

MX-1

MX-2

Natural Sound Stereo Power Amplifier



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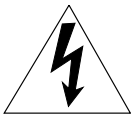


YAMAHA

SAFETY INSTRUCTIONS

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK), NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		

• 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.


IMPORTANT!
Please record the serial number of this unit in the space below.

Model:
Serial No.:

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

WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

- 1 Read Instructions – All the safety and operating instructions should be read before the unit is operated.
- 2 Retain Instructions – The safety and operating instructions should be retained for future reference.
- 3 Heed Warnings – All warnings on the unit 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 unit 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 unit should be used only with a cart or stand that is recommended by the manufacturer.

- 6A A unit and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the unit and cart combination to overturn. 
- 7 Wall or Ceiling Mounting – The unit should be mounted to a wall or ceiling only as recommended by the manufacturer.
- 8 Ventilation – The unit should be situated so that its location or position does not interfere with its proper ventilation. For example, the unit should not be situated on a bed, sofa, rug, or similar surface, that may block the ventilation openings; or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
- 9 Heat – The unit should be situated away from heat sources such as radiators, stoves, or other appliances that produce heat.
- 10 Power Sources – The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the unit.
- 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 unit.
- 12 Cleaning – The unit should be cleaned only as recommended by the manufacturer.
- 13 Nonuse Periods – The power cord of the unit 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 unit.
- 15 Damage Requiring Service – The unit 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 unit; or
 - C. The unit has been exposed to rain; or
 - D. The unit does not appear to operate normally or exhibits a marked change in performance; or
 - E. The unit has been dropped, or the cabinet damaged.
- 16 Servicing – The user should not attempt to service the unit 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 – Precautions 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 page 5.**

Caution: Read this before operating your unit

- 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 unit 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 unit; 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** To prevent lightning damage, pull out the power cord and remove the antenna cable during an electrical storm.
- 9** When not planning to use this unit for long periods of time (ie., vacation, etc.), disconnect the AC power plug from the wall outlet.
- 10** Be sure to read the “Troubleshooting” section on common operating errors before concluding that your unit is faulty.

We Want You Listening For A Lifetime

YAMAHA and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion – and, most importantly, without affecting your sensitive hearing. Since hearing damage from loud sounds is

often undetectable until it is too late, YAMAHA and the Electronic Industries Association's Consumer Electronics Group recommend you to avoid prolonged exposure from excessive volume levels.



