Roland





ACOUSTIC AC-33

30 W acoustic guitar amp provides stereo sound in a compact unit

- High-efficiency 30 W stereo power amp (15 W + 15 W) (when using AC adaptor)
- Compact size for convenient portability or home use
- Two custom 5 inch (12 cm) speakers deliver ideal sound for acoustic instruments

Dual power allows operation using eight AA batteries or an AC adaptor (p. 4)

- Dual power supply lets you use the AC-33 to perform anywhere.
- Rechargeable (nickel-metal hydride) batteries are also supported. Performing time is approximately 8 hours when using alkaline batteries, and approximately 9 hours when using nickel-metal hydride batteries.

Two-channel design lets you use a guitar simultaneously with a microphone or line source (p. 8)

- Flexibility to cover a wide range of uses, including a guitar duo or a singer/instrumentalist (p. 12).
- Stereo AUX IN connector lets you connect your CD or portable audio player (p. 6).
- You can connect the LINE OUT connector to an external PA system, and use the AC-33 as a monitor during your live performance (p. 9).
- The headphone jack is convenient for night-time practice or during a sound check (p. 6).

Looper function lets you easily record, play, and overdub without needing any other equipment (p. 10)

- You can record your own performance as a backing, and then play it back as an accompaniment for your solo (p. 13).
- Up to 40 seconds of recording time is available. You can also record the AUX IN signal in stereo.
- A separately available foot switch (FS-5U or FS-6) lets you control the Looper function with your foot (p. 11).

Easily-operated effects, plus an Anti-Feedback function (p. 11)

- Three types of onboard stereo effects are offered, so you can add a natural sense of spaciousness to the sound of your acoustic guitar (p. 7).
- Anti-Feedback function lets you suppress feedback simply by switching on this function (p. 11).

Before using this unit, carefully read the sections entitled: "USING THE UNIT SAFELY" and "IMPORTANT NOTES" (p. 2; p. 3). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

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USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

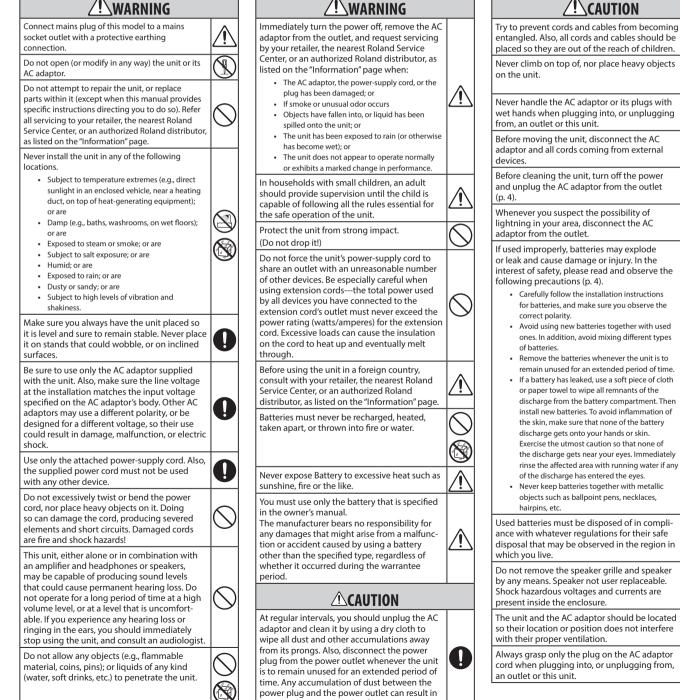
About A WARNING and A CAUTION Notices

≜ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.		Th wa de th ca
↑ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or	Ð	Th ca nc th
	other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.	•	Th ca in ca

About the Symbols

	About the Symbols				
		The \triangle symbol alerts the user to important instructions or warnings.The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.			
	Ð	The \bigcirc symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.			
	æ	The symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-cord plug must be unplugged from the outlet.			

ALWAYS OBSERVE THE FOLLOWING



poor insulation and lead to fire.

