



AC-3

ACOUSTIC CREATOR

Operation Manual

Thank you very much for purchasing a ZOOM **AC-3** (hereafter, “**AC-3**”).

Please read this manual carefully to fully understand the functions of the **AC-3** so that you can make the most of it for many years.

Keep this manual in a convenient location and refer to it as necessary.

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Usage and Safety Precautions

Safety Precautions

In this operation manual, symbols are used to highlight warnings and cautions that you must read to prevent accidents. The meanings of these symbols are as follows.

 **Warning** Something that could cause serious injury or death.

 **Caution** Something that could cause injury or damage to the equipment.

Other symbols used

 An action that is mandatory.

 An action that is prohibited.

Warnings

Operation using an AC adapter

-  Always use an AC adapter that is 9V DC 500mA center negative (ZOOM AD-16).
-  Do not do anything that could exceed the ratings of outlets and other electrical wiring equipment. Before using the equipment in a foreign country or other region where the electrical voltage differs, always consult with a shop that carries ZOOM products and use the appropriate AC adapter.

Operation with batteries

-  Use 2 commercially-available 1.5V AA batteries (alkaline or nickel metal hydride).
-  Carefully study the warning indications of the batteries before use.
-  Always keep the battery cover closed during use.

Alterations

-  Do not open the case or modify the product.

Cautions

Product handling

-  Do not drop, bump or apply excessive force to the unit.
-  Be careful not to allow foreign objects or liquids to enter the unit.

Operating environment

-  Do not use in extremely high or low temperatures.
-  Do not use near heaters, stoves and other heat sources.
-  Do not use in very high humidity or where it could be splashed by water.
-  Do not use in places with frequent vibrations.
-  Do not use in places with much dust or sand.

AC adapter handling

-  When disconnecting the power plug from an outlet, always pull on the plug itself.
-  Disconnect the power plug from the outlet when the unit will not be used for a long time and whenever there is lightning.

Battery handling

-  Install batteries with the correct +/- orientations.
-  Use the specified batteries. Do not use new and old batteries together. Do not use batteries of different brands or types together.

-  Remove the batteries when the unit will not be used for a long time. If a leak occurs, thoroughly wipe the battery case and battery terminals to remove the leaked fluid.

Connection cables and input/output jacks

-  Always turn the power OFF for all equipment before connecting any cables.
-  Always disconnect all connection cables and the AC adapter before moving the unit.

Volume

-  Do not use at a loud volume for a long time.

Usage Precautions

Interference with other electrical equipment

In consideration of safety, the **AC-3** has been designed to minimize its emission of electromagnetic waves and to suppress interference from external electromagnetic waves. However, equipment that is very susceptible to interference or that emits powerful electromagnetic waves could result in interference if placed nearby. If this occurs, place the **AC-3** and the other device farther apart.

With any type of electronic device that uses digital control, including the **AC-3**, electromagnetic interference could cause malfunction, corrupt or destroy data and result in other unexpected trouble. Always use caution.

Cleaning

Use a soft cloth to clean the exterior of the unit if it becomes dirty. If necessary, use a damp cloth that has been wrung out well to wipe it.

Never use abrasive cleansers, wax or solvents such as alcohol, benzene or paint thinner.

Breakdown and malfunction

If the unit becomes broken or malfunctions, immediately turn the power off, disconnect the AC adapter and disconnect other cables. Contact the store where you bought the unit or ZOOM service with the following information: product model, serial number and specific symptoms of breakdown or malfunction, along with your name, address and telephone number.

FCC regulation warning (for U.S.A.)

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

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

For EU Countries

 Declaration of Conformity

Introduction

Acoustic remodeling that restores body tone

The 16 source and 15 target guitar type presets simulate the sonic characteristics of a variety of acoustic guitars with different body shapes and material properties. By choosing a source guitar and a target guitar according to the guitar you are using, you can share the original rich and beautiful tones of acoustic guitars with audiences during live performances.

High-quality preamp that can be used with many pickups

The preamp was designed especially for acoustic guitars and can be used with input from piezoelectric, magnetic and passive pickups. This preamp designed for acoustic guitars provides excellent fundamental performance, including a 3-band EQ and super-low noise design boasting a 120 dB signal-to-noise ratio and a -100 dBu noise floor.

