

marantz®

**Model Sc 1000
Stereo Console
Amplifier**

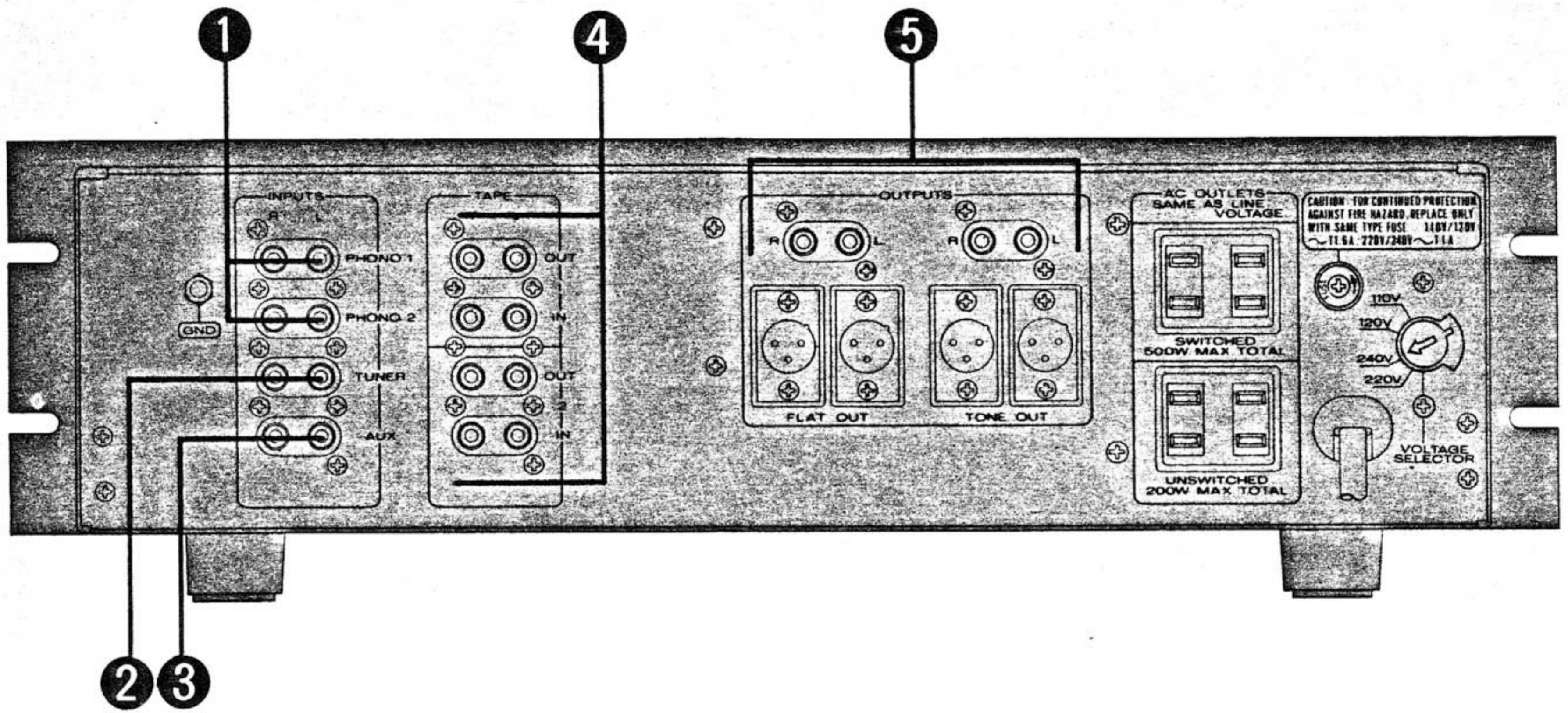


Figure 1. Rear Panel

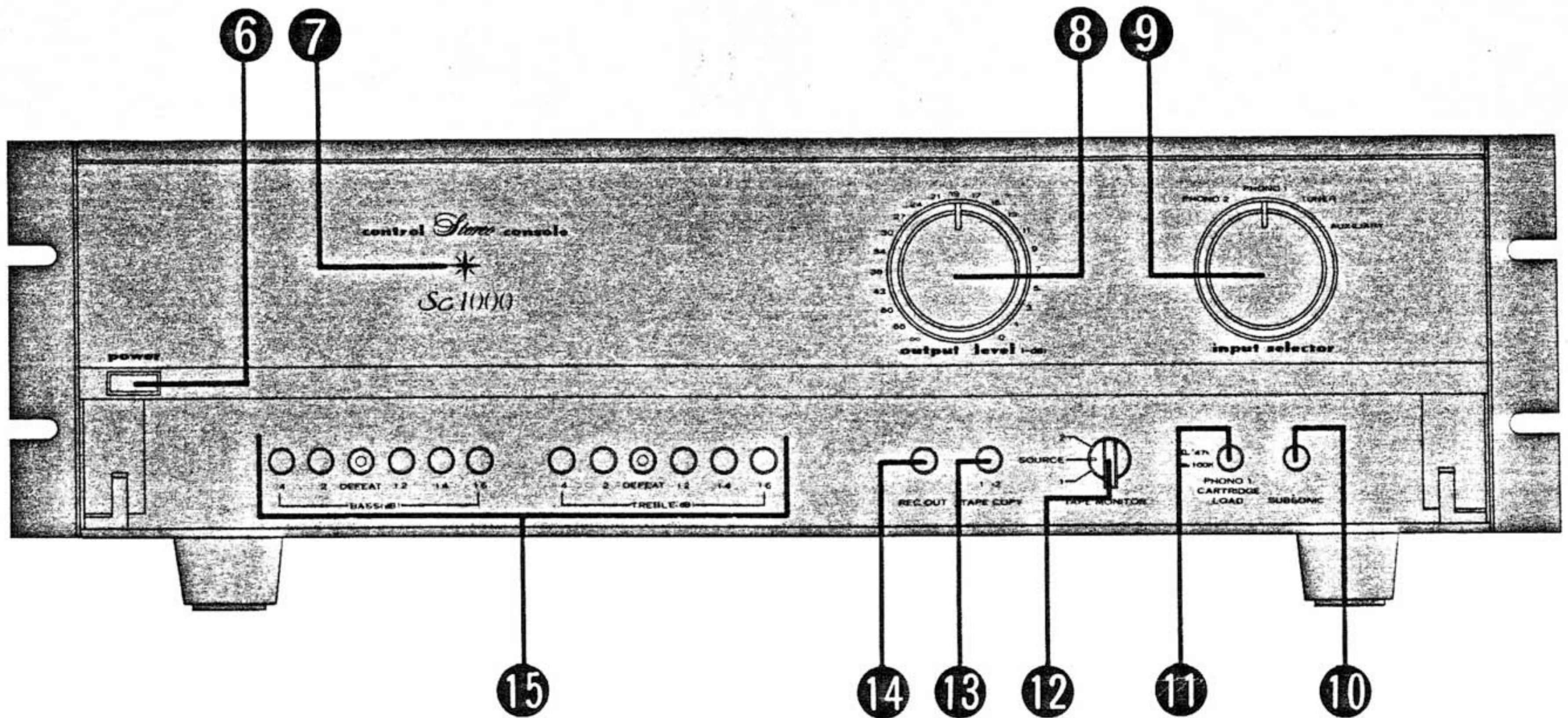


Figure 2. Front Panel

The Marantz Sc 1000 is a high quality preamplifier which incorporates all the efforts and technology of the Marantz's highly skilled engineers. During the course of its development, it was subjected to numerous hearing tests under rigidly controlled conditions to ensure that it met Marantz's uncompromising standards for sound quality. Read this instruction manual carefully to utilize the full capabilities of this preamplifier.

This preamplifier is manufactured under strict production controls. However, if you have any difficulty with it, please contact your dealer or the nearest Marantz service center.

BEFORE USE

Installation Notes

- Do not place the unit in locations where it might be exposed to direct sunlight or heat radiation.
- Ensure that the location is well-ventilated, clean and dry.
- Ensure that the unit is level. Avoid locations which are subject to vibration.
- Keep flammable substances, such as alcohol and insecticide, away from the unit.
- Avoid covering the ventilation holes on the top panel.
- Do not place the unit on top of a power amplifier to avoid exposing it to heat radiation. If the preamplifier is placed above a power amplifier, maintain ample distance between them and separate them with a shelf board to prevent hot air from entering the preamplifier through the bottom ventilation holes.

