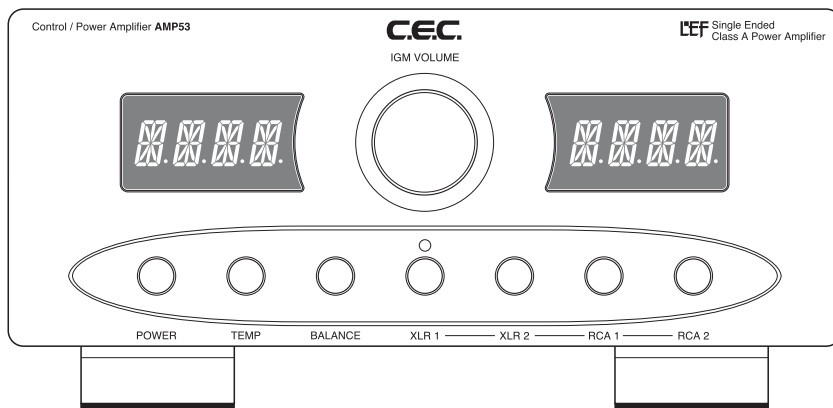


Control / Power Amplifier

AMP53

Owner's Manual



CEC.

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Introduction

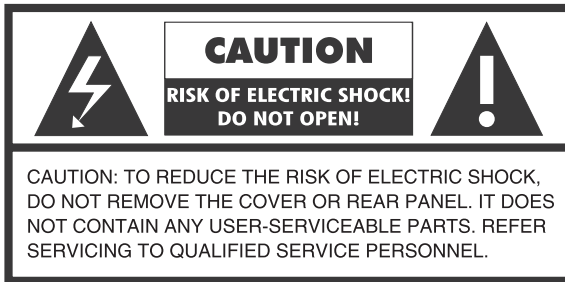
Thank you for purchasing the AMP53.

Please refer to this Owner's Manual to use your AMP53 safely, and in the best possible way. It is recommended that you keep the carton box and the packing material available for future transportation needs.

Features:

- The AMP53 is a control/power amplifier developed for the highest pure sound quality with a design philosophy of minimizing the signal path. It is a pure single-ended class-A amplifier equipped with the newest LEF (Load Effect Free) circuitry. Having no global feedback circuitry, which affects sound quality, results in the successful combination of high power and high quality sound, unaffected by transistor characteristics.
- The AMP53 also features DIGM (Digital Intelligent Gain Management). This unique volume control technology digitally controls the amplifier gain itself without any input signal dilution. Left and right volume balance can be adjusted digitally.
- The AMP53's circuitry is fully balanced, from the input to the output stage, to minimize noise and distortion.
- The AMP53's fan-cooled air flow system enables high output power in a compact housing.

Important Safety Instructions



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to potential electric shock hazards within the product's enclosure.



The exclamation point within an equilateral triangle is intended to notify the user to the presence of important operating and maintenance (servicing) instructions in the accompanying documentation.

WARNING : TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions
- 5) Do not use the AMP53 near water.
- 6) Clean only with a dry cloth.
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install the AMP53 near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

- 9) (For USA, Canada:) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades, with one blade wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet. (For European Countries:) Do not defeat the safety purpose of the grounding-type plug. This plug has two poles and a third grounding hole. The third hole is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the AMP53's power cord from being walked on or pinched, especially around the plugs, convenience receptacles, and where it exits the AMP53's casing.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Only use the AMP53 with a cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the unit. If using a cart, exercise caution when moving the cart/unit combination to avoid injury from it tipping over.
- 13) Unplug the AMP53 during lightning storms or when leaving it unused for extended periods of time.
- 14) Refer all servicing to qualified service personnel. Servicing is required when the AMP53 itself, its power-supply cord, or plug has been damaged in any way, when liquids have been spilled onto the AMP53, when foreign objects have fallen into the AMP53, when the AMP53 has been exposed to rain or moisture, when the AMP53 does not operate normally, or when the AMP53 has been dropped.



- Do not expose the AMP53 to drips or splashes.
- Do not place any objects filled with liquids, such as vases, on the AMP53.
- Do not install the AMP53 in a confined space, such as within a book case or similar piece of furniture.
- Plug the AC power cord into an easily accessible AC wall outlet, so it can be quickly unplugged in case of emergency.