9 effects for acoustic guitars

The nine types of effects, including choruses, delays and reverbs that make acoustic guitar sounds even more beautiful, have parameters that can be precisely adjusted.

Anti-feedback function with minimal effect on tone quality

The anti-feedback function can quickly and effectively eliminate feedback during a performance.

Clean boost of up to 9 dB

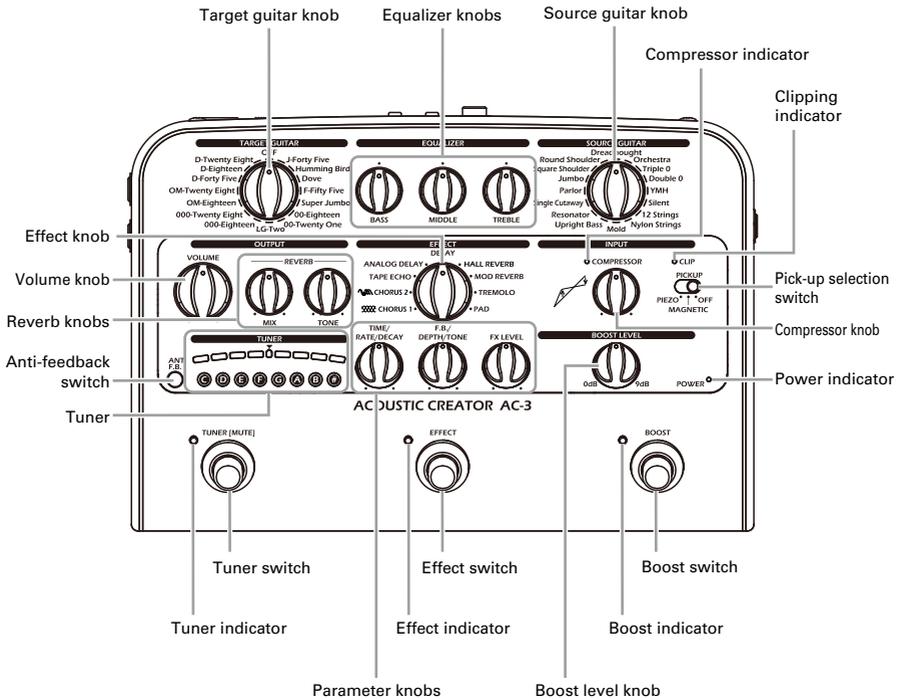
The boost function can reduce the volume differences of fingerpicking, strumming chords and other guitar playing techniques, as well as increase amplification during solos.

Compressor that is easy to operate

Just turn the compressor knob to control the sound pressure. You can easily adjust it from a natural effect to hard compression.