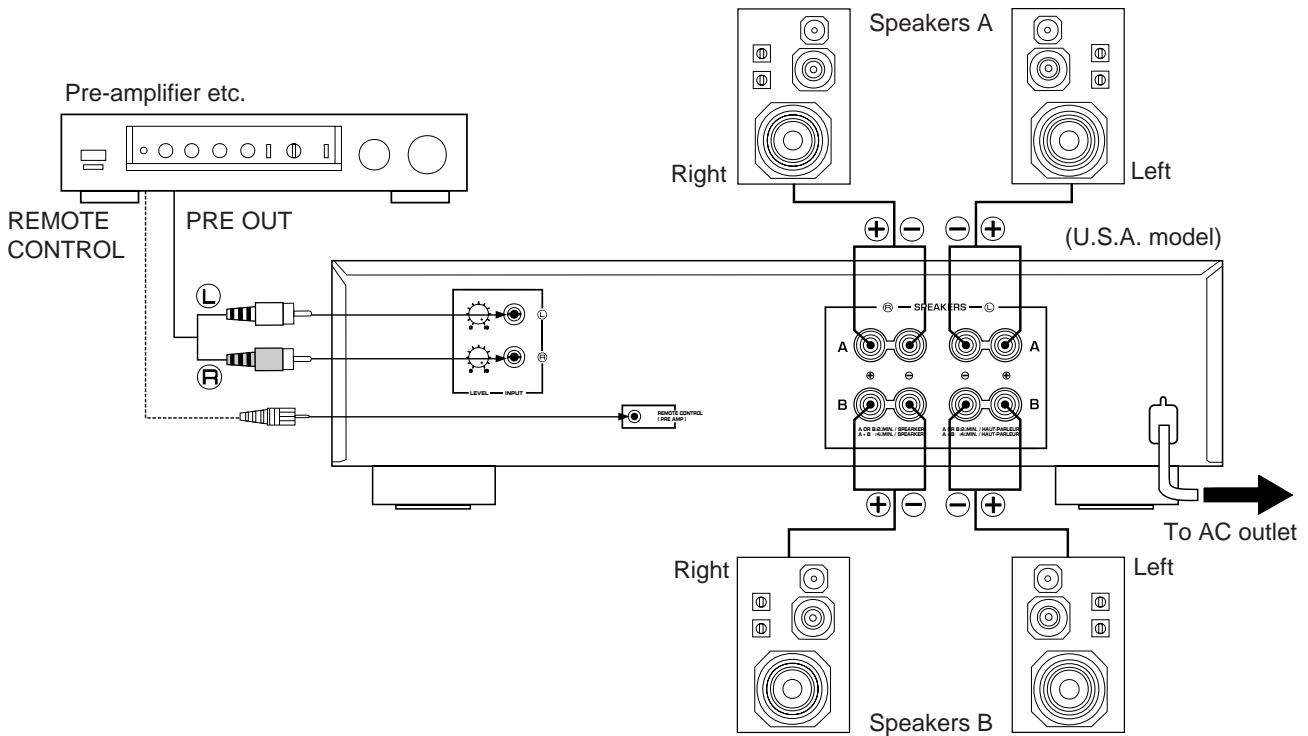
FEATURES

- **<MX-1>: 200W + 200W (8Ω) RMS Output Power, 0.008% THD, 20–20,000 Hz**
- **<MX-2>: 150W + 150W (8Ω) RMS Output Power, 0.008% THD, 20–20,000 Hz**
- **Increased Low Impedance Drive Capability**
- **2-Pair Speaker Drive Capability**
- **REMOTE CONTROL Connector to Make the Power of This Unit Controlled by the Pre-Amplifier CX-1 or CX-2**
- **Gold-Plated Input Terminals**