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2

Power Supply: Use of Batteries

- Do not connect this unit to same electrical outlet that is being used by an electrical appliance that is controlled by an inverter (such as a refrigerator, washing machine, microwave oven, or air conditioner), or that contains a motor. Depending on the way in which the electrical appliance is used, power supply noise may cause this unit to malfunction or may produce audible noise. If it is not practical to use a separate electrical outlet, connect a power supply noise filter between this unit and the electrical outlet.
- The AC adaptor will begin to generate heat after long hours of consecutive use. This is normal, and is not a cause for concern.
- When installing or replacing batteries, always turn off the power on this unit and disconnect any other devices you may have connected. This way, you can prevent malfunction and/or damage to speakers or other devices.
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Noise may be produced if wireless communications devices, such as cell phones, are operated in the vicinity of this unit. Such noise could occur when receiving or initiating a call, or while conversing. Should you experience such problems, you should relocate such wireless devices so they are at a greater distance from this unit, or switch them off.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
- When moved from one location to another where the temperature and/or humidity is very different, water droplets (condensation) may form inside the unit. Damage or malfunction may result if you attempt to use the unit in this condition. Therefore, before using the unit, you must allow it to stand for several hours, until the condensation has completely evaporated.
- Do not allow rubber, vinyl, or similar materials to remain on the unit for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not paste stickers, decals, or the like to this instrument. Peeling such matter off the instrument may damage the exterior finish.
- Depending on the material and temperature of the surface on which you place the unit, its rubber feet may discolor or mar the surface. You can place a piece of felt or cloth under the rubber feet to prevent this from happening. If you do so, please make sure that the unit will not slip or move accidentally.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a cloth impregnated with a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Additional Precautions

- Use a reasonable amount of care when using the unit's buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- When connecting / disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable's internal elements.
- To avoid disturbing your neighbors, try to keep the unit's volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Some connection cables contain resistors. Do not use cables that incorporate resistors for connecting to this unit. The use of such cables can cause the sound level to be extremely low, or impossible to hear. For information on cable specifications, contact the manufacturer of the cable.

Copyright

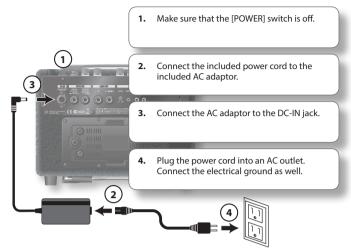
- Recording, duplication, distribution, sale, lease, performance, or broadcast of copyrighted material (musical works, visual works, broadcasts, live performances, etc.) belonging to a third party in part or in whole without the permission of the copyright owner is forbidden by law.
- Do not use this unit for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

Connecting the Power

The AC-33 can be operated using either an AC adaptor or batteries. Use the type of power that's appropriate for your situation.

Connecting the AC adaptor

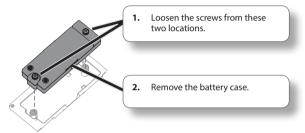
* Use only the AC adaptor that is supplied with the AC-33.



Installing batteries 1. Losen the screws from these two locations. 1. Remove the battery compartment cover. 3. Insert batteries, taking care to observe the correct polarity.

Removing the battery case

Although it is possible to replace the batteries without removing the battery case, battery replacement will be easier if you remove the battery case.



- * We recommend that you keep batteries installed in the unit even though you'll be powering it with the AC adaptor. That way, you'll be able to continue a performance even if the cord of the AC adaptor gets accidently disconnected from the unit.
- * To prevent malfunction and speaker damage, make sure to switch off the AC-33's power before you insert or replace its batteries, and before connecting it to other devices.
- * Take care that no metal object touches the contacts of the battery case. This can short-circuit the batteries, causing the case to overheat or burn.

About batteries

Batteries that can be used

The AC-33 uses eight AA alkaline or nickel-metal hydride batteries.

- * Nickel-metal hydride batteries cannot be recharged by the AC-33 itself. You'll need to use a commercially available battery manufacturer.
- * When using nickel-metal hydride batteries, please be aware that the battery life will normally shorten each time they are recharged.

Caution regarding batteries

- Insert the batteries as directed, taking care to observe the correct polarity (+/- orientation).
- Do not mix new and used batteries, or batteries of different types.
- Carefully read and observe the cautions and handling instructions that accompany the batteries.