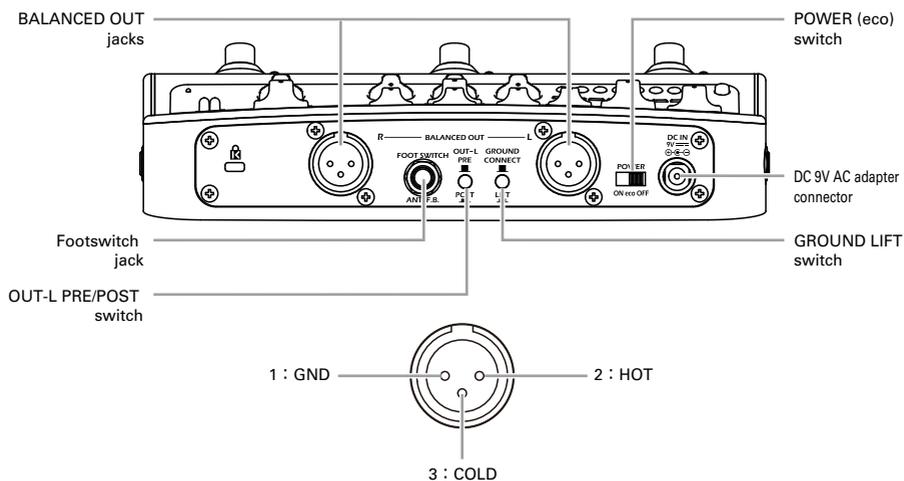
Names of parts

Front Panel

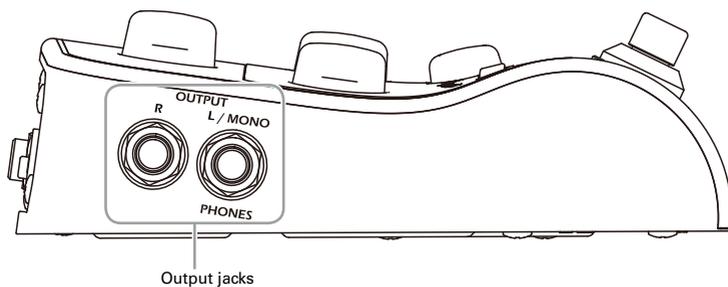


Names of parts

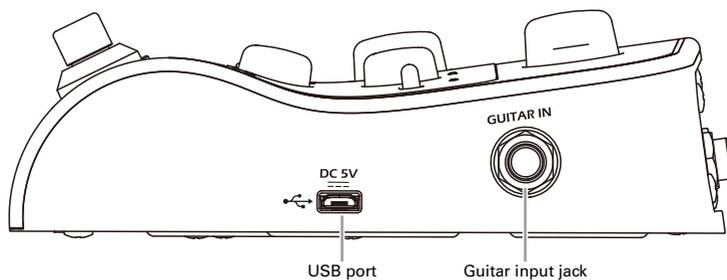
■ Rear Panel



■ Left Panel

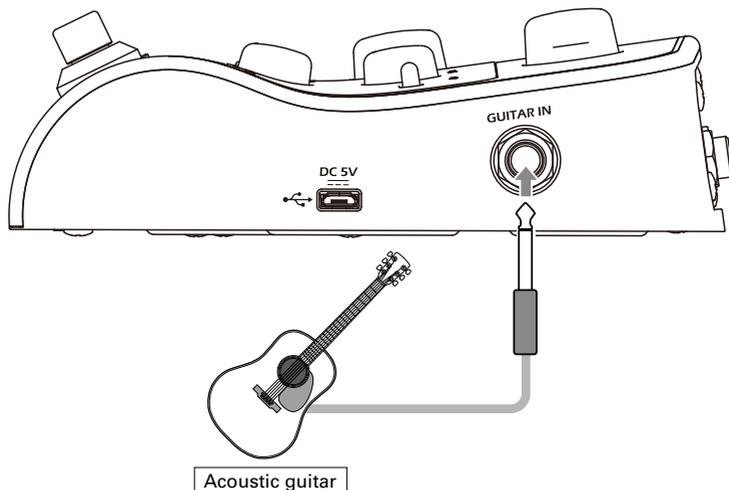


■ Right panel



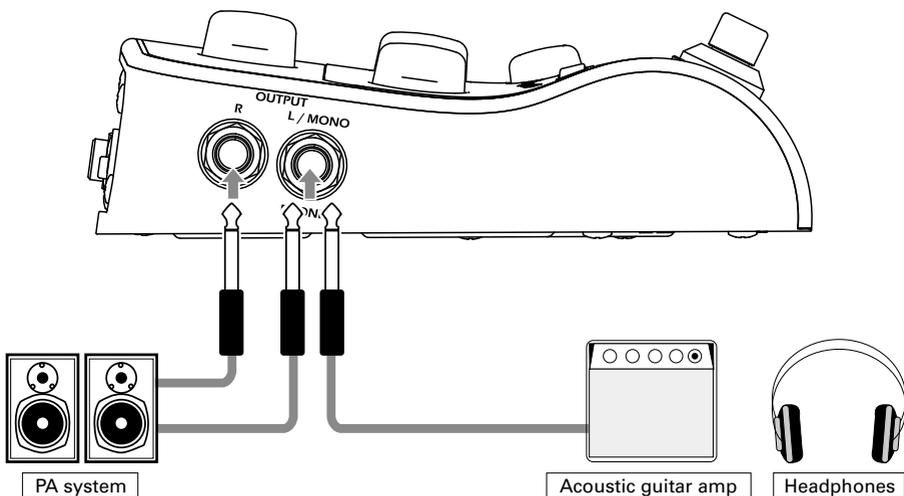
Connecting a guitar

Use a shielded cable to connect a guitar to the **AC-3**.



