
Is the expression pedal fully raised? For some patches, the expression pedal controls the volume and the pedal must be pushed down to obtain a suitable volume.	Is ZOOM AC adapter being used? Be sure to use only adapter for 9 V DC, 300 mA with center minus plug (ZOOM AD-0006).

Operating the expression pedal does not give the desired effect.	Battery life is short
Try adjusting the expression pedal sensitivity (see page 23).	Are manganese batteries being used? Continuous operation time is 24 hours with alkaline batteries but only 7 hours with manganese batteries. The use of alkaline batteries is recommended.

Specifications

Usage Precautions / Troubleshooting

Patch List

BANK	PATCH	PATCH NAME	COMMENT	PEDAL
A [DEMO]	1	SUPER DIST	Tight and smooth distortion sound.	VOLUME
	2	CLEAN DELAY	Clean sound with pedal-chorus and feedback delay.	CHORUS
	3	US BLUES	American blues sound.	GAIN
	4	HEAVY 7ST ROCK	Industrial sound for seven string guitar.	PEDAL PITCH
	5	FDR CLEAN	American clean sound.	VOLUME
	6	PEDAL WAH	Standard wah sound.	PEDAL WAH
b [ARTIST/ MODEL]	1	VAN'S DRIVER	Eddie's famous hard driven sound.	(PEDAL PITCH)
	2	FDR STRAT/SH3	Fat pickup sound for single-coil pickup guitar.	ECHO
	3	BARRACUDA (JET)	Standard jet sound.	FLANGER
	4	GBS LESPOLE/PAF	Old humbackers pickup sound.	ROOM
	5	ACOUSTIC	Electric acoustic guitar simulation sound.	GAIN
	6	JIMI WAH	Psychedelic pedal wah sound.	PEDAL WAH
C [MODEL]	1	MS HI GAIN	Standard high-gain sound.	(CHORUS)
	2	BOX	Vintage combo amp simulation sound.	ECHO
	3	METAL PANEL	Rectified modeling sound with pedal-gain control.	GAIN
	4	BIG PANEL	Big stack amp sound.	(DOUBLING)
	5	CLEAN AMERICAN	Bright clean sound.	HALL
	6	PVY POWER	American fat amp distortion with pedal-gain control.	GAIN
d [LINE]	1	SOLDN	Rich lead sound for line.	PITCH
	2	TWIN	American clean sound for line.	(CHORUS)
	3	TWEED	Tweed amp simulation sound for line.	TREMOLO
	4	900	Standard high-gain sound for line.	VOLUME
	5	MATCH	Crunch clean amp sound for line.	(PITCH)
	6	DUAL	Rectified modeling sound for line.	(FLANGER)
E [SFX]	1	PWM SYNTH	Synthesizer sound with full effect palette.	PEDAL WAH
	2	STEP MODE	SF style sound combining step effect with chorus.	STEP
	3	SPACE CONTACT	Ring modulator sound ,sound good with pedal.	RING MOD
	4	CRY PICK	Zoom's famous cry effect sound.	CRY
	5	SYMPHONY	Clean sound with pedal-phase.	PHASE
	6	STEEL CHINA	Synthesizer-like SFX sound.	PITCH
F [MULTI]	1	JET PHASE	Old jet phase sound.	PHASE
	2	HEAD LONG	Zoom's famous step effect sound.	STEP
	3	SP ECHO VIOLIN	Slow attack sound with delay.	SLOW ATTACK
	4	COOL WAH	Clean sound with pedal-wah.	PEDAL WAH
	5	UP SIDE DOWN	Fan to octave pitch sound with pedal-pitch.	PEDAL PITCH
	6	CHO WAH	Distorted sound with auto-wah and chorus effect.	DELAY
G [ARTIST]	1	ZEP STACK	Old British style tube amp modeling sound.	VOLUME
	2	SLOW HAND	Eric's blues sound.	GAIN
	3	BECK	Beck's octave sound.	PITCH
	4	RANDY	Randy's hard driven sound.	GAIN
	5	VAI	Tricky arming play with pedal-pitch.	PEDAL PITCH
	6	CORN	New age heavy rock sound.	GAIN

It is recommended to set the ZNR (Zoom Noise Reduction) value for each patch to match the guitar being used.

ZOOM® CATCH US IF YOU CAN