When using nickel-metal hydride batteries, you must use the charger that is specified by the battery manufacturer.

- Remove the batteries if you won't be using the unit for several months.
- If any electrolyte leaks from a battery, use a dry cloth to carefully wipe off any electrolyte that might be on the battery case, and then install new batteries. Battery electrolyte that contacts your skin may cause a rash. Battery electrolyte is hazardous to your eyes; if any electrolyte gets into your eyes, flush them immediately with water.
- Do not carry or store batteries together with metallic objects such as pens, necklaces, or hairpins.

Producing Sound

Turning the power on/off

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

- Make sure that the power to all equipment is turned off. 1.
- 2. Connect your external equipment.
- Set each of the AC-33's [VOLUME] knobs and the [MASTER] 3. knob to 0.



- Switch on the power to any external equipment connected 4. to the AUX IN jacks.
- 5. Switch on the AC-33's power.



Switch on any equipment connected to the LINE OUT jack. 6. To turn the power off, reverse these steps.

NOTE

- To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.
- This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.
- Always make sure to have the volume level turned down before switching on power. Even with the volume all the way down, you may still hear some sound when the power is switched on, but this is normal, and does not indicate a malfunction.
- If you're operating the AC-33 only on batteries, the POWER indicator will become dim as the batteries run low. When the batteries run even lower, the POWER indicator will blink. Replace the batteries as soon as possible.

Playing your guitar

1. Connect your guitar, and switch on the AC-33's power. Connect your guitar to the INPUT jack of the GUITAR CHANNEL. Any guitar that has a pickup can be connected.

If your guitar has a pickup as well as a built-in preamp, you can also connect it to the MIC/LINE CHANNEL.



Set the [VOLUME] knob of the input you're using to the 5



While producing sound, use the [MASTER] knob to adjust the 3. volume.



Adjusting the tone

2.

position (center).

Use the [BASS] (low range), [MIDDLE] (mid range), and 1. [TREBLE] (high range) knobs of the desired channel to adjust the tone.



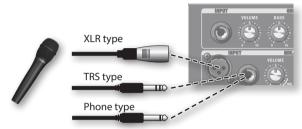
Español

Outputting sound from your microphone

1. Connect your microphone, and switch on the AC-33's power. Connect your microphone to the INPUT jack of the MIC/LINE CHANNEL.

You can use any one of three types of plugs (XLR, TRS, phone).

You cannot use more than one microphone simultaneously (the TRS/ phone jack will take priority).



2. Set the [VOLUME] knob of the MIC/LINE CHANNEL to the MIC position.



3. While producing sound, use the [MASTER] knob to adjust the volume.



Adjusting the tone

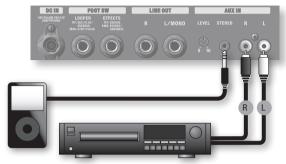
1. Use the [BASS] (low range), and [TREBLE] (high range) knobs of the desired channel to adjust the tone.



Outputting sound from a CD player

1. Connect your CD player (or other audio device), then switch on the AC-33's power.

Connect your CD player or portable audio player to the AUX IN jacks on the AC-33's rear panel.



2. Set the AUX IN [LEVEL] knob to 5 (center).



3. While producing sound, use the [MASTER] knob to adjust the volume.



Using headphones

Connect your headphones to the PHONES jack.

If headphones are connected, sound will not be output from the AC-33's speakers.



Applying an effect

Chorus

1. Set each channel's [CHORUS] switch to the WIDE or SPACE position.

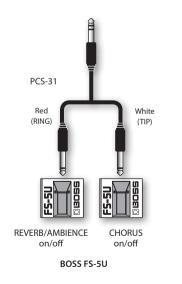
	This is a stereo chorus that processes the three bands
WIDE	independently. By applying band-appropriate chorusing to each of the low, mid, and high-frequency bands, this effect creates a deep and spacious chorusing that is appropriate for the sound of an acoustic guitar. The low range remains firmly localized in the center, and the sound will become more spacious as you go from the mid to the high range.
SPACE	This is a chorus that mixes the sounds in the air, a method that is possible only with a stereo system. On the AC-33, the effect sound is emitted by the right speaker (as you face the unit), and the direct sound is emitted by the left speaker. The chorus effect is produced as the sound from the left and right speakers is mixed in the air.
	Compared to an electrically mixed chorus effect, this effect has a broader left/right spread and a more natural-sounding spaciousness.
OFF	No chorus effect will be applied.