Connecting output devices

Connect the **AC-3** to a PA system, acoustic guitar amp or other output device. To use headphones, connect them to the L/MONO/PHONES jack.



Turning the unit on

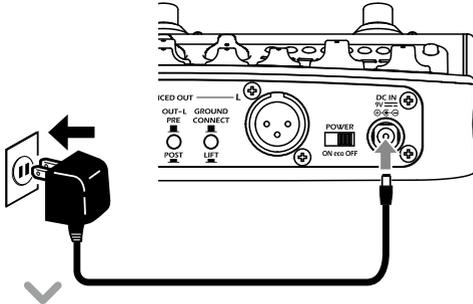
- Minimize the volume of the output device.



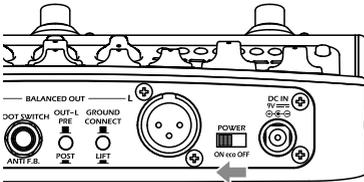
- Prepare the power source.

■ Using an AC adapter

Connect the AD-16 adapter to the **AC-3**.

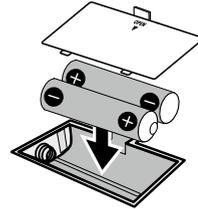


- Set the power switch to "ON" or "eco".



■ Using batteries

Open the battery cover on the bottom of the unit and install batteries into the battery compartment.



Power indicator
(front panel)

Lit green: Remaining battery power okay
Lit red: Remaining battery power low

NOTE

The power indicator lights red when the remaining battery power becomes low.
Replace the batteries with new ones.



- Turn the output device on, and raise its volume.

HINT

You can also use a USB cable to connect the **AC-3** to a computer and power it with USB bus power.

POWER switch "eco" setting

The power will automatically turn off if unused for 10 hours.

If you want the power to stay on always, set the POWER switch to "ON".

Setting the pickup type

Adjust the operation of the **AC-3** according to the type of pickup used.



- **PIEZO**
This makes adjustments suitable for piezo pickups.
- **MAGNETIC**
This makes adjustments suitable for magnetic pickups.
- **OFF**
This turns off the pickup adjustment function.

Setting the volume

Turn the **VOLUME** knob to adjust the volume.



When using active pickups:
Set the **VOLUME** knob to the center position as the reference level.



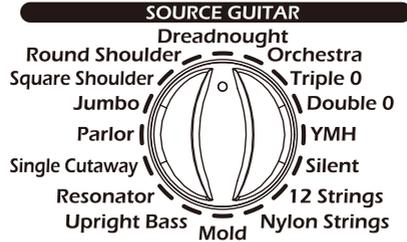
When using passive pickups:
Set the **VOLUME** knob to the 3 o'clock position as the reference level.

NOTE

If the clipping indicator lights red, lower the output volume from the pickup.

Setting the source guitar type

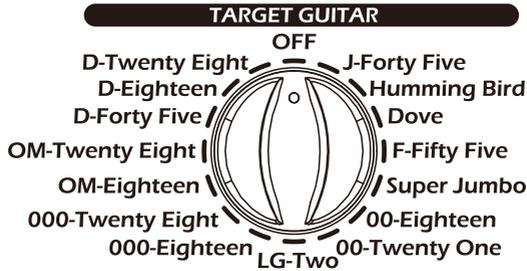
By choosing a source guitar according to the guitar that you are using, body tone lost when using a pickup can be re-created, restoring the original rich and beautiful tone of your acoustic guitar.



Round Shoulder	Dreadnought
 Best for guitars with round shoulders, such as the Gibson J series.	 Best for dreadnought guitars, such as the Martin D series.
Square Shoulder	Orchestra
 Best for guitars with square shoulders, such as the Gibson Hummingbird.	 Best for orchestra guitars, such as the Martin OM series.
Jumbo	Triple 0
 Best for jumbo body guitars, such as the Gibson SJ series.	 Best for 000 guitars, such as the Martin 000 series.
Parlor	Double 0
 Best for parlor guitars, such as the Gibson L series.	 Best for 00 guitars, such as the Martin 00 series.
Single Cutaway	YMH
 Best for single cutaway guitars like those made by Taylor.	 Best for special jumbo body guitars, such as the YAMAHA LL series.
Resonator	Silent
 Best for resonator guitars.	 Best for silent guitars that do not have resonant body cavities.
Upright Bass	12 Strings
 Best for upright basses.	 Best for 12-string guitars.
Mold	Nylon Strings
 Best for molded resin guitars like those made by Ovation.	 Best for classical guitars that use nylon strings.

