

YAMAHA MX-830/MX-630

Natural Sound Power Amplifier
High Dynamic Low-impedance Drive Capability
Hyperbolic Conversion Amplification Circuit
3-pair Speaker System Adaptability (MX-830)
2-pair Speaker System Adaptability (MX-630)

Thank you for selecting the YAMAHA Power Amplifier.

CENTER

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OWNER'S MANUAL



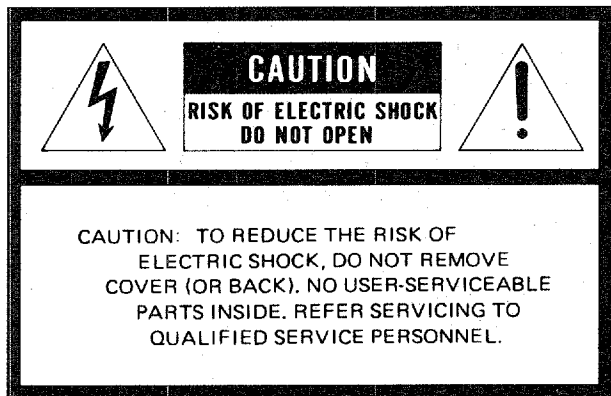
IMPORTANT!

Please make a note of the serial number of this unit in the space indicated below.

Model: **MX-830/630**

Serial No.:

The serial number is inscribed on the rear of the unit. Keep this Owner's Manual in a safe place for future reference.



• Explanation of Graphical Symbols



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

SAFETY INSTRUCTIONS

1 Read Instructions – All the safety and operating instructions should be read before the appliance is operated.

2 Retain Instructions – The safety and operating instructions should be retained for future reference.

3 Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.

4 Follow Instructions – All operating and other instructions should be followed.

5 Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

6 Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



7 Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

8 Ventilation – The appliance should be situated that its location or position does not interfere with proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

9 Heat – The appliance should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.

10 Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

11 Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

12 Cleaning – The appliance should be cleaned only as recommended by the manufacturer.

13 Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

14 Object and Liquid Entry – Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the appliance.

CAUTION: READ THIS BEFORE OPERATING YOUR UNIT

15 Damage Requiring Service – The appliance should be serviced by qualified service personnel when:

- A.** The power-supply cord or the plug has been damaged; or
- B.** Objects have fallen, or liquid has been spilled into the appliance; or
- C.** The appliance has been exposed to rain; or
- D.** The appliance does not appear to operate normally or exhibits a marked change in performance; or
- E.** The appliance has been dropped, or the cabinet damaged.

16 Servicing – The user should not attempt to service the appliance beyond those means described in the operating instructions. All other servicing should be referred to qualified service personnel.

17 Power Lines – An outdoor antenna should be located away from power lines.

18 Grounding or Polarization – The precautions that should be taken so that the grounding or polarization is not defeated.

19 Speaker Connection – To reduce the risk of shock or fire and prevent short circuits, strictly follow the instructions for connecting speakers on p. 8.

1 To ensure the finest performance, please read this manual carefully. Keep it in a safe place for future reference.

2 Install your unit in a cool, dry, clean place – away from windows, heat sources, and too much vibration, dust, moisture or cold. Avoid sources of hum (transformers, motors). To prevent fire or electrical shock, do not expose to rain and water.

3 Do not operate the amplifier upside-down. It may overheat, possibly causing damage.

4 Never open the cabinet. If a foreign object drops into the set, contact your dealer.

5 Do not place records or other objects on top of the amplifier; this will block the ventilation holes, cause the internal temperature to rise and may result in a failure.

6 Do not use force on switches, knobs or cords. When moving the set, first turn the unit off. Then gently disconnect the power plug and the cords connecting to other equipment. Never pull the cord itself.