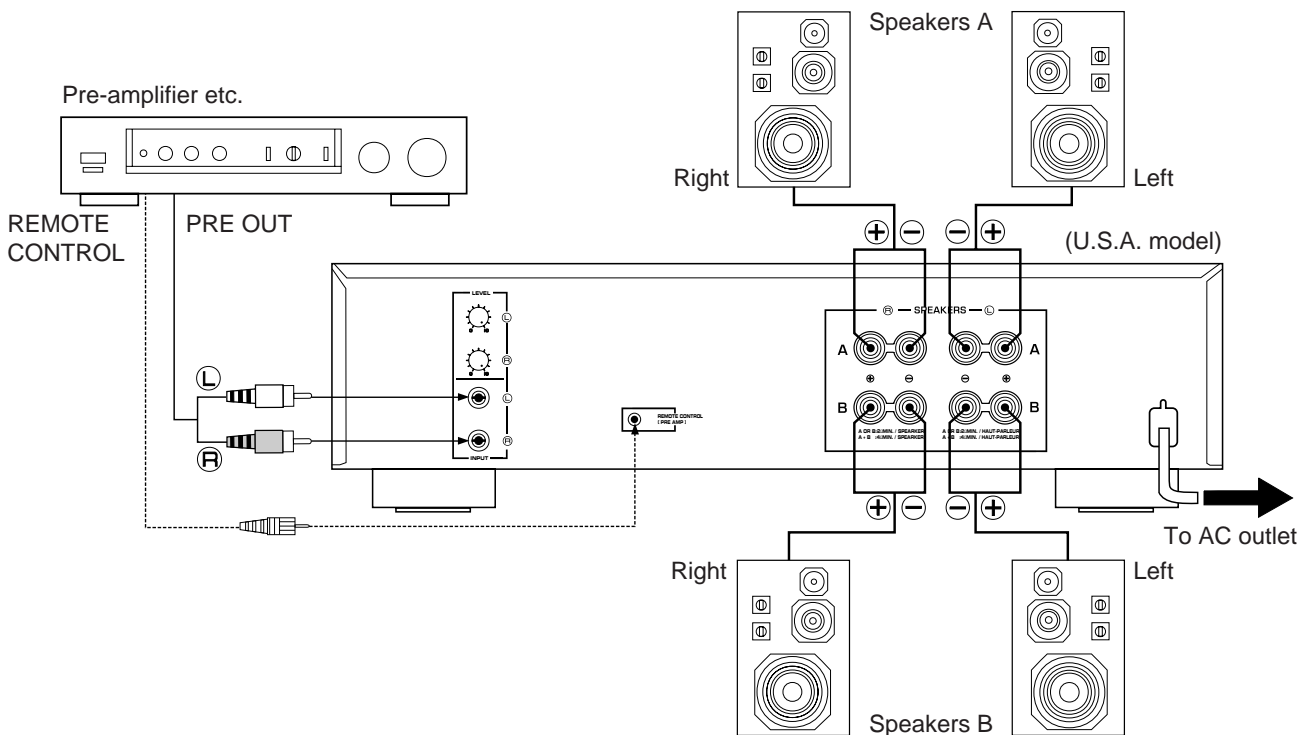
CONNECTIONS

- Before attempting to make any connections to or from this unit, be sure to first switch OFF the power to this unit and to any other components to which connections are being made.
- When making connections between this unit and other components, be sure all connections are made correctly, that is to say L (left) to L, R (right) to R, “+” to “+” and “-” to “-”. Also, refer to the owner’s manual for each component to be connected to this unit.

<MX-1>



<MX-2>

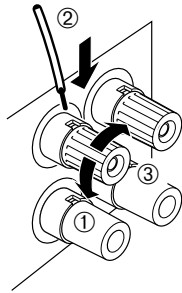


CONNECTING SPEAKERS

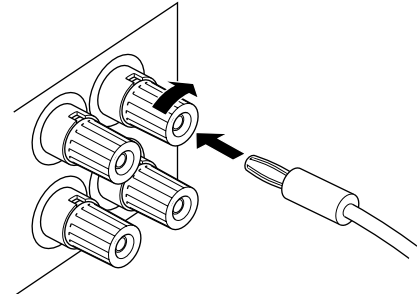
Connect the **SPEAKERS** terminals to your speakers with wire of the proper gauge, cut as short as possible. If the connections are faulty, no sound will be heard from the speakers. Make sure that the polarity of the speaker wires is correct, that is, + and – markings are observed. If these wires are reversed, the sound will be unnatural and will lack bass.

How to Connect:

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



- ① Unscrew the knob.
- ② Insert the bare wire.
- ③ Tighten the knob and secure the wire.



- One or two speaker systems can be connected to this unit. If you connect only one speaker system, connect it to either the **SPEAKERS A** or **B** terminals.
- Use speakers with the specified impedance shown on the rear of this unit.
- Banana Plug connections are also possible (except for Scandinavian models). Simply insert the Banana Plug connector into the corresponding terminal.
*When connecting Banana Plugs to this unit's **SPEAKERS** terminals, be sure to tighten the terminal knobs to make contact securely before connections.

Caution

When inserting the stripped ends of the speaker wires as shown above, make sure at least 1/16 inch (1.6 mm) of insulation is inside the wire holders (i.e. no exposed wire is visible) and no loose conductor wire strands are protruding after connection. If wires touch each other or they touch the metal parts of this unit, this unit and/or speakers could be damaged. To prevent speaker wires from coming loose, make sure wire holders are firmly screwed in.

REMOTE CONTROL (PRE AMP) connector

If you have the YAMAHA pre-amplifier CX-1 or CX-2, connect this connector to the REMOTE CONTROL (POWER AMP) connector of the pre-amplifier by using the cable provided with the pre-amplifier. By this connection, the power of this unit is controlled by the pre-amplifier's POWER switch or the POWER key of the remote control transmitter provided with the pre-amplifier.

After the connection is completed, keep the **POWER** switch of this unit pressed inward (to the ON position).