Setting the target guitar type

In addition to selecting the source guitar, you can also select a target guitar that is compatible with the guitar type used. This allows the body characteristics of that model to be re-created more distinctly.



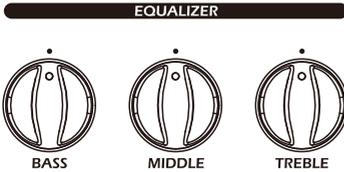
Target guitar	Character	Compatible source guitar
J-Forty Five	The body character of the Gibson J-45 features a dry sound ideal for strumming.	Round Shoulder
Humming Bird	This creates the body character of the Gibson Hummingbird, which is loved by pop and rock artists.	Square Shoulder
Dove	The Gibson Dove body character features low-frequencies with a sense of weight thanks to its maple sides and back.	
F-Fifty Five	Due to its large size, the Guild F-55 body has a character with both bell-like high-frequencies and deep low-frequencies.	Jumbo
Super Jumbo	This re-creates the body character of the Gibson SJ-200, which is known as the "King of the Flat-tops."	
00-Eighteen	The Martin 00-18 body character features a balanced tone generated from a small volume.	Double 0
00-Twenty One	The Martin 00-21 body features the clear tone characteristic of Jacaranda.	
LG-Two	This provides the body character of the small Gibson LG-2, which is loved by blues musicians.	Parlor
000-Eighteen	The character of the Martin 000-18 body features clear low frequencies.	Triple 0
000-Twenty Eight	The character of the Martin 000-28 body features vivid high frequencies.	
OM-Eighteen	The character of the Martin OM-18 body features a tone with fast response.	Orchestra
OM-Twenty Eight	The character of the Martin OM-28 body features crisp high frequencies and a moderate volume.	
D-Forty Five	The character of the Martin D-45 body features rich harmonics and deep low frequencies.	Dreadnought
D-Eighteen	The character of the Martin D-18 body features a crisp tone.	
D-Twenty Eight	The Martin D-28 has a fundamental style of acoustic body character.	

"OFF" function

When TARGET GUITAR is set to OFF, the recommended target guitar type for the selected source guitar will automatically be used.

Adjusting the tone

Turn the BASS, MIDDLE and TREBLE equalizer knobs to adjust the final output sound.

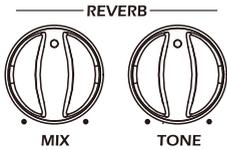


Set each equalizer knob to its center position for a flat response first before adjusting the tone.

- **BASS**
Adjust to boost or cut low frequencies.
Boost to emphasize the body tone. Cut if low frequencies are too loud when strumming.
- **MIDDLE**
Adjust to boost or cut middle frequencies.
Boost to add warmth to the tone. Cut to make the tone more powerful, emphasizing the attack.
- **TREBLE**
Adjust to boost or cut high frequencies.
Boost to emphasize the ringing of the strings. Cut if high frequencies are too loud.

Adjusting the reverb

Turn the REVERB MIX and TONE knobs to add a reverb effect to the sound of the acoustic guitar, increasing its width and depth.



Keep the original tone of the acoustic guitar in mind as you adjust the reverb volume.

- **MIX**
Use to adjust the strength of the reverb effect.
- **TONE**
Use to adjust the tone of the reverb effect.

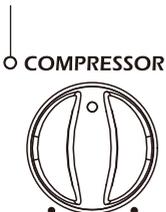
NOTE

Turn the MIX knob all the way to the left to disable the reverb.

Using the compressor

Turn the compressor not to enable compression of input sounds that exceed a set level, controlling performance dynamics.

Compressor indicator



Keep the balance of the entire performance in mind when adjusting the compressor.

When the input sound is compressed, the compressor indicator will light as follows.

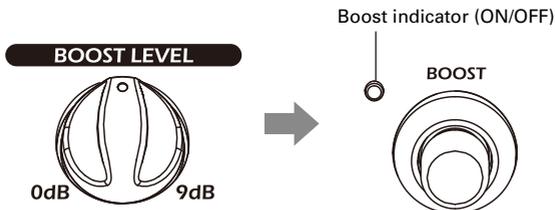
- **Lit green**
This setting is suitable for balancing the volume of strumming and fingerpicking.
- **Lit orange**
This strong compression will maintain the output volume at an even level. This setting is suitable for increasing loudness when strumming.