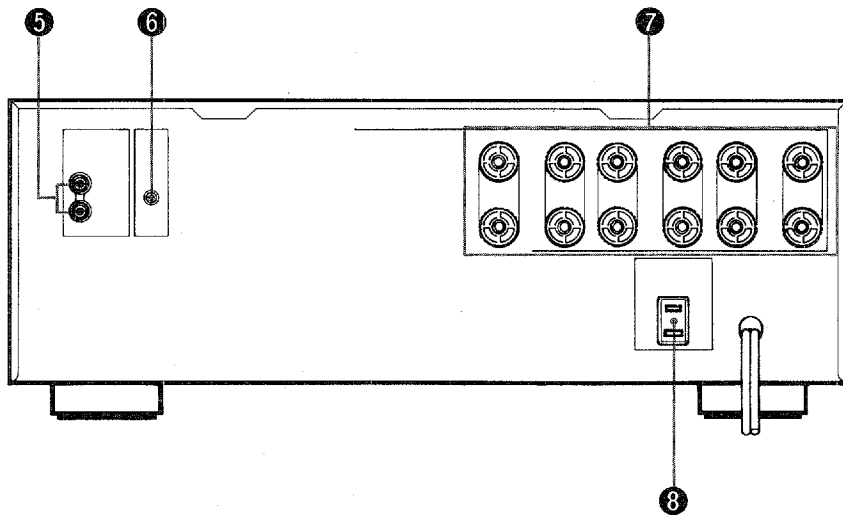
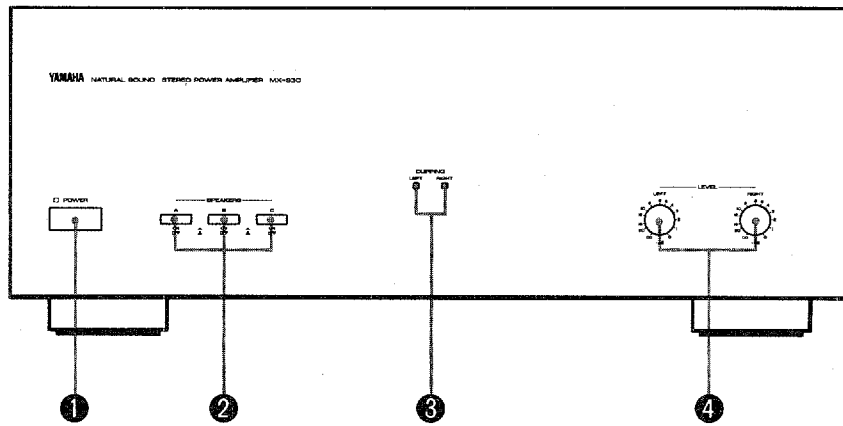
7 Do not attempt to clean the unit with chemical solvents; this might damage the finish. Use a clean, dry cloth.