Turn the switch off if you don't want to apply chorus.

About foot switches

Loff

If you use a foot switch (BOSS FS-5U or FS-6; sold separately) you'll be able to turn chorus on/off and reverb/ambience on/off with your foot. If a foot switch is connected, the pedal(s) will operate as follows.





BOSS FS-6

Reverb/Ambience

1. Use the [REVERB/AMBIENCE] knob to adjust the amount of effect.

REVERB	This is a stereo reverb that was developed specifically for acoustic instruments and produces a spacious and natural sound. The position of the knob adjusts the volume of the reverb.
AMBIENCE	This effect adds spatial depth. It produces a broader sound field and a sense of presence.
	The position of the knob adjusts the volume and depth of th ambience.



The left half of the knob's range applies reverb, and the right half applies ambience.

Turning the knob toward the right will deepen the effect.

If you want to turn reverb/ambience off, turn the knob all the way to the left.

Refer to p. 9 for details on the foot switch's polarity setting.

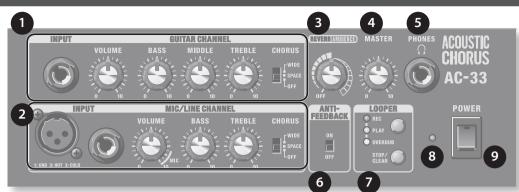
If you use a phone plug (mono) cable to connect only one foot switch, it will only turn chorus on/off.

Chorus on/off operations apply in common to the GUITAR CHANNEL and the MIC/LINE CHANNEL.

If the CHORUS switch is off, operating the foot switch will not turn the effect on/off.

Names of Things and What They Do

Control Panel



GUITAR CHANNEL

INPUT Jack

Connect your guitar here (p. 5).

[VOLUME] Knob

This adjusts the volume of the guitar channel (p. 5).

MIC/LINE CHANNEL

INPUT Jack

Connect your microphone or line-level device here (p. 6).

The AC-33 provides a balanced (XLR) connector that is wired as follows. Check the wiring of your device before you connect it.



Phantom power is not supplied.

[BASS] Knob

This adjusts the tonal character of the low-frequency range (p. 5).

[MIDDLE] Knob This adjusts the tonal character of the mid-frequency range (p. 5).

[TREBLE] Knob

This adjusts the tonal character of the high-frequency

[VOLUME] Knob

This knob adjusts the volume of the mic/line channel (p. 6). If you're using a microphone, set this to the MIC position.

[BASS] Knob

This adjusts the tonal character of the low-frequency range (p. 6).

[TREBLE] Knob

This adjusts the tonal character of the high-frequency range (p. 6).

range (p. 5). [CHORUS] Switch

7).

This switches the type of chorus that is applied (p.

[CHORUS] Switch

This switches the type of chorus that is applied (p. 7).

3

6

[REVERB/AMBIENCE] Knob

This adjusts the amount of reverb or ambience (p. 7).

[MASTER] Knob

This adjusts the overall volume (p. 5, p. 6). This knob does not affect LINE OUT.

5 PHONES Jack

- You can connect headphones here (p. 6).
- If headphones are connected, the AC-33's speakers will not produce sound.

[ANTI-FEEDBACK] Switch

You can prevent acoustic feedback by turning this on (p. 11).

Settings will be made automatically when you turn the switch on. The settings will be reset when the AC-33's power is turned on again.

4

LOOPER

This function allows you to record a phrase and play it back repeatedly (p. 10). The recorded phrase will be lost when you turn off the power.

REC Indicator This will light red during recording.

PLAY Indicator

This will light green during playback.

OVERDUB Indicator

This will light yellow during overdubbing.

[REC/PLAY/OVERDUB] Button Press this button when you want to record, play, or overdub.

[STOP/CLEAR] Button Press this button to stop the looper or to erase the recording.

POWER Indicator

This will light if the power is on.