NOTE

Turn the COMPRESSOR knob all the way to the left to disable compression.

Using the boost function

Turn the BOOST LEVEL knob to amplify the volume during solos or to change the volume when switching between strumming and fingerpicking. Use the BOOST switch to turn the boost ON and OFF.



NOTE

- The volume can be amplified by up to +9 dB.
- If the sound distorts when BOOST is ON, turn the VOLUME knob to adjust the volume.

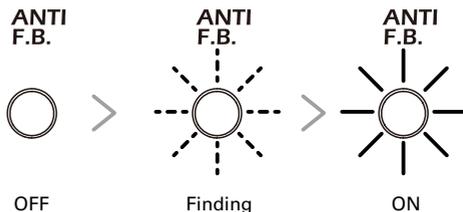
Using the anti-feedback function

Press the anti-feedback switch to find and cut the frequency band that is causing feedback to reduce it.

ANTI F.B.



The feedback switch will blink while the feedback frequency band is being found. When the frequency band has been found, it will light and the anti-feedback function will become active.



NOTE

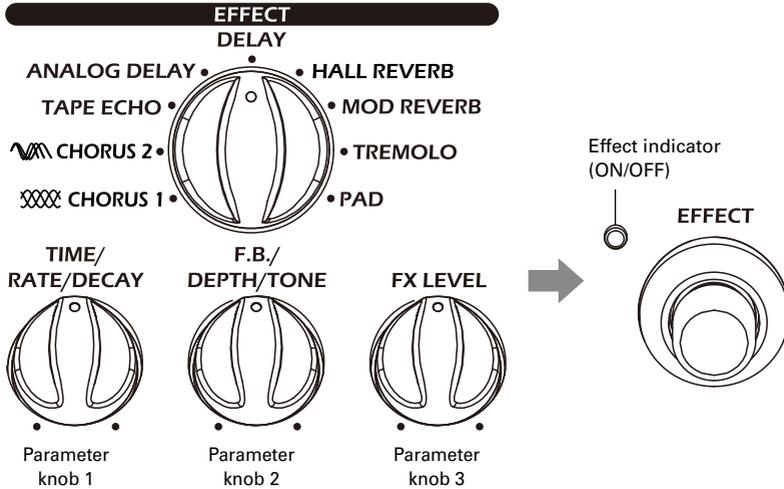
Press the anti-feedback switch again to turn the anti-feedback function off.

HINT

If an FS01 footswitch is connected, you can also turn the anti-feedback function on and off with your foot.

Adjusting the effects

Turn the EFFECT knob to select the effect to use. Turn the parameter knobs to adjust the parameters of that effect. Use the EFFECT switch to turn the effect on and off.