CAUTION

- DO NOT REMOVE THE PROTECTIVE HOUSING WITH A SCREW-DRIVER.
- USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
- IF THE AMP53 SEEMS TO BE MALFUNCTIONING, CONTACT A QUALIFIED SERVICE STATION. DISCONTINUE USE OF ANY MALFUNCTIONING UNIT.

For CANADA

AC POWER CORD CONNECTION

CAUTION:

TO PREVENT ELECTRIC SHOCK, MATCH THE BLADE WIDTH OF THE PLUG TO THE SLOT WIDTH. THE PLUG MUST BE FULLY INSERTED TO THE SLOT.

Handling Precautions

- 1. Before connecting or disconnecting other devices, unplug the AMP53's AC power cord from the outlet.**

- 2. To avoid noise from your speakers, turn your system components on or off in the following order:**

Power on: Turn on other devices connected to the AMP53's inputs first, before turning the AMP53 on.

Power off: Turn the AMP53 off first, before turning off any connected devices.

- 3. Handle with care**

Avoid exerting excessive force to the knobs and cabinet on the AMP53.

- 4. Installation**

Use of an audio rack is recommended to maximize the sound quality and performance of the AMP53. Installation and use of the AMP53 in the locations described below may cause deterioration in sound quality or malfunction:

- Locations exposed to direct sunlight - such as windowsills, and other exceptionally warm locations - such as near heating appliances (surrounding temperature higher than 35 °C), or exceptionally cold locations (surrounding temperature lower than 5 °C), can prevent the AMP53 from functioning properly.
- Damp locations exceeding 90% humidity may cause the AMP53's metal parts to rust, causing the unit to malfunction.
- Dusty locations may cause the AMP53 to malfunction. The accumulation of dust inside the heatsink or the internal fan may lower the performance of the cooling system. It may also cause contact failure of the switches, and/or noise.
- Otherwise, avoid installing the AMP53 close to other transformers and electrical motors, so as to prevent the pickup of induction hum. Also, avoid mounting the AMP53 on surfaces that may be affected by vibration.

- 5. Avoid lightning strikes**

Disconnect the AC power cord from the AC outlet when there is a thunderstorm in your vicinity.

6. Condensation

When the AMP53 is brought into a warm room when the exterior temperature is cold, or when the room temperature rises sharply from using a heater, condensation may form both inside and outside the AMP53, hampering its performance. If this happens, leave the AMP53 unused in the room for 1 to 2 hours (depending on the amount of condensation), so as to bring the AMP53's temperature closer to the room temperature. The condensation should go away gradually.

7. Listening etiquette

When adjusting the sound volume level, make sure you do not disturb other people and your neighborhood.