8 Be sure to read the "Troubleshooting" section on common operating errors before concluding that your unit is faulty.

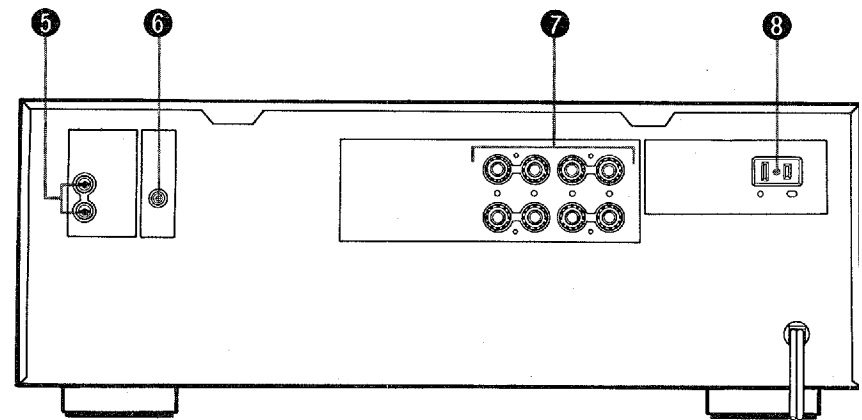
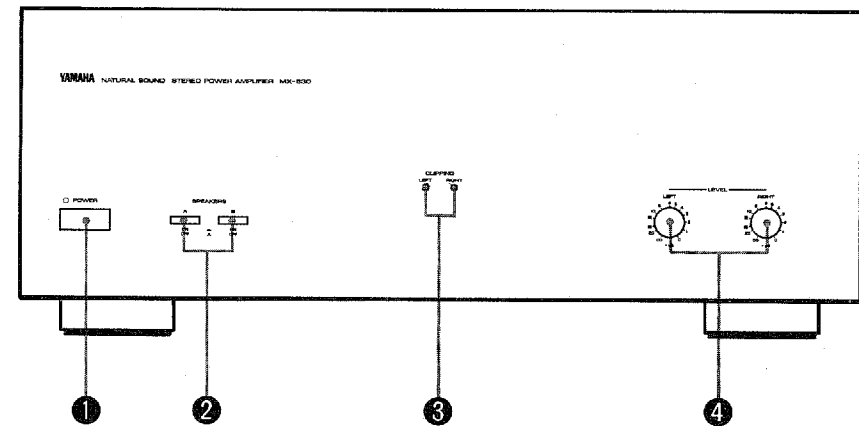
9 Do not connect audio equipment to the AC outlets on the rear panel if that equipment requires more power than the outlets are rated to provide.