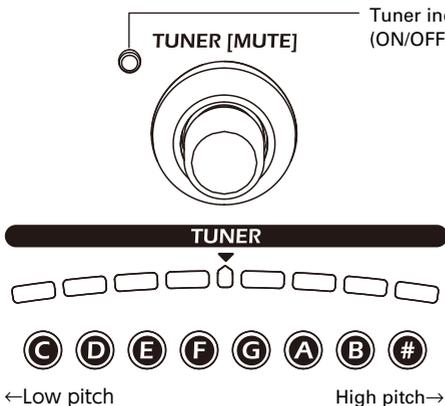


Adjusting the effects

TYPE NAME			
	Parameter knob 1	Parameter knob 2	Parameter knob 3
CHORUS 1	Using three LFOs, this is a three-phase chorus with little modulation. Using a stereo connection can create an expansive chorus effect.		
	RATE : Adjusts the speed of the modulation.	DEPTH : Adjusts the depth of the modulation.	FX LEVEL : Adjusts the amount of effected sound.
CHORUS 2	By mixing the original sound with an effect sound that is just slightly pitch-shifted, this effect generates a chorus with little modulation.		
	RATE : Adjusts the speed of the modulation.	TONE : Adjusts the tone.	FX LEVEL : Adjusts the amount of effected sound.
TAPE ECHO	This effect simulates the sound of a tape echo. This can create rich delay effects with the sense of compression as well as the wow and flutter of tape.		
	TIME : Adjusts the delay time.	F.B. : Adjusts the feedback amount.	FX LEVEL : Adjusts the amount of effected sound.
ANALOG DELAY	This effect simulates the sound of an analog delay. This effect thickens the original sound with a warm tone.		
	TIME : Adjusts the delay time.	F.B. : Adjusts the feedback amount.	FX LEVEL : Adjusts the amount of effected sound.
DELAY	This delay has a clear tone. Using a stereo connection, this can create a ping-pong delay effect.		
	TIME : Adjusts the delay time.	F.B. : Adjusts the feedback amount.	FX LEVEL : Adjusts the amount of effected sound.
HALL REVERB	This high-density reverb simulates the sound of a concert hall.		
	DECAY : Adjusts the duration of the reverberations.	TONE : Adjusts the tone of the reverberations.	FX LEVEL : Adjusts the amount of effected sound.
MOD REVERB	This reverb adds modulation to the echoes, making it expansive and thick.		
	DECAY : Adjusts the duration of the reverberations.	DEPTH : Adjusts the depth of the modulation.	FX LEVEL : Adjusts the amount of effected sound.
TREMOLO	This effect varies the volume cyclically.		
	RATE : Adjusts the speed of the modulation.	DEPTH : Adjusts the depth of the modulation.	FX LEVEL : Adjusts the amount of effected sound.
PAD	This effect creates an expansiveness and long sustain like a space that encloses everything.		
	DECAY : Adjusts the duration of the reverberations.	TONE : Adjusts the tone of the reverberations.	FX LEVEL : Adjusts the amount of effected sound.

Using the tuner

Press the TUNER switch to turn the tuner on and off. Play the open string that you want to tune and the closest pitch name LED will light. The LED meter will show the pitch error.



When the pitch is correct, the LED at the center of the meter will light green and LEDs to the left and right will light red.

NOTE

The output is muted when the tuner is on. The standard pitch is fixed at A4 = 440 Hz.

Setting the type of batteries used

Set the type of battery used by the **AC-3** so that the remaining battery charge can be indicated accurately.

- Turn the power ON while pressing .

(The boost indicator blinks.)



- Press  to set the type of battery used.



Lit green: Alkaline batteries
Lit red: Nickel metal hydride batteries

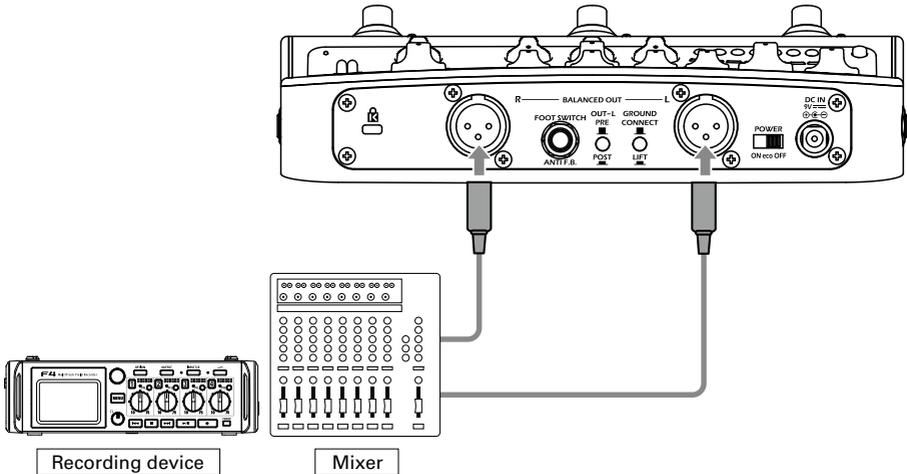
Power indicator
(front panel)



- Press  to confirm the setting. (The boost indicator stays lit.)

Connecting audio equipment

The **AC-3** can be connected to a mixer, recording device or other audio equipment that adjusts the sound balance. When using in mono, connect the equipment only to the **BALANCED OUT-L** jack.



OUT-L

PRE



POST



Set when the signal is output from the **BALANCED OUT-L** jack.

- **PRE** (button up): Output before processing by the **AC-3**.
- **POST** (button down): Output after processing by the **AC-3**.