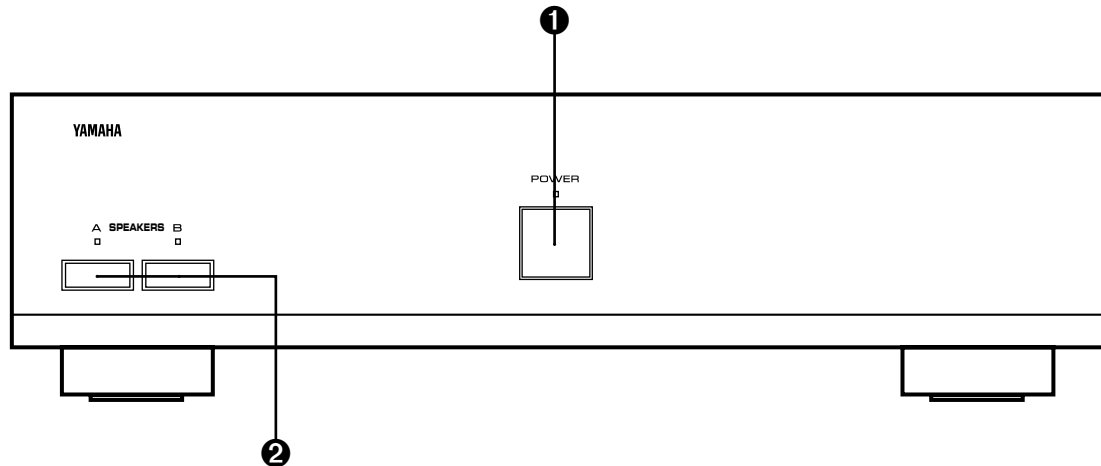
Note

If you will not connect the REMOTE CONTROL connectors of this unit and the pre-amplifier, do not connect the cable to either connector. Otherwise, this unit will not function normally.



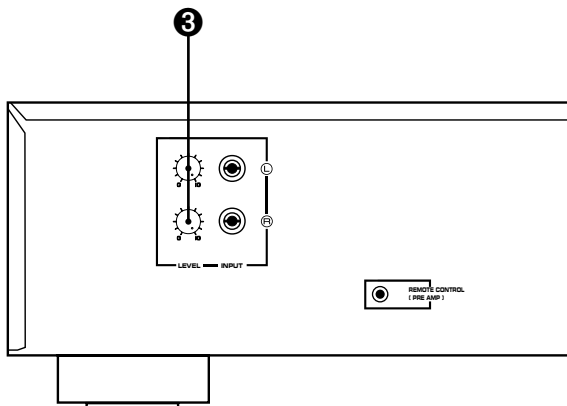
CONTROL PARTS AND THEIR FUNCTIONS

FRONT PANEL

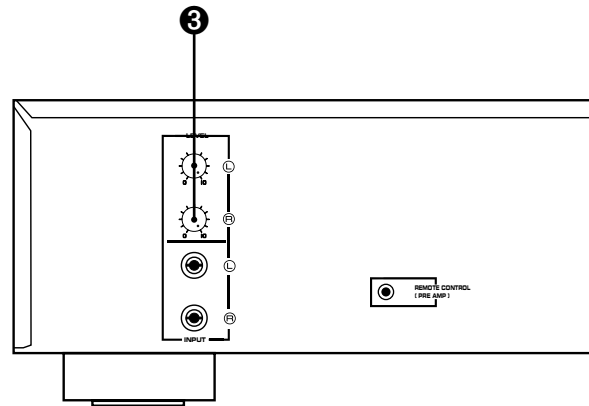


REAR PANEL

<MX-1>



<MX-2>



❶ POWER switch/indicator (POWER)

Press this switch to switch ON the power. The indicator 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 of the pre-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.

❷ SPEAKERS switches

Because one or two speaker systems can be connected to this unit, these switches allow you to select speaker system A or B, or both at once.

❸ Input level controls (LEVEL)

These controls adjust the level of signals input to this unit. Normally set these controls to the "10" (maximum) position, and adjust the whole sound output level with the VOLUME control of the pre-amplifier. However, if your speakers' permissible music input power is not high enough or sounds from the speakers are distorted, turn these controls counterclockwise to decrease the level.

STANDBY mode (For Europe model only)

If the REMOTE CONTROL (PRE AMP) connector on the rear panel of this unit is connected to the corresponding connector of the pre-amplifier (CX-1 or CX-2), by turning the power off with the POWER switch of the pre-amplifier, this unit is switched to the STANDBY mode. (In this mode, the indicator over the POWER switch is half illuminated.)

Note

To turn the power off completely, disconnect the AC power plug from the wall outlet.