The POWER indicator will become dim when the batteries run low. If the batteries become even lower, the POWER indicator will blink Please replace the spent batteries with fresh ones.

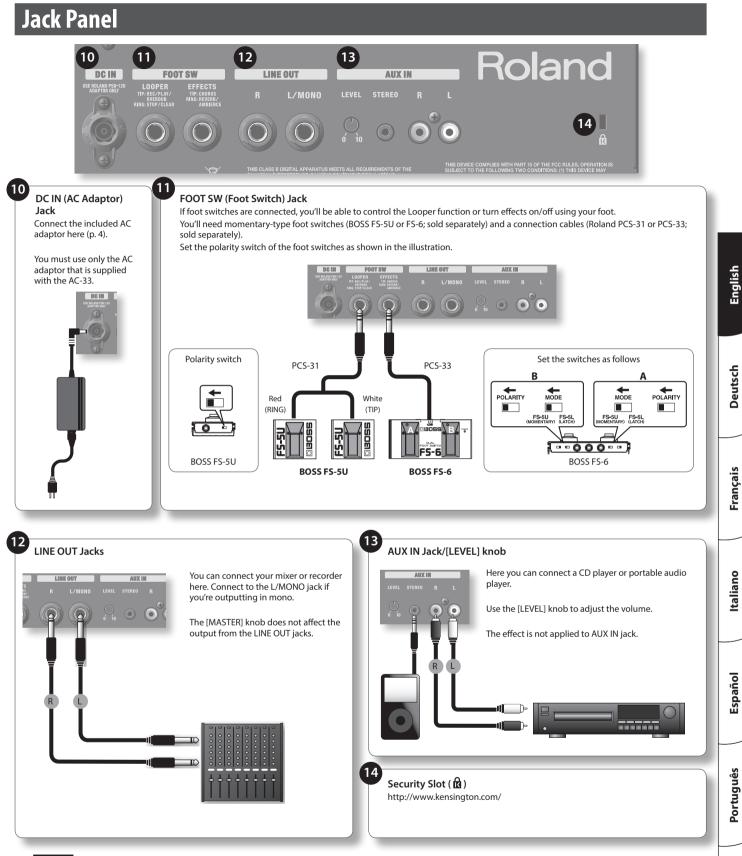
[POWER] Switch

9

This turns the power on/off (p. 5).

- Due to a circuitry-protection feature, the AC-33 requires a few moments after it has been turned on before it is ready for normal operation.
- If you need to turn off the power completely, use this switch to turn off the AC-33's power, then disconnect the plug from the AC outlet. For details, refer to "Connecting the Power" (p. 4).

8



NOTE

When connection cables with resistors are used, the volume level of equipment connected to the inputs (GUITAR CHANNEL, MIC/LINE CHANNEL, AUX IN,) may be low. If this happens, use connection cables that do not contain resistors.

NOTE

You may connect to both types of AUX IN jacks simultaneously, but this may cause the volume to be lower compared to using one type exclusively.

Nederlands

Looper function

This function lets you record a phrase you perform, and then plav it back repeatedly. You can also overdub additional phrases onto the recording

On the AC-33, this is called the Looper function.





STOP/CLEAR Button Press this button to stop the looper or to erase the recording.

Pressing the [STOP/

Recording a phrase

Press the [REC/PLAY/OVERDUB] button to recording a phrase.

The basic operation will change as follows according to the state of the phrase.

Pressing the [REC/PLAY/OVERDUB] button



While producing sound, turn the [VOLUME] knob to adjust the recording level.

(2) Press the [REC/PLAY/OVERDUB] button to start recording.



The AC-33 will enter recording-standby mode when you press the button. Recording will begin when you start performing.

If you're using a foot switch, recording will start when you press the foot switch.

The AC-33's memory can record a phrase approximately 40 seconds long. When you reach the maximum recording time, recording will stop automatically and playback will start.

(3) Press the [REC/PLAY/OVERDUB] button to stop recording.



At the same time that you press the button, the recorded phrase will switch to playback.

The phrase will continue playing repeatedly until you stop it.

(4) To stop playback or overdubbing, press the [STOP/CLEAR] button.



The phrase will stop playing.