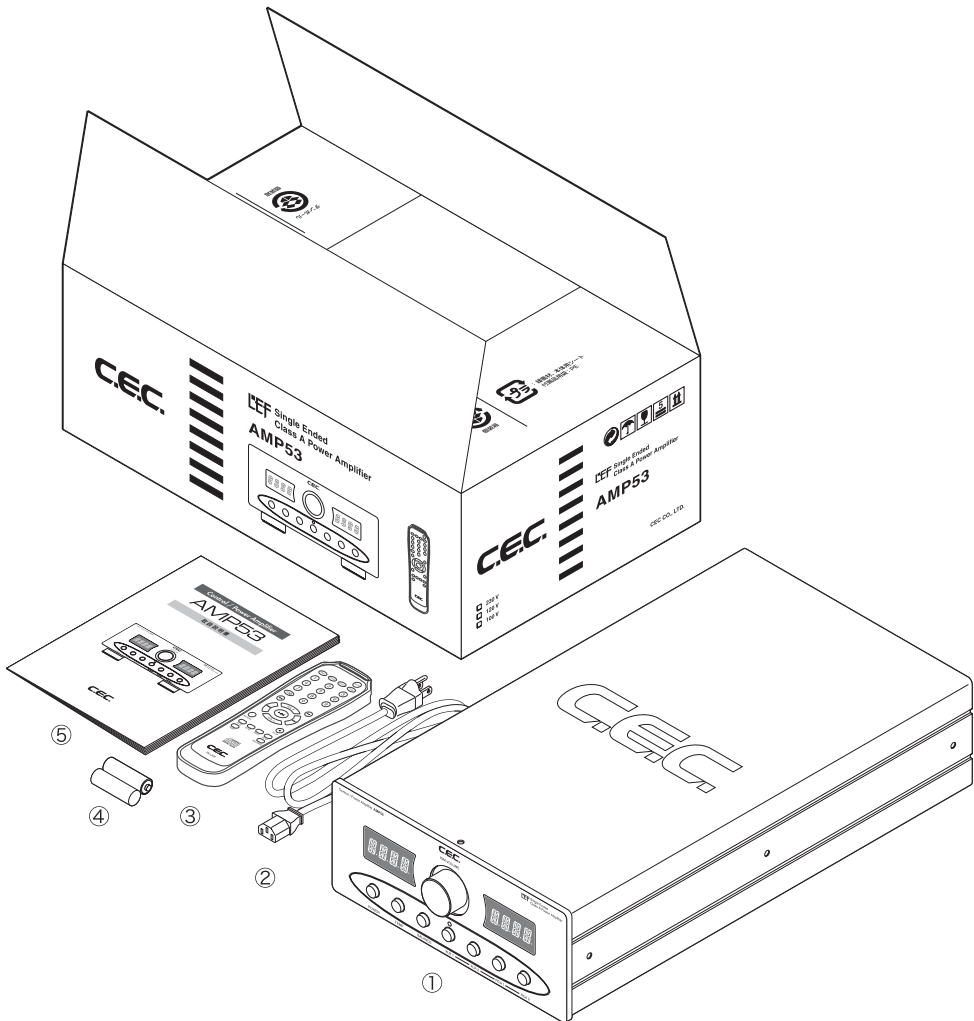
Accessories

The packaging for the AMP53 should contain the following:

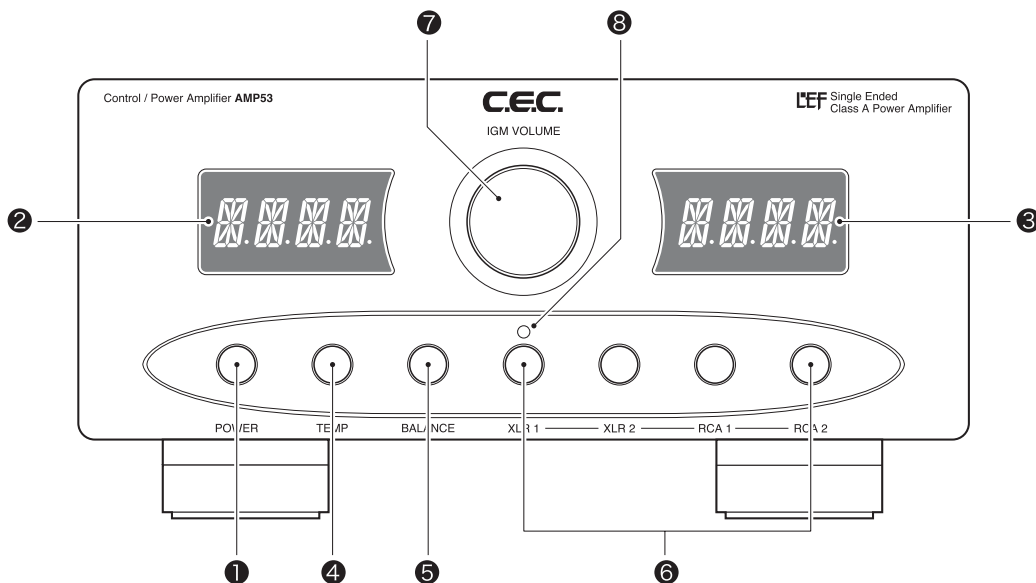
1. AMP53 unit
2. AC power cord
3. Remote control unit
4. Two AAA batteries for the remote control unit
5. Owner's Manual

Note: Keep the carton box and packing material available for future transportation needs.

The AC power cord is for use with the AMP53 exclusively, and should not be used for other devices.



Front Panel Functions



1 POWER

Press the POWER button to turn the AMP53 on.

DISPLAY1 should briefly read “00”, and DISPLAY2 “WAIT”. About 10 seconds later, DISPLAY1 should read “10”, and DISPLAY2 the selected INPUT (XLR1, XLR2, RCA1 or RCA2).

Note: The volume is set to 10 by default whenever the unit is powered on. The volume level should be set to the minimum (“00”) position prior to turning off the AMP53.