FOREWORD

To obtain maximum performance and enjoyment from your Stereo Console Amplifier, please study these instructions carefully. Do not plug in or connect this preamplifier until you have read and compiled with this handbook of instructions.

For quick identification of the many controls and connections, references to them are printed in **BOLDFACE TYPE**, exactly as they appear on the front and rear panels of your unit.

Your Marantz product has been specially prepared to comply with the household power and safety requirements that exist in your region. Please check the alphabetical suffix following the serial number of your Marantz product. Refer to the following table to note the differences that exist between your unit and the unit pictured and described in this manual.

- A — Set to operate on 240 V AC. Has a voltage selector.
- C — Set to operate on 120 V AC.
- E — Set to operate on 220 V AC. Has a voltage selector.
- P — Set to operate on 120 V AC. Has a voltage selector.

The voltage selector, when applicable, allows the unit to operate at a different voltage than the one to which it has been preset. It is important that the existing fuse be replaced to one of a different rating whenever the voltage change is greater than 15%. The fuse will be situated in the voltage selector or inside the unit, in which case it should be changed by a qualified technician.

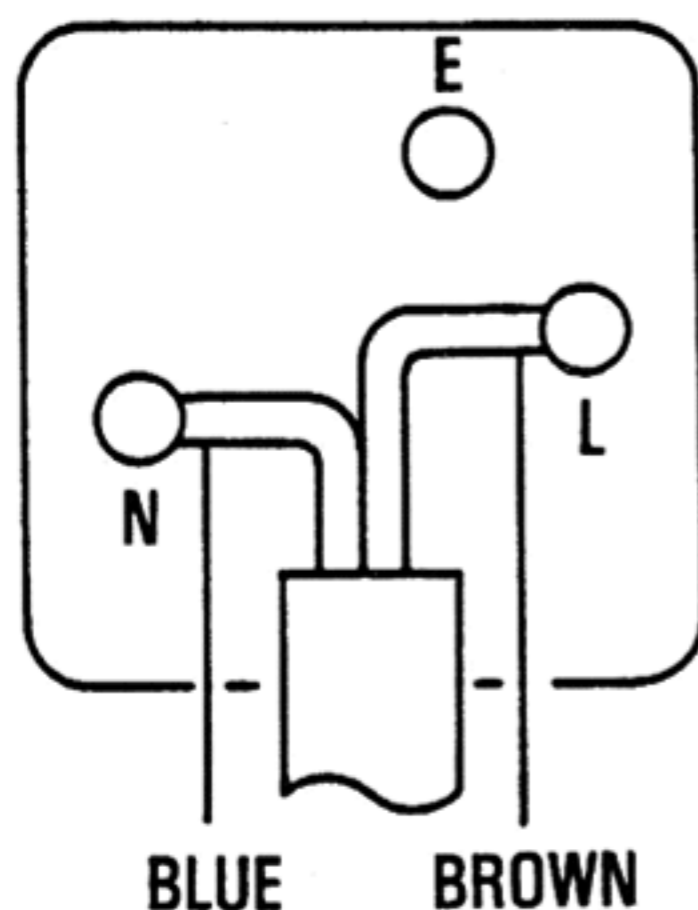
If the unit has to be operated on a different line frequency, consult your local dealer.

FOR UNITS SOLD IN THE UNITED KINGDOM:

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue — Neutral = N
Brown — Live = L



As the colours of the wires may not correspond with the terminal identification in your plug, proceed as follows:

- Connect brown wire to the terminal marked "L" or coloured brown or red.
- Connect blue wire to the terminal marked "N" or coloured blue or black.

For 13A plugs, conforming to BS 1363, use a 3A fuse.

For other plugs, use a 5A or lower fuse in the plug or adaptor or at the distribution board.