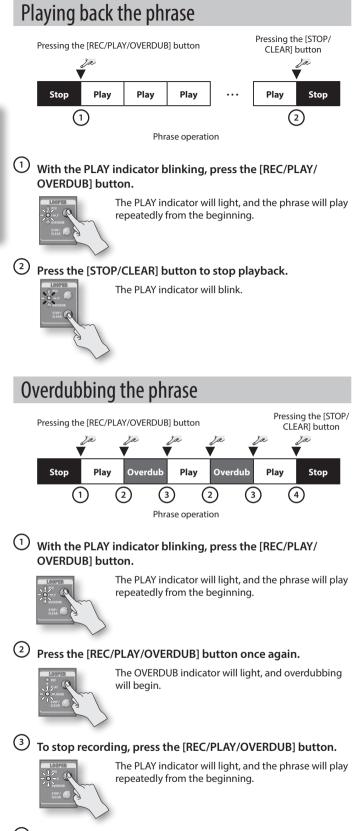
If you want to play again, press the [REC/PLAY/ OVERDUB] button.

MEMO

If a phrase has already been recorded, the PLAY indicator will blink.

NOTE

The recorded phrase will be erased when you switch off the AC-33's power.



(4) Press the [STOP/CLEAR] button to stop playback.



Erasing the phrase

1. Hold down the [STOP/CLEAR] button for two or more seconds.



The REC indicator will blink, and the phrase will be erased.

NOTE

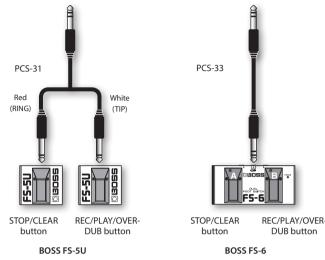
The erased phrase cannot be recovered.

Copyright

- * Recording, duplication, distribution, sale, lease, performance, or broadcast of copyrighted material (musical works, visual works, broadcasts, live performances, etc.) belonging to a third party in part or in whole without the permission of the copyright owner is forbidden by law.
- * Do not use this unit for purposes that could infringe on a copyright held by a third party. We assume no responsibility whatsoever with regard to any infringements of third-party copyrights arising through your use of this unit.

Using a foot switch

By using momentary-type foot switches (BOSS FS-5U or FS-6; sold separately) you can operate the Looper's [REC/PLAY/OVERDUB] button and [STOP/CLEAR] button with your foot.



 If you've used a cable with a phone plug (mono) to connect only one foot switch, the foot switch will operate only the [REC/PLAY/OVERDUB] button.

For details on foot switch polarity settings, refer to p. 9.

Anti Feedback Function

Anti Feedback function

What is acoustic feedback?

This is an unpleasant oscillation (a whine, buzz, or howl) that occurs when the output from a speaker is re-input to a microphone or pickup, amplified, and output again from the speaker.

This is more likely to occur when you point the microphone at a speaker or raise the volume to a high level.



Using the Anti Feedback function

What is the anti-feedback function?

This function suppresses the acoustic feedback that can occur between a guitar or microphone and the amp. It does this by attenuating the sound in the frequency range at which feedback is occurring.

Feedback will be suppressed automatically when you use the anti-feedback function.

1. Turn the [ANTI-FEEDBACK] switch ON.



The anti-feedback function will be applied to the microphone or guitar connected to the GUITAR CHANNEL and MIC/LINE CHANNEL inputs.

MEMO

In order to prevent feedback from occurring during your performance, we recommend that you turn the anti-feedback function on before you begin performing.

NOTE

The anti-feedback function will be reset when you turn the power off, then on again.

- * If the anti-feedback function is not enough to suppress feedback, take the following steps
 - Change the direction of the guitar or microphone
 - Move the guitar or microphone away from the speakers
 - Lower the volume

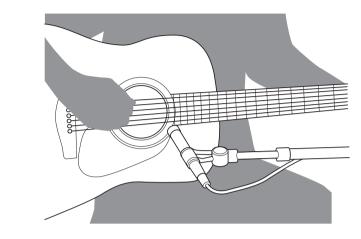
Various Ways to Use the AC-33

Singer/performer

- You can sing while playing your guitar.
- Connect your guitar to the GUITAR CHANNEL.
- Connect your microphone to the MIC/LINE CHANNEL.