Note: Do not turn on the AMP53 again right after powered off. Please wait 20 seconds for its safe operation.

Press the POWER button again turns the AMP53 off.

2 DISPLAY1

DISPLAY1 by default shows the current volume level, which can range in 1dB increments from “00” to “66”.

Whenever the left and right balance should be not set to “00” , a dot is displayed behind the volume level. (e.g. “ 10. ”)



③ DISPLAY2

DISPLAY2 shows the selected INPUT (XLR1, XLR2, RCA1 or RCA2).

When the HIGH GAIN setting (refer to section ⑥) feature is active for the selected INPUT, a dot is displayed behind the INPUT name.

**④ TEMP**

Press the TEMP button to show the current temperature on DISPLAY1. DISPLAY1 will revert to show the current volume level about 5 seconds later.

**⑤ BALANCE**

If you need to adjust the volume balance between the left and right speakers, press the BALANCE button. DISPLAY1 should now read "00".

Turning the volume knob to the left increases the volume gain for the left channel in 1dB increments from "L01" to "L10".

Turning the volume knob to the right increases the volume gain for the right channel in 1dB increments from "R01" to "R10".

DISPLAY will revert to display the current volume level about 5 seconds later. If the BALANCE setting feature is active, a dot will be displayed behind the volume level.

To cancel the BALANCE setting, press and hold the BALANCE button until DISPLAY1 shows "00".

The BALANCE setting is memorised and will be restored after power on.

⑥ XLR1, XLR2, RCA1, RCA2 (INPUT SELECTION)

⑥ XLR1, XLR2, RCA1, RCA2 (INPUT SELECTION)

Press the XLR1, XLR2, RCA1 or RCA2 button to select an INPUT source. The selected INPUT will be shown in DISPLAY2.

If you are using an external source with a low output (such as an analogue tuner or tape deck), you can activate the HIGH GAIN option by pressing and holding the corresponding INPUT button for about 2 seconds. A dot will be shown behind the INPUT name in DISPLAY2 and the input gain increases by 6dB. This HIGH GAIN option can be set individually for each INPUT.

To cancel the HIGH GAIN setting, press and hold the corresponding INPUT button for about 2 seconds until the dot behind the INPUT name disappears.

Note: The AMP53 memorises the state of HIGH GAIN and restores the setting after power on.

⑦ IGM VOLUME

Turn the VOLUME knob clockwise for volume up in 1dB increments from “00” to “66”.

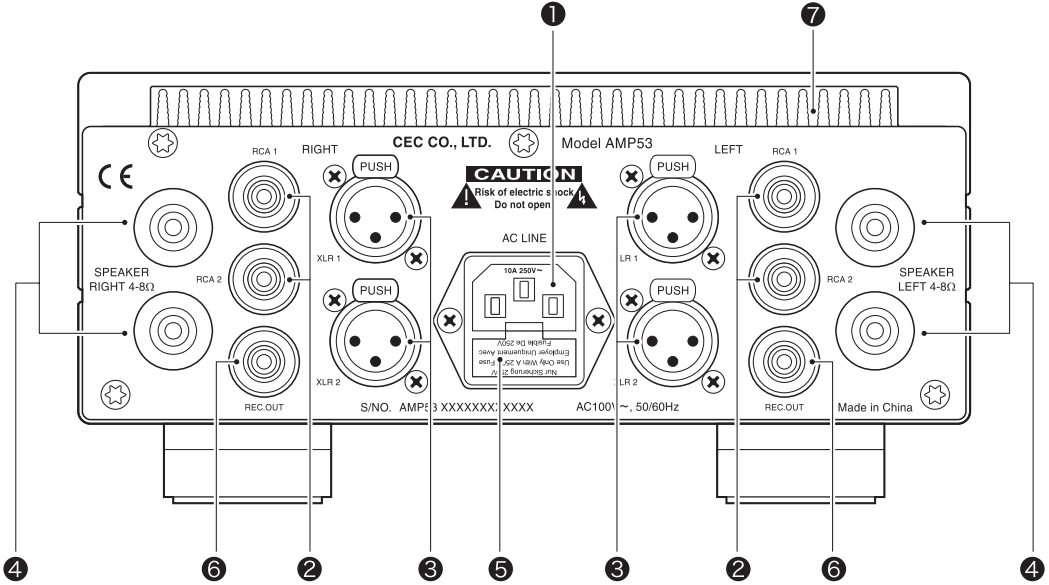
Turn the VOLUME knob counter clockwise for volume down in 1dB decrements.