AFTER UNPACKING

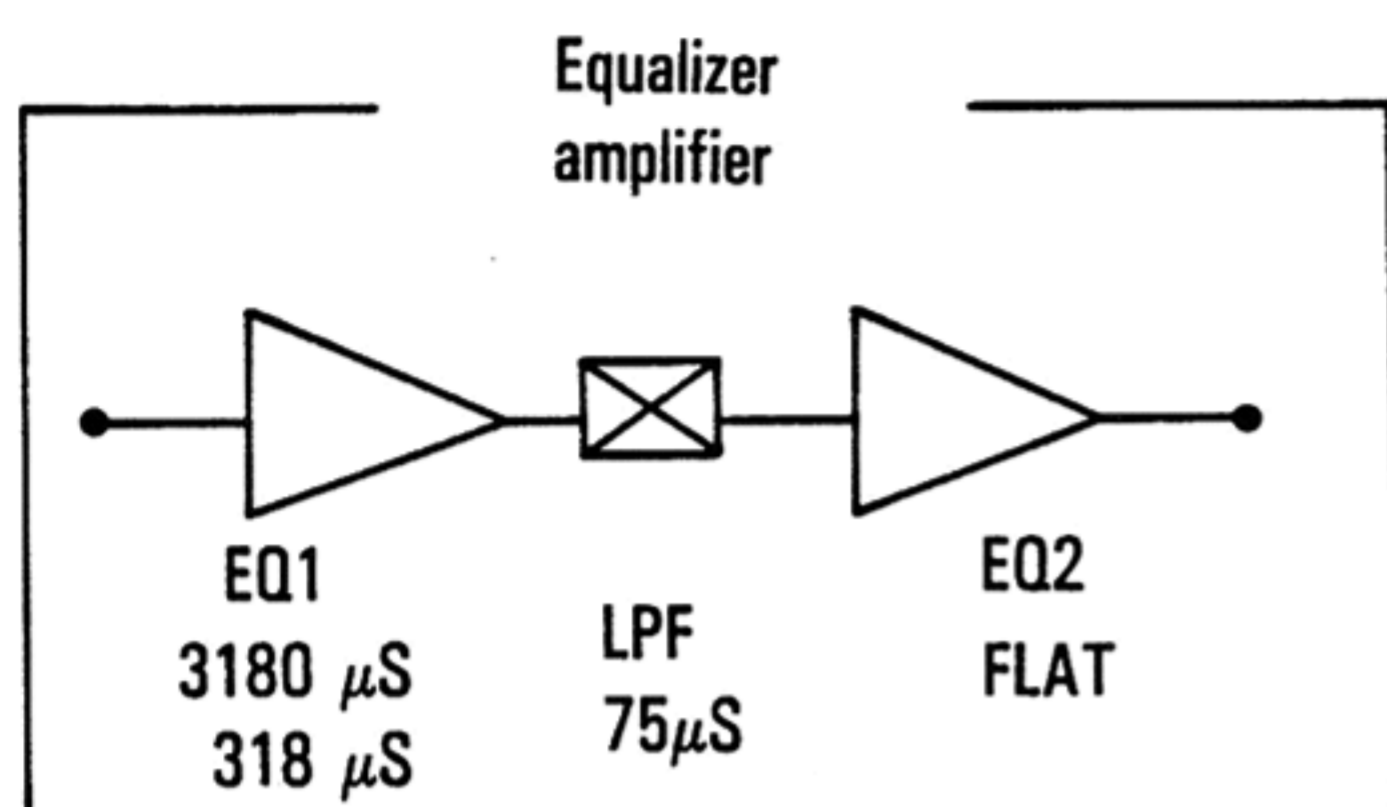
It is advisable to retain all original packing material to transport or ship the unit (refer to page 10 for repacking and shipping instructions). Be careful that you do not inadvertently throw away or lose the parts packed with the unit.

Please inspect your Stereo Console Amplifier carefully for any signs of shipping damage. Our very strict quality control and professional pride ensure that each unit left the factory in perfect condition. If the unit is damaged or fails to operate, immediately notify your dealer. If the unit was shipped to you directly, notify the transportation company without delay. Only you, the consignee, may institute a claim against the carrier for shipping damage. Save the carton and all packing material as evidence of damage for their inspection. If necessary, contact your dealer or, as a last resort, your Marantz importing agent, who will fully cooperate under such circumstances.

FEATURES

- NF-CR type equalizer

This preamplifier uses an NF-CR type equalizer; the low turnover frequency is determined by the NF circuit and the high roll-off frequency is determined by the CR circuit. This provides superior phono equalization of ± 0.2 dB over the wide range from 20 Hz to 100 kHz, as well as the optimum compromise between sufficient overload characteristics and superior transient characteristics over the entire range.



- High performance unit amplifiers with all push-pull configuration

The 2 equalizer amplifiers and flat amplifier are 2-stage DC unit amplifiers; each unit is formed entirely of push-pull circuits.