Miking your instrument

- Point the microphone at your instrument to capture the sound.
- Connect your microphone to the MIC/LINE CHANNEL.



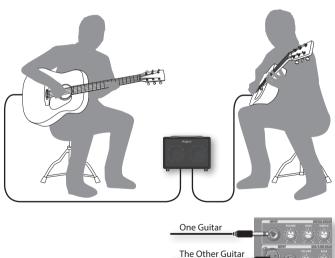


Guitar duo

Here's how two guitarists can perform.

- Connect one guitar to the GUITAR CHANNEL.
- Connect the other guitar (with a built-in preamp) to the MIC/LINE CHANNEL.

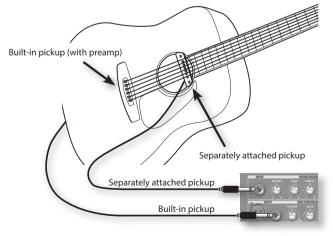
Guitar



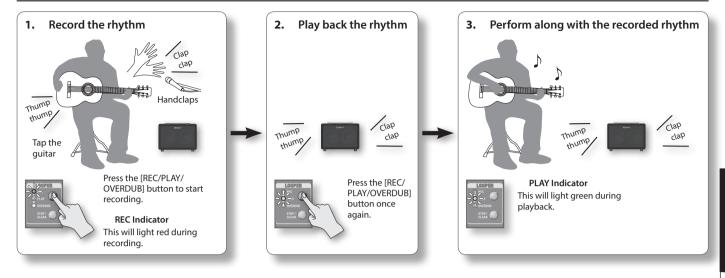
Blending sound from two types of pickups

If your guitar has two types of pickups, you can use the AC-33 to mix their outputs.

- Connect the pickup attached to the sound hole of your guitar to the GUITAR CHANNEL input.
- Connect the pickup (with internal preamp) built into your guitar to the MIC/LINE CHANNEL input.



Using the Looper function to record, play back, and play along with a rhythm

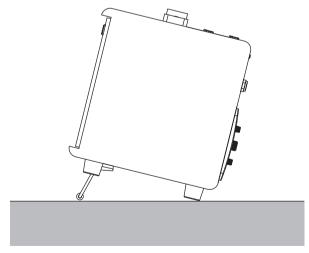


MEMO

By using a momentary-type foot switch (BOSS FS-5U or FS-6; sold separately) you can operate the Looper's [REC/PLAY/OVERDUB] button and [STOP/ CLEAR] button with your foot.

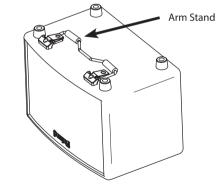
Using the Arm Stand

When using the AC-33 at a low position such as on the floor, extending the arm stand will make the sound from the speakers easier to hear.



NOTE

- If you use the arm stand, you must place the AC-33 on a horizontal surface.
- Fold the arm stand if you're not using it.



NOTE

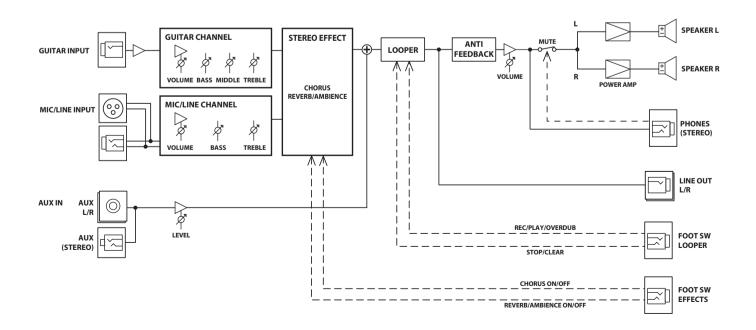
- Do not lift or carry the AC-33 by grasping its arm stand.
- When using the arm stand, do not place objects on the AC-33, or sit or stand on the AC-33.
- Take care not to pinch your fingers when folding the arm stand.

Nederlands

If the system does not work as you expect, check the following points first.