Note: The volume is set to “10” by default whenever the AMP53 is powered on.

⑧ REMOTE CONTROL RECEIVER

The supplied remote control allows the AMP53 to be operated from a distance. When operating the remote control, point it towards the REMOTE CONTROL RECEIVER. Make sure nothing is blocking the AMP53's front panel, where the REMOTE CONTROL RECEIVER is located.

Rear Panel Functions



① AC LINE

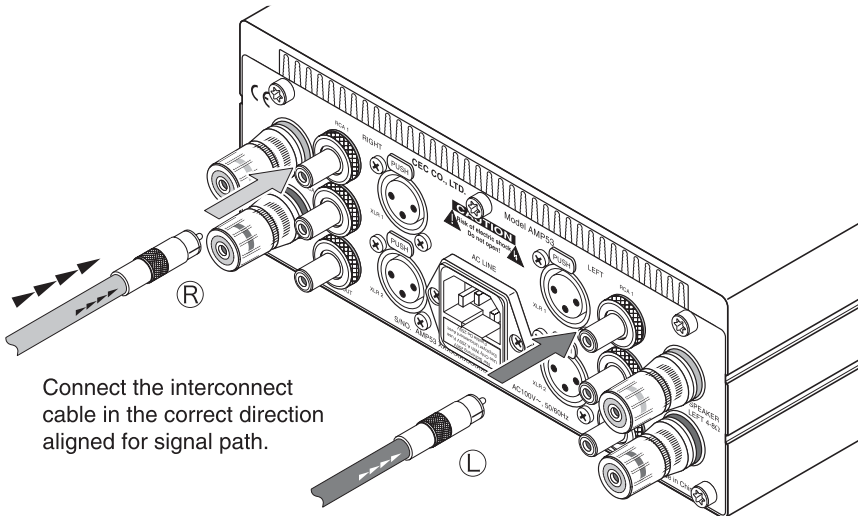
Connect the supplied AC power cord to the AC LINE inlet.

② RCA inputs (RCA1 & RCA2)

Line in audio signal input jacks equipped with unbalanced RCA connectors.

Use interconnect RCA cables to connect RCA1/RCA2 to an external source with an RCA line output, such as a CD player, tuner or tape deck.

Note: Phono and digital sources cannot be connected to RCA1 and RCA2.



Connect the interconnect cable in the correct direction aligned for signal path.

③ XLR inputs (XLR1 & XLR2)

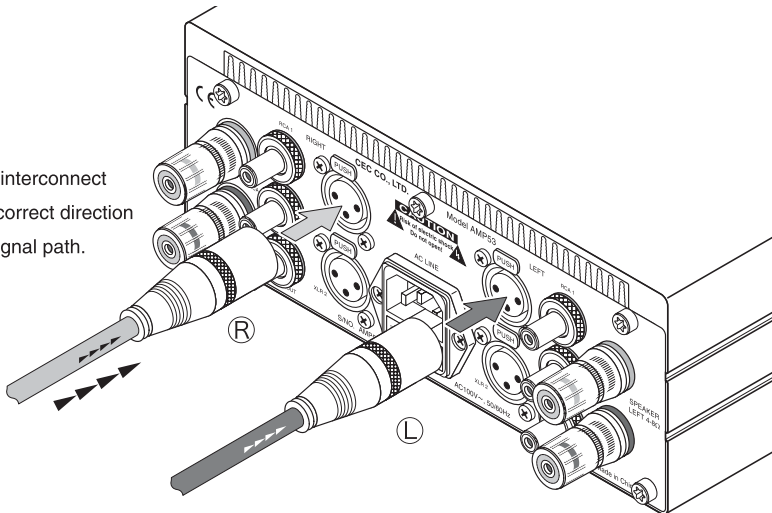
Line in audio input jacks equipped with balanced XLR connectors.

Use interconnect XLR cables to connect XLR1/XLR2 to an external source with an XLR line output, such as a CD player or DVD player.

(Pinning: 1=Ground, 2=Hot, 3=Cold)

Note: Phono and digital sources cannot be connected to XLR1 and XLR2.

Connect the interconnect cable in the correct direction aligned for signal path.