The first stage of each amplifier unit uses a low noise, high gm FET. The cascade bootstrap circuit employed in the first stage prevents performance from being degraded by variations in impedance.

The second stage is a push-pull circuit with an interstage emitter follower. The output stage is a 2-stage SEPP without a bias circuit. Class A operation is ensured at large output levels because ample idling current is supplied to each stage.

Improved open loop characteristics make this a low distortion, low noise amplifier with low NFB. Thus, the Sc 1000 is one of the finest available amplifiers of the low-TIM design, a traditional speciality of Marantz.

- Discrete power supplies with shunt regulators

Each unit amplifier is driven by separate power supplies. A shunt regulator mounted on the opposite side from the large heat sink on the output transistor of each power supply cancels current variations of the B line. This allows the power supply output impedance to be very low over the entire range, so interference between amplifier units is completely eliminated.

- Highly accurate tone control circuit

The tone control circuit uses switches and fixed resistors, rather than potentiometers, to vary the frequency response. Therefore, accurate tone control curves without undulation are obtained.

The tone amplifier is a push-pull unit amplifier of the same configuration as the equalizer and flat amplifier. The tone amplifier units are supplied with power by a dedicated power supply.

A buffer amplifier is used in the NFB circuit of each tone amplifier unit to prevent deterioration of the S/N ratio and increase in distortion due to tone elements.

- Simplified signal line

Complicated signal lines degrade the sound even if the circuit design is good and the parts are carefully selected.

In the Sc 1000, the signal line is simplified as much as possible so that nothing is added to or subtracted from the source signal. For example, accessory functions such as balance control and mode selector have been eliminated. (Balance can be adjusted with the separate volume controls.)

A low resistance potentiometer is used for each volume control, so deterioration of the S/N ratio and variation in tone quality are prevented.

The DC servo circuit used has made it possible to eliminate coupling capacitors from the output circuits of the Sc 1000, preventing coloration of the reproduced sound.

The tone control amplifier signal line is separated from the flat amplifier signal line. Therefore, two output terminals **FLAT OUT** and **TONE OUT** are provided on the rear panel.

- Chassis structure prevents magnetic loop

The chassis of the Sc 1000 is designed to prevent magnetic loops which result in sound impurities and coloration.

- Selected parts

All printed circuit boards are made from glass epoxy and are coated with 70 μm copper film; the wiring consists of the pure, oxygen-free copper wires and well shielded coaxial cables. The volume control uses a conductive, plastic-type variable resistor.

Each unit amplifier uses metal film resistors, as well as capacitors which are selected for their suitability for audio applications. The equalizer elements are 1% metal film resistors and polypropylene film capacitors.

REAR PANEL CONNECTIONS

1 PHONO INPUTS

The output cables of a turntable are connected to these terminals. There are two sets of **PHONO** input terminals: **PHONO 1** and **PHONO 2**. The **PHONO 1** input terminals are provided with an input impedance switching circuit (47 k Ω and 100 k Ω), and are suitable for **MM** cartridges; the **PHONO 2** input terminals are suitable for **MC** head amplifiers or step-up transformers.

When connecting the turntable output cables to these terminals, be careful to connect the **L** and **R** channels correctly, and be sure to connect the ground wire to the **GND** terminal.

2 TUNER INPUTS

The output terminals of a tuner are connected to these terminals.

3 AUX INPUTS

These terminals are provided for auxiliary inputs. A **TV** tuner or a second tuner can be connected to these terminals.

4 TAPE MONITOR JACKS

Two tape decks can be connected to the Sc 1000.

Connect the **LINE INPUT** terminals of one tape deck to the **TAPE 1 OUT** terminals of the Sc 1000, then connect the **LINE OUTPUT** terminals of the tape deck to the **TAPE 1 IN** terminals.

When a second deck is used, connect the corresponding terminals of the second tape deck to the **TAPE 2 IN** and **OUT** terminals of the Sc 1000.

Check the **L**, **R**, **TAPE OUT** and **TAPE IN** indications to ensure proper connection.

With the Sc 1000 and two tape decks, dubbing is possible from **TAPE 1** to **TAPE 2**. If you have an open reel tape deck and a cassette tape deck, it is convenient to connect the open reel tape deck to **TAPE 1**.

5 PRE OUTPUTS

The power amplifier input cables are connected to the **FLAT OUT** or **TONE OUT** terminals. When the **FLAT OUT** terminals are used, tone control is not effective.