1

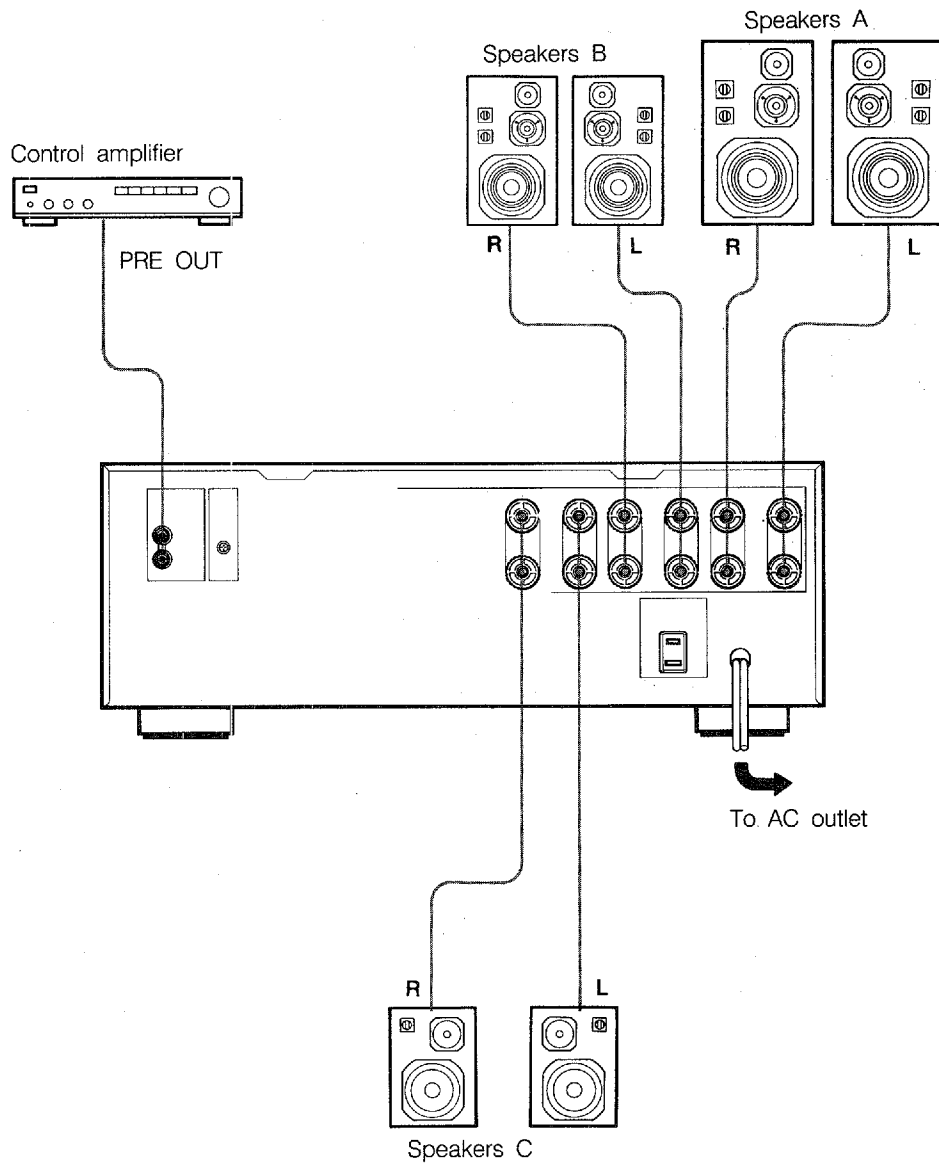
MX-830



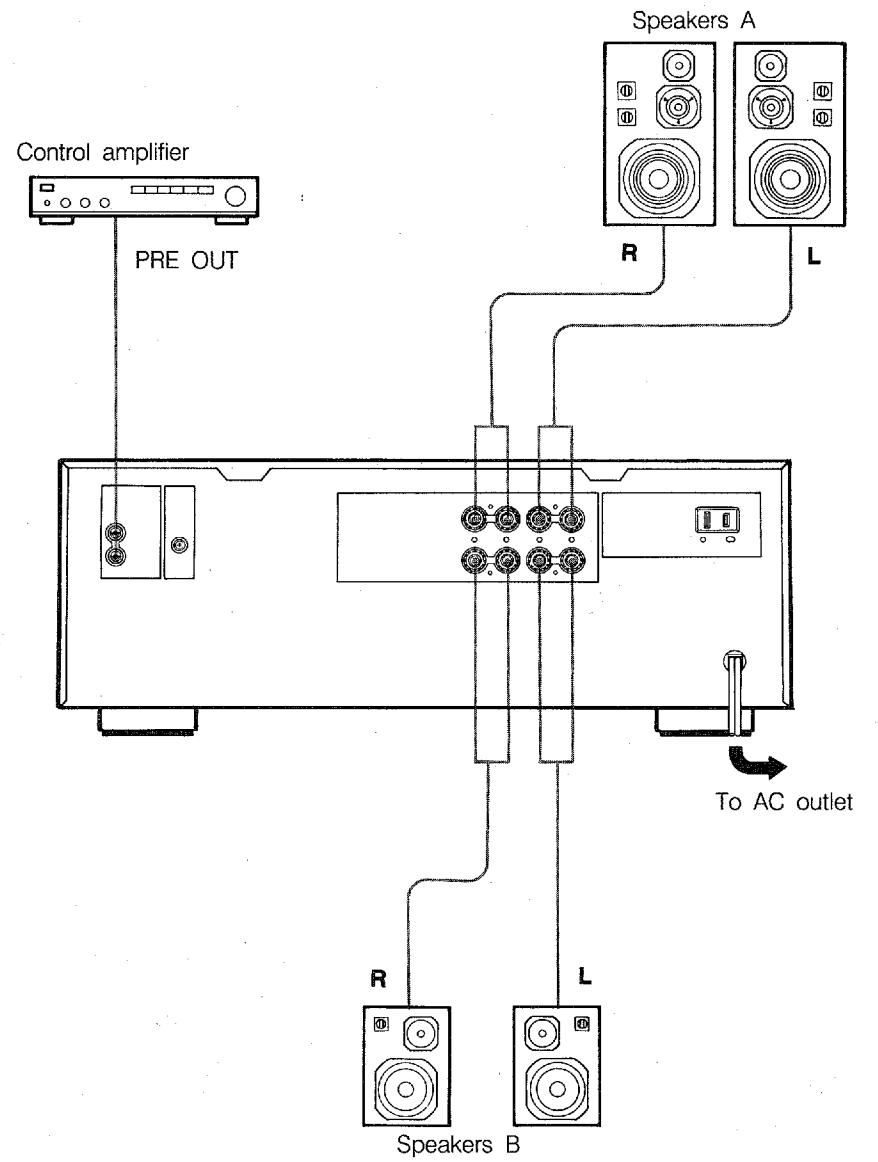
MX-630



MX-830



MX-630



CONTROLS AND THEIR FUNCTIONS

(See Fig. 1.)

FRONT PANEL

① POWER switch/indicator (POWER)

Press this switch to switch ON the power. The indicator above it will illuminate while the power is ON.

Press the switch again to switch OFF the power. Note the following cautions.

- Before switching ON the power, be sure to set the volume control(s) of the control amplifier to the lowest setting in order to avoid damage to the speakers.
- The speaker-protection circuit functions to mute speaker sound reproduction for a few seconds after the power is switched ON.

② SPEAKERS switches (SPEAKERS)

MX-830

These switches permit you to select any of the speaker pairs connected to the A, B and/or C terminals by pressing the appropriate switch(es) to the ON position.

Note: If speakers are connected to terminals B, but not to terminals C, be sure to press only the switch B when listening via pair B. Pressing switch C as well will cut off the sound from pair B, because B and C are connected in series. (The same is true if speakers are connected to terminals C and switch B is pressed.)

MX-630

These switches permit you to select any of the speaker pairs connected to the A and/or B terminals by pressing the appropriate switch(es) to the ON position.

③ CLIPPING indicators (CLIPPING)

These indicators illuminate if an overload is applied to this unit due to excessive input. (When this indicator illuminates, reduce the input level by using the output level control on the control amplifier or other component connected to this unit.)

④ Speakers level controls (LEVEL)

These controls are used for adjustment of the volume level of the sound reproduced through the speaker systems connected to this unit. Turning a control clockwise increases the volume level from the speaker system(s) corresponding to that control.

REAR PANEL

⑤ INPUT terminals (INPUT)