④ SPEAKER LEFT / RIGHT

Power amplifier output terminals to connect 4~8 ohm speakers.

Connect the left or right + speaker cable to the left or right terminal marked with red color.

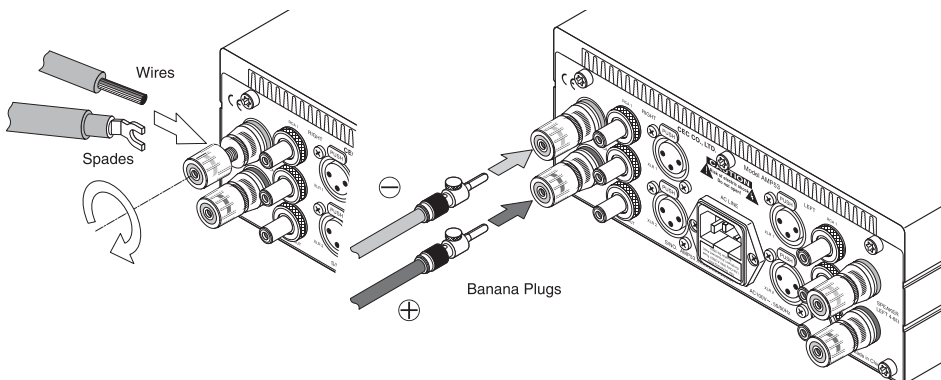
Connect the left or right - speaker cable to the left or right terminal marked with black color.

Banana plugs, spades and wires can be connected.

Note: The AMP53 must be powered off when connecting speaker cables.

All the speaker terminals are active due to complete balanced circuit design.

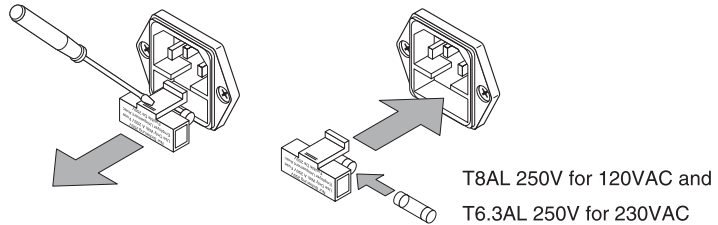
Never connect any speaker terminal to ground.



5 FUSE

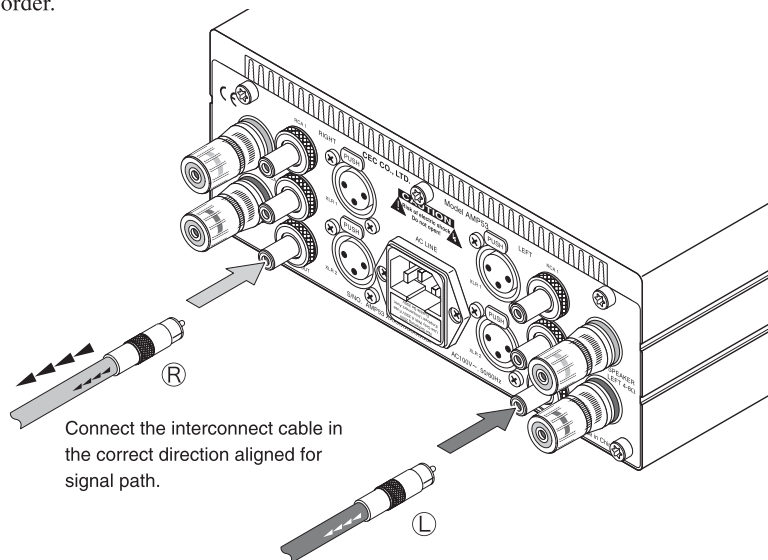
The AMP53's FUSE is located inside the FUSE box.

If the FUSE is broken, gently pull the box with a small flat screwdriver. Replace the FUSE with new one, and replace the box inside the AMP53.

**6 REC. OUT**

Line out audio signal output jacks equipped with unbalanced RCA connectors.