The **FLAT OUT** and **TONE OUT** terminals can be used simultaneously to drive two power amplifiers.

MAIN CONTROLS AND SWITCHES

6 POWER SWITCH

Pressing this switch once turns the power on; pressing it again turns the power off.

7 PILOT LAMP

The pilot lamp lights when the power is on.

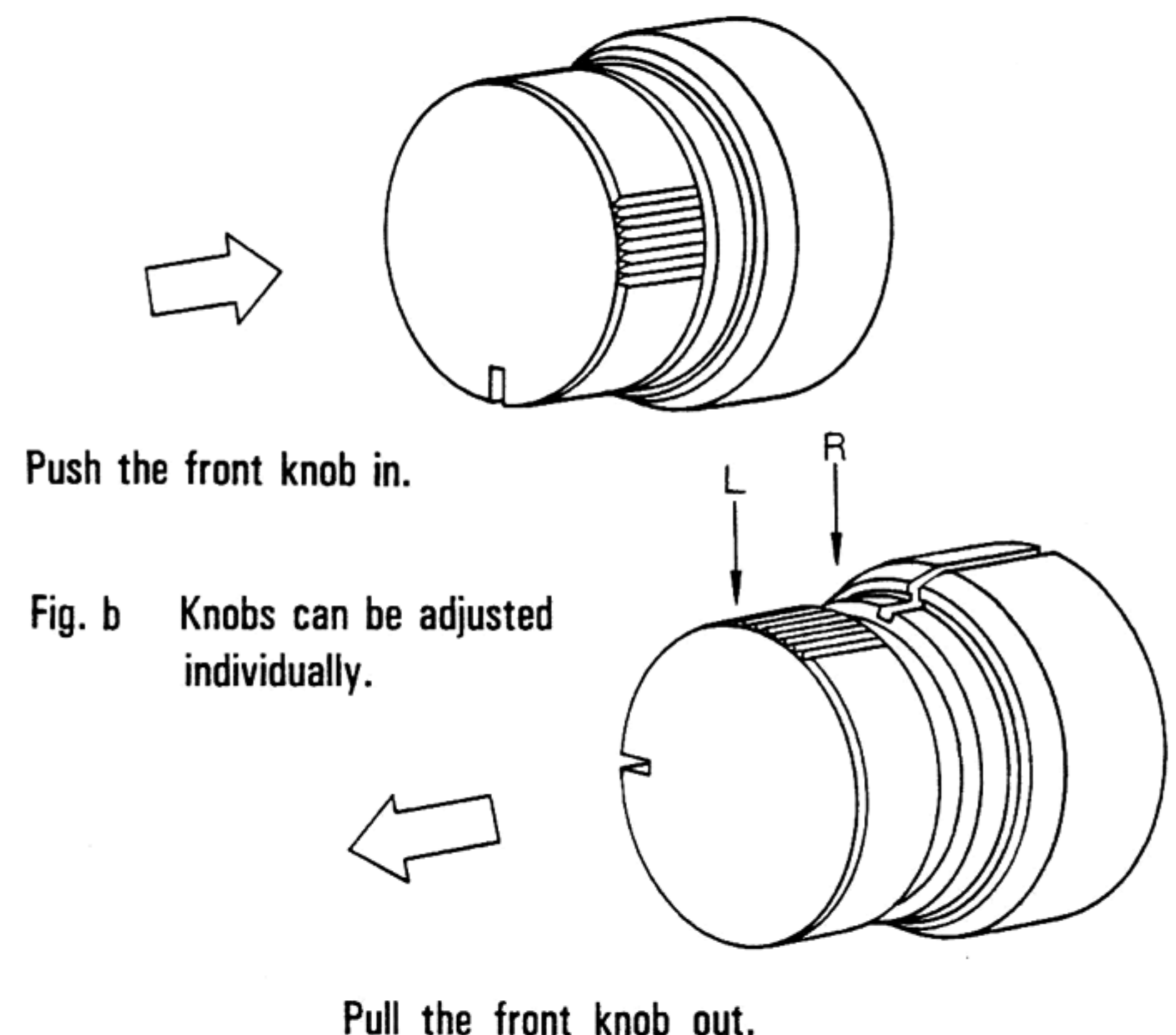
8 OUTPUT LEVEL

Controls the output level. The volume level increases as this control is turned to the right.