These terminals are for connections from a control amplifier. Refer to the section "CONNECTIONS" for detailed information.

⑥ Ground terminal knob (GND)

Make a connection between this terminal and the same terminal of the control amplifier if making the connection results in less hum or other noise.

⑦ Speakers terminals

These terminals are for connections to the speaker systems. Refer to the section "CONNECTIONS" for detailed information.

⑧ Unswitched AC outlet (AC OUTLET UNSWITCHED)

(U.S.A., Canada and General models only)

This unswitched AC outlet can be used for connection of the power cord from another audio component. Note that the power to that component not affected by the ON or OFF setting of the POWER switch of this unit.

Note: The component connected here should have a rating of no more than 200W.

CONNECTIONS

(See Fig. 2.)

After confirming that the control amplifier is also switched off, connect the output jacks of the control amplifier to the corresponding INPUT jacks on the rear panel of this unit. Always check to be sure that:

- the RCA plugs of the connecting cord are clean,
- the left and right channels of both units correspond,
- connections are secure, and
- both units are properly grounded.

SPEAKER CONNECTIONS

MX-830

This unit can drive up to three pairs of speakers (A, B and C) at the same time. Those connected to terminals A are in parallel with pairs B and C, which are in series. The following table shows the minimum load impedances per speaker for all possible connections.

Number of speakers	MX-830 terminals	Minimum speaker load impedance (per speaker)
1 pair	A or B or C	4 ohms
2 pairs in parallel	A + B or A + C	8 ohms
2 pairs in series	B + C	2 ohms
3 pairs	A + B + C	A: 8 oms B, C: 4 ohms

Be sure to use only speakers within the rated impedance range and with adequate power handling capacity. Driving speakers with extremely low impedance (or several low-impedance pairs simultaneously) at continuous full power may cause the protection circuit of this unit to activate.