Symptom	Cause	Page
Power will not turn on	Power will not turn on: Are the AC adaptor and AC cord connected correctly?	p. 4
	Is the AC cord correctly connected to an AC outlet?	p. 4
	Are the batteries installed correctly? Could the batteries have run low?	p. 4
	Is the external equipment connected correctly?	p. 5
	If headphones are connected, no sound will be output from the speakers.	p. 6
	Are each channel's level knob and the [VOLUME] knob adjusted correctly?	p. 5, p. 6
No sound	Is the AUX IN [LEVEL] knob adjusted correctly?	p. 9
	Could the batteries have run low? The POWER indicator will dim when the batteries run low. If the batteries run even lower, the POWER indicator will blink. Please install fresh batteries.	p. 4
Sound is distorted	Could each channel's level knob or [VOLUME] knob be raised excessively?	p. 5
	Is the input level from the connected device appropriate?	p. 5
Insufficient volume	Are each channel's level knob or [VOLUME] knob adjusted correctly?	p. 5
	Is the input level from the connected device appropriate?	p. 8
	Could multiple devices be connected to AUX IN jack?	p. 9
	Could the batteries have run low? The POWER indicator will dim when the batteries run low. If the batteries run even lower, the POWER indicator will blink. Please install fresh batteries.	p. 4
	Could the [CHORUS] switch be turned off?	p. 7
Effect not applied	Is the [REVERB/AMBIENCE] knob adjusted correctly?	p. 7
Effect not applied	Could you have used a foot switch to turn off the effect?	p. 7
	The effect cannot be applied to AUX IN.	p. 9

Block Diagram



AC-33: BATTERY POWERED STEREO ACOUSTIC AMPLIFIER

Rated Power Output	30 W (15 W + 15 W) 20 W (10 W + 10 W)	(when using the AC adaptor) (when using the Alkaline batteries)	
Nominal Input Level (1 kHz)	GUITAR CHANNEL MIC/LINE CHANNEL	-10 dBu/1 MΩ -50 dBu (MIC) / -20 dBu (LINE)	
	AUX IN	-10 dBu	
Nominal Output Level (1 kHz)	LINE OUT	-10 dBu	
Speakers	12 cm (5 inches) × 2		
Controls	GUITAR CHANNEL	VOLUME Knob, BASS Knob, MIDDLE Knob, TREBLE Knob, CHORUS Switch	
	MIC/LINE CHANNEL	VOLUME Knob, BASS Knob, TREBLE Knob, CHORUS Switch	
	AUX IN	LEVEL Knob	
	ANTI-FEEDBACK	ON/OFF Switch	
	LOOPER	REC/PLAY/OVERDUB Button, STOP/CLEAR Button	
	REVERB/AMBIENCE	REVERB/AMBIENCE Knob	
	Others	POWER Switch, MASTER Knob	
Indicators	LOOPER	REC, PLAY, OVERDUB	
	POWER	POWER	
Connectors	GUITAR CHANNEL Input Jack (1/4″ phone type)		
	MIC/LINE CHANNEL Input Connector (XLR type), Input	Jack (TRS phone type)	
	PHONES Jack (Stereo 1/4" phone type)		
	AUX IN Jacks (RCA phono type, Stereo miniature phone type)		
	LINE OUT (L/MONO, R) Jacks (1/4" phon	e type)	
	FOOT SW Jack EFFECTS (TRS phone type) LOOPER (TRS phone type)		
	DC IN Jack		
Power Supply	DC 13 V: AC Adaptor or Dry Battery (LR	6 (AA) type) x 8	
Current Draw	490 mA		
Expected battery life under continu- ous use:	Alkaline batteries	approximately 8 hours	
(These figures will vary depending on the actual conditions of use.)	Nickel-metal hydride batteries	approximately 9 hours	
Dimensions	318 (W) x 223 (D) x 243 (H) mm 12-9/16 (W) x 8-13/16 (D) x 9-5/8 (H) ind	ches	
Weight	4.7 kg 10 lbs 6 oz (Excluding Battery)		
Accessory	Owner's Manual, AC Adaptor, AC Cord		
Options	Foot Switch: BOSS FS-5U, FS-6 Connection Cable: Roland PCS-31, PCS-	33	

* 0 dBu = 0.775 Vrms

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

Español

Roland