TROUBLESHOOTING

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

SYMPTOM	CAUSE	REMEDY
The unit fails to turn on when the POWER switch is pressed.	Power cord is not plugged in or is not completely inserted.	Firmly plug in the power cord.
No sound.	The SPEAKERS switches are released outward to the "OFF" position.	Press them inward to the "ON" position.
	The speaker level controls are set to the fully counterclockwise position.	Turn them clockwise.
	Connection cords are not connected securely to the INPUT terminals.	Connect them securely.
	Speaker systems are not properly connected to this unit.	Connect them correctly.
The sound suddenly goes off.	The protection circuit has activated because of short circuit etc.	Turning the unit off and then on will reset the protection circuit.
No sound is heard from the left and/or right speaker systems.	Speaker systems are not properly connected to this unit.	Connect them correctly.
	The input level controls are set to the fully counterclockwise position.	Turn the input level controls 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.	Connection cords are not connected securely to the INPUT terminals.	Connect them securely.

SPECIFICATIONS

Minimum RMS Output Power per Channel

<MX-1>	
8 ohms, 20 Hz to 20 kHz, 0.008% THD	200W+200W
4 ohms, 20 Hz to 20 kHz, 0.03% THD	260W+260W
2 ohms, 20 Hz to 20 kHz, 0.09% THD	320W+320W
<MX-2>	
8 ohms, 20 Hz to 20 kHz, 0.008% THD	150W+150W
4 ohms, 20 Hz to 20 kHz, 0.03% THD	190W+190W
2 ohms, 20 Hz to 20 kHz, 0.09% THD	230W+230W

Dynamic Power per Channel

(by IHF Dynamic Headroom measuring method)

<MX-1>	
8/4/2 ohms	280/460/630W
<MX-2>	
8/4/2 ohms	190/310/410W

DIN Standard Output Power per Channel

(4 ohms, 1 kHz, 0.5% THD)

[Europe model only]

<MX-1>	300W
<MX-2>	210W

Dynamic Headroom

<MX-1>	
8/4/2 ohms	1.46/2.48/2.94 dB
<MX-2>	
8/4/2 ohms	1.03/2.12/2.51 dB

IEC Power (8 ohms, 1 kHz, 0.01% THD)

[Europe model only]

<MX-1>	225W
<MX-2>	175W

Power Band Width

<MX-1>	
8 ohms, 100W, 0.03% THD	10 Hz to 60 kHz
<MX-2>	
8 ohms, 75W, 0.03% THD	10 Hz to 60 kHz

Damping Factor

8 ohms, 1 kHz	250 or more
8 ohms, 20 Hz–20 kHz	
(When using the SPEAKERS A terminals)	350 or more

Input Sensitivity/Impedance

MAIN IN	
<MX-1>	1.46V/20 k-ohms
<MX-2>	1.26V/20 k-ohms

Frequency Response (20 Hz to 20 kHz)

MAIN IN	0±0.5 dB
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Signal-to-Noise Ratio (IHF-A Network)

MAIN IN (Input Shorted)	
<MX-1>	125 dB
<MX-2>	123 dB

Residual Noise (IHF-A Network)

	20 µV
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Channel Separation (Vol. –30 dB)

MAIN IN (Input 5.1 k-ohms Terminated 1 kHz/10 kHz)	
.....	80 dB/60 dB

Power Supply

[U.S.A. and Canada models]	AC 120V, 60 Hz
[Australia and U.K. models]	AC 240V, 50 Hz
[Europe model]	AC 230V, 50 Hz
[General model]	AC 110/120/220/240V, 50/60 Hz

Power Consumption

<MX-1>	
[U.S.A. and Canada models]	560 VA, 420W
[Australia, U.K. and General models]	440W
[Europe model]	550W
<MX-2>	
[U.S.A. and Canada models]	440 VA, 340W
[Australia, U.K., Europe and General models]	360W

Maximum Power Consumption (10% THD)

[General model only]

<MX-1>	1950W
<MX-2>	1600W

Dimensions (W x H x D)

	486 x 116 x 438 mm
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(19-1/8" x 4-9/16" x 17-1/14")

Weight

<MX-1>	24.0 kg (52 lbs. 13 oz.)
<MX-2>	19.5 kg (42 lbs. 14 oz.)

Specifications subject to change without notice.