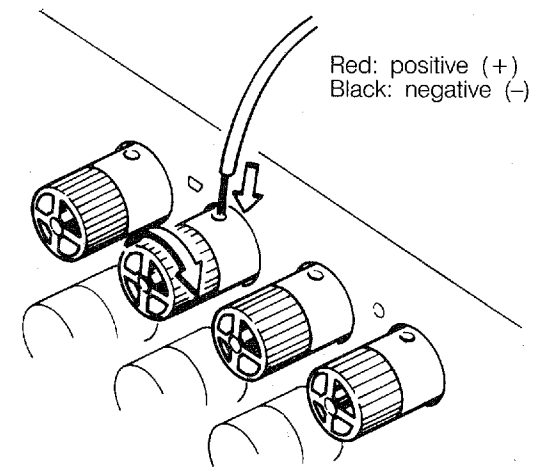
When connecting the speaker cords, observe the "+" and "-" markings on the backs of the speakers and this unit. If the "+" and "-" polarities are reversed, the sound will be unnatural and lack bass.

Speaker cords should be cut as short as possible. Do not roll up excess cord or bundle it with cables from other components.

Strip approximately 10 mm (3/8") insulation from the ends of the speaker cords and connect them as explained below:

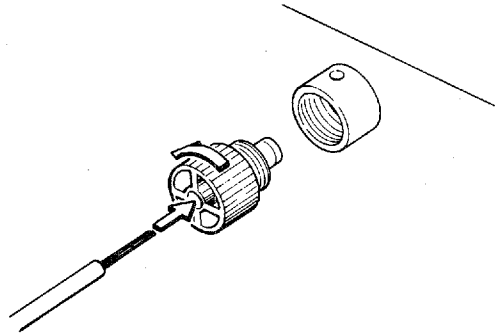
Light-gauge speaker cords

Partly unscrew the plastic wire holders. Insert the stripped ends of the speaker cords as shown, and retighten the holders.

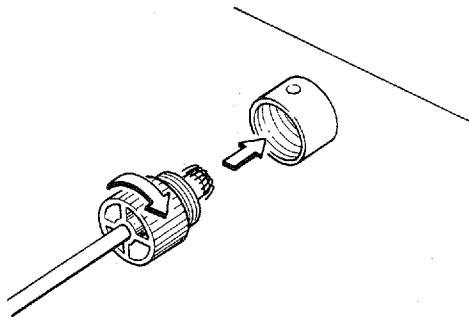


Heavy-gauge speaker cords

First, unscrew and remove the plastic wire holders. Insert the stripped ends of the speaker cords into the holders until they protrude from the other side.



Splay the strands as shown; then screw the wire holders back on.

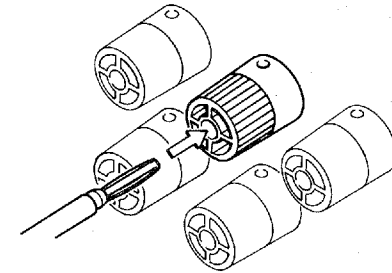


Note:

When inserting the stripped ends of the speaker cords as shown above, make sure that at least 1/16 inch (1.6 mm) of insulation is inside the wire holders (i.e. no exposed wire is visible) and that no loose conductor wire strands are protruding after the connection is made. To prevent speaker wires from loosening, make sure that the wire holders are firmly screwed in.

Banana plug connectors (except U.K. and Europe models)

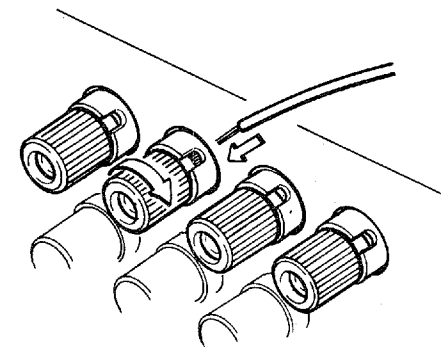
Banana Plug connections are also possible. Simply insert the Banana P connector into the corresponding terminal.