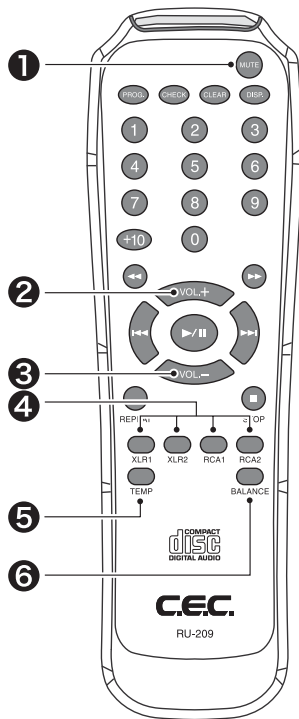
Use interconnect RCA cables to connect the REC. OUT terminals to an external recording device with an RCA input, such as a CD recorder, MD recorder or tape recorder.

**7 AIR INLET**

This is the air inlet for cooling the unit.

Note: Make sure the air inlet is always uncovered, ensuring a good cooling function, preventing overheating and possible resulting damages of the AMP53.

Remote Control Unit



Note: The other buttons on the supplied remote control unit will work with CEC's line of CD players (such as the TL53Z), but are not used for the AMP53.

1 MUTE

Press the MUTE button to mute the AMP53. DISPLAY1 will show "MUTE".

To turn MUTE off, press the MUTE button again or any volume button.

2 VOL.+

Press the VOL.+ button to increase the volume level in 1dB increments up to 66. The current volume level will be displayed in DISPLAY1. Press and hold the VOL.+ button to increase the volume level continuously.

Note: Beware of high volume settings.

3 VOL.-

Press the VOL.- button to decrease the volume level in 1dB increments down to 00.

Press and hold the VOL.- button to decrease the volume level continuously.

4 XLR1, XLR2, RCA1, RCA2

Press the XLR1, XLR2, RCA1 or RCA2 button to select an INPUT source. The selected INPUT will be displayed in DISPLAY2.

To increase the INPUT gain by 6dB, press and hold the selected INPUT button for about 2 seconds until a dot appears behind the INPUT name in DISPLAY2.

(Refer to "6. INPUT SELECTION" in the "Front Panel Functions" section for details.)

5 TEMP

Press the TEMP button to show the current temperature on DISPLAY1.

DISPLAY1 will revert to show the current volume level about 5 seconds later.

6 BALANCE

If you need to adjust the volume balance between the left and right speakers, press the BALANCE button. DISPLAY1 should now read "00".

Pressing the VOL.- button increases the volume gain for the left channel in 1dB increments from "L01" to "L10".

Pressing the VOL.+ button increases the volume gain for the right channel in 1dB increments from "R01" to "R10".

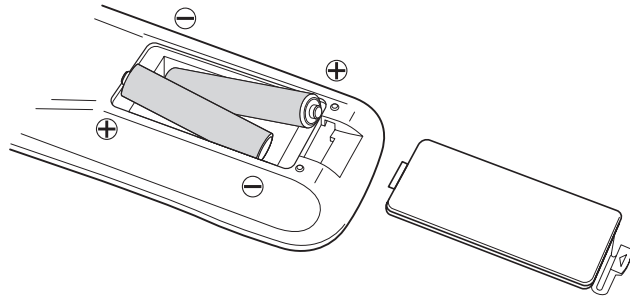
(Refer to "5. BALANCE" in the "Front Panel Functions" section for details.)

Precautions when using the remote control unit

- Avoid exposing the remote control receiver on the AMP53's front panel to direct sunlight or other light sources, as such exposure can cause malfunction.
- When operating the remote control, point it towards the remote control receiver. Make sure nothing is blocking the AMP53's front panel, where the remote control receiver is located.

Battery Installation

Remove the battery compartment cover and insert the supplied two AAA batteries. Make sure that the batteries are inserted with their positive (+) and negative (-) poles positioned correctly, and close the cover.



Battery Replacement

If the distance at which the remote control unit can be used to operate the AMP53 seems to be decreasing, the batteries need to be replaced.

Battery Precautions



- Never use different types of batteries together. Both rechargeable or non-rechargeable batteries can be used, but the two should not be used together.
- If you will not be using the remote control unit for an extended period of time (more than a month), remove the batteries to prevent leakage.
- If the batteries leak, use a cloth to wipe away the liquid inside the battery compartment and replace the batteries with new ones.
- Do not heat or disassemble batteries, and never dispose of old batteries by throwing them in a fire. Dispose of batteries following laws in the local area.