GROUND CONNECT



LIFT



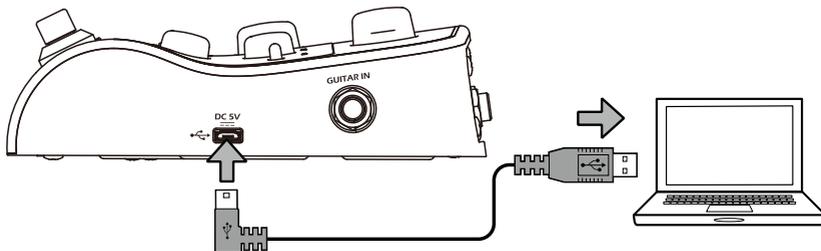
The **BALANCED OUT** jack can be connected or disconnected from the ground.

- **CONNECT** (button up): Connect to the ground pin.
- **LIFT** (button down): Disconnect the grounding pin from the ground. This is effective if noise is caused by a ground loop.

Updating the firmware

To download the latest firmware, visit the ZOOM website (<http://www.zoom.co.jp/>).

- Use a USB cable to connect the **AC-3** to a computer.



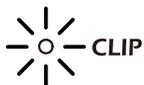
- While pressing both **TUNER [MUTE]** and **ANTI F.B.**, turn the POWER switch ON.



- Launch the firmware update application on the computer and start the update.



- The **AC-3** clipping indicator lights orange while the update is being executed.



NOTE

Do not disconnect the USB cable during a firmware update.

HINT

See the ZOOM website (<http://www.zoom.co.jp/>) for firmware update application instructions.



- The **AC-3** clipping indicator lights green when the update completes.



- Set the power switch to OFF.

Troubleshooting

The unit will not power on

- Confirm that the POWER switch is set to ON.
- If using batteries, confirm that they are still charged.

There is no sound or output is very quiet

- Check the connections. (→ P6, P17)
- Sound will not be output in the tuner is on. (→ P16)

There is a lot of noise

- Confirm that the shielded cable is not the cause.
- Use a genuine ZOOM AC adapter.

The sound distorts strangely or has an odd timbre

- Adjust the amount of boost amplification. (→ P13)
- Set the pickup selection correctly for the type of pickup. (→ P8)
- Adjust the amount of compression. (→ P12)

Batteries lose their charge quickly

- Confirm that you are not using manganese batteries. Alkaline batteries should provide about 3 hours of continuous operation.
- Confirm that the battery type setting is correct. (→ P16)

The effect is not working

- Adjust the parameter knobs. (→ P14)

Specifications

Source guitars	16 types
Target guitars	15 types
Effect types	9 types
Sampling frequency	44.1 kHz
A/D conversion	24-bit 128 x oversampling
D/A conversion	24-bit 128 x oversampling
Signal processing	32-bit
Frequency characteristics	20 Hz–20 kHz (+1 dB/-3 dB) (10 kΩ load)
Input	Standard mono phone jack Rated input level: -20 dBu Input impedance: 10 MΩ
Outputs L/MONO/PHONES	Standard stereo phone jack (combined line/headphone) Maximum output level: Line +7 dBu (10 kΩ or more output impedance) Headphones 8 mW + 8 mW (32 Ω load)
R	Standard mono phone jack Maximum output level: Line +7 dBu (10 kΩ or more output impedance)
BALANCED OUT-L	XLR jack Output impedance: 100 Ω (HOT-GND, COLD-GND), 200 Ω (HOT-COLD) PRE/POST (switchable) GND LIFT (switchable)
BALANCED OUT-R	XLR jack Output impedance: 100 Ω (HOT-GND, COLD-GND), 200 Ω (HOT-COLD) GND LIFT (switchable)
S/N (equivalent input noise)	120 dBu
Noise floor (residual noise)	-100 dBu
Control input	FS01 Input
Power	AC adapter: 9V DC 500 mA center negative (ZOOM AD-16) Batteries: 2 AA (about 3 hours continuous operation time using alkaline batteries)
External dimensions	158 mm(D) X 237 mm(W) X 52 mm(H)
USB	USB MIDI USB Micro-B
Weight	1150 g(Not including batteries)
Options	FS01 foot switch

Note: 0 dBu = 0.775 V



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