MX-630

1. Strip off about 10 mm (3/8 in.) of the insulation (leaving only the core wire) from the end of each speaker connection wire to be connected to this unit.
2. Unscrew the knob (for the SPEAKER connection terminal to which the speaker connection wire is to be connected) until the wire can be inserted into the hole at the top of the rear part of the knob. Each speaker connection wire should be inserted securely, taking care that does not contact any other terminal. Then turn the knob to tighten the knob securely.

Red: positive (+)
Black: negative (-)



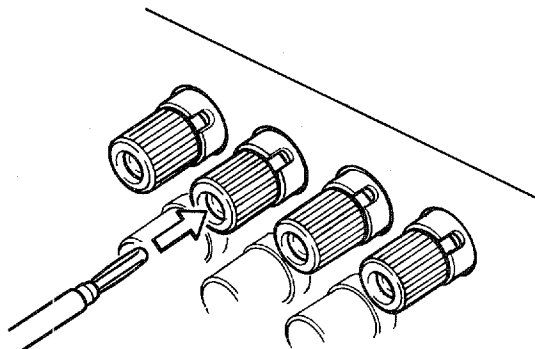
The speaker connection wires should be no longer than necessary.

SPECIFICATIONS

- * Be sure that the connection wires are each connected to the speaker system that corresponds to that terminal.
- * Note that there are two terminals (one positive and one negative) for each speaker system. The red terminal must be connected to the positive (+) terminal on the speaker system, and the black terminal to the negative (-) terminal on the speaker system.
If connections are not correct, the sound reproduced from the speaker systems will seem unnatural, with insufficient stereo effect, sound will seem localized between the speaker systems, and low-range sound will be unsatisfactory.
- * Be sure that the impedance of the speaker systems is within the specified range for this unit.

Banana plug connectors (except U.K. and Europe models)

Banana Plug connections are also possible. Simply insert the Banana Plug connector into the corresponding terminal.



Minimum RMS Output Power per Channel (20 Hz - 20 kHz)

0.003% THD, 8 ohms	
MX-830	170W
MX-630	U.S.A. and Canada models 135W
	Europe, U.K., Australia and General models 125W
0.007% THD, 6 ohms	
MX-830	195W
MX-630	U.S.A. and Canada models 160W
	Europe, U.K., Australia and General models 150W
0.02% THD, 4 ohms	
MX-830	230W
MX-630	(U.S.A., Canada, Australia and General models only) 190W
Dynamic Power per Channel	
(by IHF Dynamic Headroom measuring method)	
8 ohms	
MX-830	270W
MX-630	U.S.A. and Canada models 220W
	Europe, U.K., Australia and General models 175W
6 ohms	
MX-830	330W
MX-630	U.S.A. and Canada models 265W
	Europe, U.K., Australia and General models 220W
4 ohms	
MX-830	440W
MX-630	U.S.A. and Canada models 360W
	Europe, U.K., Australia and General models 290W
2 ohms	
MX-830	570W
MX-630	U.S.A. and Canada models 480W
	Europe, U.K., Australia and General models 390W
DIN Standard Output Power per Channel (Europe model only)	
1 kHz, 1% THD, 4 ohms	
MX-830	250 W
MX-630	215 W
Dynamic Headroom (U.S.A. and Canada models only)	
8 ohms	
MX-830	2.01 dB
MX-630	2.12 dB
6 ohms	
MX-830	2.28 dB
MX-630	2.19 dB
4 ohms	
MX-830	2.82 dB
MX-630	2.78 dB

IEC Power (Europe model only)