Cautions regarding handling

- Never connect the speaker output terminals to a ground. Both speaker terminals are active due to the full balanced circuit design of the AMP53.
- Be careful when connecting active subwoofers or similar devices to the speaker terminals. A short circuit to the ground may result in damage to the AMP53 or a broken fuse.
- DC voltage at the speaker terminals is not 0 when measuring in relation to ground. However, the differential voltage from (+) to (-) speaker terminal is nearly 0 and thus harmless to speakers.
- Never make a short circuit between the (+) speaker terminal and the (-) speaker terminal. The short circuit may result in damage to the AMP53.
- The AMP53's volume settings are entirely digital. If you are using the AMP53 with digital equipment with standard output levels, such as CEC's CD players and DA converters, make sure you do not exceed 55 if you are using 8 ohm speakers, 53 if you are using 4 ohm speakers. Depending on the local AC voltage and the music signal, volume settings exceeding this limit may induce clipping and distort the play-back output.
- The HIGH GAIN option (+6dB) should only be used with lower than 1Vrms output level devices. Using the HIGH GAIN option with devices having standard output levels may result in output distortion.
- Amplifiers produce heat. The AMP53 features an intelligent thermal control which keeps the operating temperature in the optimal range. When used with high volume settings in a high-temperature environment, an internal fan will help keep the temperature in the optimal range. Make sure to leave space open around the AMP53 (at least 15cm) to keep the air circulating. Make sure you do not block the air intake for the heatsink on the rear panel, and the fan exhaust on the bottom panel. Blocking these openings may cause overheating and severe damage to the AMP53.
It is recommended that you use the AMP53 in a low-dust environment.

Overheating Protection

- The AMP53 features two methods of overtemperature protection.
Around 35°C the fan starts a forced air flow through the heatsink which gradually increases by temperature. If the temperature should exceeds 60 °C, the AMP53 will be shut down automatically until the unit is cooled down. DISPLAY1 and DISPLAY2 will read "COOL DOWN" during this cooling phase. The AMP53 will return to normal function after cooling down to 45°C.

Maintenance

- The AMP53 requires no periodic maintenance and contains no user-serviceable parts.
- If the surface of the AMP53 case is soiled, wipe with a soft cloth or use diluted neutral cleaning liquid. Be sure to remove any fluid completely. Do not use thinner, benzene or alcohol as these may damage the surface of the AMP53 case.
- The AMP53's fuse is contained under the AC INLET on the rear panel, and can be replaced by the user if broken. Pull the fuse box and replace the fuse with a new one. If the new fuse continues to blow after replacement, there may be a malfunction with the AMP53's internal circuitry. If this happens, please contact the store where you purchased the AMP53, or an authorized CEC service center, and arrange for repairs.

Troubleshooting

If you suspect a malfunction in the unit, please check the following chart before calling your dealer.

No power

Check the connection at the both ends of the AC power cord. Make sure there is power at the wall outlet.

No sound

Check the connection from the external source, e.g. the CD player.

Check the operation of the external source, e.g. the CD player.

STOP is displayed

Turn the AMP53 off and unplug the AC power cord from the outlet. Wait for a minute, plug the AC power cord back in and turn the AMP53 on again.

Unresponsive to remote control

Point the remote control towards the remote control receiver on the front panel. Remove any objects blocking the receiver.

Use the remote control unit at a shorter distance from the AMP53.

Replace the batteries in the remote control unit with new ones.

Specifications

Output power	2 x 120W (8ohm)
Frequency response	10Hz ~ 200kHz / +0 / -0.2dB / 1W
S/N ratio	XLR 101dB, RCA 91dB (flat / 1W)
THD	XLR 0.0028%, RCA 0.016% (1W / 1kHz)
Input gain	0dB, +6dB
Input terminal	2 x balanced XLR, 2 x unbalanced RCA
Speaker output	1
Rec. output	1 x RCA
Power	AC120V/230V 60Hz/50Hz (specified on the rear panel)
Power consumption	Min. 60W (no input), Max. 300W (8ohm / RCA input)
External dimensions	approx. 217.5 (w) x 448 (d) x 107 (h) mm
Weight	approx. 9.6kg
Accessories	AC power cord, remote control unit, 2 batteries for remote control unit and Owner's Manual
Color	Silver

* Design and specifications are subject to change without notice.

* Illustrations on the Owner's Manual may be slightly different from the unit due to design improvements.

CEC.

CEC Co., Ltd. Japan

0705-B