The level of the **L** and **R** channels can be adjusted separately in the following manner.

- 1) Turn both the front and back knobs full all the way to the left with the front knob depressed, as shown in Fig. a; the two knobs will interlock.
- 2) Turn the knob to the right until the desired output level is obtained.
- 3) If there is a difference between the **L** and **R** channel levels, or if the listening position is not centrally located between the two speakers, pull the front knob out as shown in Fig. b. The front and back knobs can now be individually adjusted.
- 4) Turn the front knob to adjust the **L** channel sound level for proper balance.
- 5) When the pointers of both knobs are aligned and the front knob is depressed, the two knobs will interlock again.

Fig. a The two knobs interlock.



9 INPUT SELECTOR SWITCH

This switch selects a program source from among PHONO 1, PHONO 2, TUNER and AUX.

10 SUBSONIC FILTER SWITCH

This switch activates the subsonic filter to remove very low frequency noise resulting from warped disks, etc.

The filter attenuates frequencies lower than 15 Hz at -6 dB/oct.

11 CARTRIDGE LOAD SWITCH

This switch sets the cartridge load impedance between $47\text{ k}\Omega$ and $100\text{ k}\Omega$. If the rated load impedance of the cartridge is unknown, set it to $47\text{ k}\Omega$.

12 TAPE MONITOR SWITCH

This switch selects the output of the tape deck connected to the TAPE 1 or TAPE 2 terminals. See "USING TAPE DECKS" for details on operation of this switch.

13 TAPE COPY SWITCH

Pressing this switch allows a tape to be dubbed from the tape deck connected to the TAPE 1 terminals to tape deck connected to the TAPE 2 terminals.

14 REC OUT SWITCH

Depressing this switch enables recording with the tape deck. When the tape deck power is OFF with this switch depressed, the input impedance of the tape deck is lowered and sound reproduction may be adversely affected. Be sure to set this switch to OFF when recordings are not being made.

15 BASS AND TREBLE CONTROLS

BASS: These switches are used to increase or decrease low frequency levels. Variations of $+6$, $+4$, $+2$, 0 , -2 and -4 dB are possible for 100 Hz and below.

TREBLE: These switches are used to increase or decrease high frequency levels. Variations of $+6$, $+4$, $+2$, 0 , -2 and -4 dB are possible for 10 kHz and above.

These switches are effective for signals output through the TONE OUT terminals.

SIMPLIFIED OPERATING PROCEDURE

Connect audio devices according to the "REAR PANEL CONNECTIONS" paragraph and set the controls and switches as shown below before turning the power on.

1. Turn both the L and R OUTPUT LEVEL knobs to minimum all the way to the left.
2. Set the INPUT SELECTOR to the desired program source.
3. Depress the FLAT switches of the BASS and TREBLE controls.
4. Set the CARTRIDGE LOAD switch according to the cartridge used.
5. Set the TAPE MONITOR switch to SOURCE.
6. Set the REC OUT and TAPE COPY switches to OFF (⬇).
7. Turn ON the POWER switch (⬆).

PLAYING RECORDS AND LISTENING TO BROADCASTS

PLAYING RECORDS

1. Set the INPUT SELECTOR to PHONO 1 or PHONO 2, according to the terminals to which the applicable turntable is connected.
2. Play a record on the turntable.
3. Adjust the OUTPUT LEVEL knob to the desired level.
 - Do not jar the turntable during record play to prevent the stylus from jumping and scratching the record.
 - Do not place the turntable near the speakers; howling may result at the desired sound level.
 - Do not turn the power off with the stylus resting on a disk.

LISTENING TO FM/AM BROADCASTS

1. Set the input selector to TUNER.
2. Tune to the desired station.
3. Adjust the OUTPUT LEVEL knob to the desired level.

USING THE AUX TERMINALS

1. Set the INPUT SELECTOR switch to AUX.
2. Operate the device (TV tuner, tape player, etc.) connected to the AUX terminals.
3. Adjust the OUTPUT LEVEL knob to the desired level.

USING TAPE DECKS WITH YOUR CONSOLE AMPLIFIER

PLAYBACK

1. Set the **TAPE MONITOR** switch to "1" when the tape deck is connected to the **TAPE 1** terminal, and to "2" when it is connected to the **TAPE 2** terminal.
2. Play the desired tape.
3. Adjust the **OUTPUT LEVEL** knob to the desired level.