1 kHz, 1% THD	
8 ohms	
MX-830	200 W
MX-630	140 W
6 ohms	
MX-830	240 W
MX-630	170 W
4 ohms	
MX-830	280 W
Power Band Width	
MX-830 0.03% THD, 85W/8 ohms	10 Hz - 60 kHz
MX-630 0.03% THD, 62.5W/8 ohms	10 Hz - 60 kHz
Damping Factor (1 kHz, 8 ohms)	
MX-830	90
MX-630	70
Input Sensitivity/Input Impedance	
MAIN IN	
MX-830	1.32V/60 k-ohms
MX-630	1.14V/60 k-ohms
Frequency Response (20 Hz - 20 kHz)	
MAIN IN	+0/-0.2 dB
Total Harmonic Distortion (20 Hz - 20 kHz)	
MX-830 MAIN IN to Sp Out, 85W/8 ohms	0.003%
MX-630 MAIN IN to Sp Out, 62.5W/8 ohms	0.003%
Intermodulation Distortion	
Rated Output/8 ohms	0.003%
Signal-to-Noise Ratio (IHF-A-Network)	
MAIN IN (shorted)	
MX-830	124 dB
MX-630	123 dB
MAIN IN (5.1 k-ohms terminated)	
MX-830	120 dB
MX-630	119 dB
Residual Noise (IHF-A-Network)	
MX-830	21 μ V
MX-630	16 μ V
Channel Separation (Input shorted, terminated, 1 kHz/10 kHz)	
MX-830	89/72 dB
MX-630	89/70 dB
Power Supply	
Europe model	AC 220V, 50 Hz
General model	AC 110/120/220/240V, 50/60 Hz
U.K. and Australia models	AC 240V, 50 Hz
U.S.A. and Canada models	AC 120V, 60 Hz

Power Consumption

MX-830	
General model	52
U.S.A. and Canada models	650W 800
Europe, U.K. and Australia models	1,15
MX-630	
General model	50
U.S.A. and Canada models	650W 800
Europe, U.K. and Australia models	65
AC Outlet (U.S.A., Canada and General models only)	
UNSWITCHED x 1	200W m
Dimensions (W x H x D)	
MX-830	435 x 165 x 425 mm (17-1/8" x 6-1/2" x 16-3/4")
MX-630	435 x 165 x 420 mm (17-1/8" x 6-1/2" x 16-17/32")
Weight	
MX-830	14.5 kg (31 lbs. 14 oz)
MX-630	13 kg (28 lbs. 10 oz)

* Please note that the design and all specifications are subject to change with notice.

TROUBLESHOOTING

If the unit fails to operate normally, check the following points to determine whether the problem can be corrected by the simple measures suggested. If it cannot, or if the problem is not listed in the SYMPTOM column, disconnect the unit's power cord and contact your dealer or service center for assistance.

Symptom	Probable Cause	Remedy
The power is not switched ON when the POWER switch is pressed.	The power cord plug is not connected securely to the wall power outlet.	Connect it securely.
No sound is heard.	The SPEAKERS switches are released outward to the "OFF" position.	Press them inward to the "ON" position.
	The speaker level controls are set all the way to the " ∞ " position.	Turn them clockwise.
	The connection cords are not connected securely to the INPUT jacks.	Connect them securely.
	The speaker systems are not properly connected to this unit.	Connect them correctly.
No sound is heard from the left and/or right speaker systems.	The speaker systems are not properly connected to this unit.	Connect them correctly.
	One of the speaker level controls is set to the fully counterclockwise position.	Turn that speaker level control clockwise.
The acoustic "image" is unstable, characterized by unnatural sound and insufficient low-range tonal quality.	The positive (+) and negative (-) polarities (of this unit and the speaker systems) are not matched.	Reconnect the speaker systems to this unit so that the polarities are aligned.
Hum noise is heard from the speakers.	The connection cords are not connected securely to the INPUT jacks.	Connect them securely.

YAMAHA

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VI56010-0 BWgW, BB Printed in Japan ©