NOTES:

1. Be sure to set the **TAPE MONITOR** switch to the **SOURCE** position when a tape is not being played.
2. The **INPUT SELECTOR** position is not related to tape play.

RECORDING

Use the following procedures to record a program source (such as a turntable or tuner) with a tape deck.

1. Set the **INPUT SELECTOR** switch to the desired program source and depress the **REC OUT** switch.
2. Play the program source.
3. Operate the tape deck to make the recording.

Note:

Be sure to set the **REC OUT** switch to the out (**OFF**) position.

TAPE MONITOR

When a tape deck with a monitoring feature (or with three heads) is used, setting the **TAPE MONITOR** switch to "1" (or "2") during recording allows the recording to be monitored from the tape as it is being made. Both the recording and play cables must be connected for this to be possible.

NOTE:

With a two head tape deck, the recording cannot be monitored from the tape, but the sound source being recorded can be monitored.

TAPE DUBBING

When you have two tape decks, you can edit recorded tapes or copy them.

1. Connect two tape decks as shown in figure 5.
2. Depress the **TAPE COPY** switch.
3. Play the tape deck connected to the **TAPE 1** terminals and record with the tape deck connected to the **TAPE 2** terminals.

NOTES:

1. Set the **TAPE MONITOR** switch to "1" to monitor the tape as the recording is made.
2. Setting the **TAPE MONITOR** switch to the **SOURCE** position during dubbing makes it possible to listen to the program source selected with the **INPUT SELECTOR**.
3. It is not necessary to depress the **REC OUT** switch for tape dubbing.

NOTE FOR U.K.:

Recording and playback of any material may require consent. For information, please refer to the:—

Copyright Act 1956

Dramatic & Musical Performers Act 1958

Performers Protection Acts 1963 & 1972

and to any subsequent statutory enactments and orders.

MAINTENANCE

TROUBLESHOOTING

Check the following before contacting your dealer or Marantz service center if trouble occurs.

When no sound is output and the pilot lamp does not light (even though the power switch is ON).

1. Is the power cable correctly inserted into the **AC** outlet?
2. Check the fuse. Be sure to unplug the power cable from the **AC** outlet before replacing it if it is blown.

The pilot lamp lights but no sound is output:

1. Check connections.
2. Check the **INPUT SELECTOR** and **TAPE MONITOR** switch settings.
3. Check whether the **OUTPUT LEVEL** knob is turned all the way to the left.

One speaker channel does not produce sound:

1. Check the connection cables for loose contacts.
2. Check whether the front or back knob of the **OUTPUT LEVEL** control is turned all the way to the left.
3. Set the **INPUT SELECTOR** or **TAPE MONITOR** switch to another position. If both speaker channels produce sound in the other setting, the program source is at fault.
4. Turn **OFF** the power of the Sc 1000 and the power amplifier, then reverse the **L** and **R** power amplifier input cables. If the speaker which does not produce sound does not change, the speaker or power amplifier may be defective.

When there is excessive hum during turntable operation:

1. Check the turntable output cable connections.
2. Check whether the turntable ground cable is connected to the **GND** terminal of the Sc 1000. Disconnect it if it is connected.
3. Check connections between the phono cartridge and tonearm.
4. Reverse the direction in which the power plug is inserted in the **AC** outlet.
5. Ensure that the turntable output cables are separated from the power cable.

REPAIRS

Only the most competent and qualified service technicians should be allowed to service your preamplifier. The Marantz Company and its factory-trained warranty station personnel have the knowledge and special equipment needed for repair and calibration of this precision instrument. In the event of difficulty, refer to your dealer or write directly to one of the location

listed on page 29 for the name and address of the Marantz Authorized Service Station nearest your home or business. Please include the Model and serial number of your unit together with a full description of what you feel is abnormal in its behavior.

REPACKING FOR SHIPMENT

Should it become necessary to repack your preamplifier for shipment to the factory, to an authorized service station, or elsewhere, please observe the following precautions:

- a. Pack the unit carefully, using the original material as shown in Figure 3.
- b. Ship via a reputable carrier (do not use Parcel Post) and obtain a shipping receipt from the carrier.
- c. Insure the unit for its full value.
- d. Be sure to include your return address on the shipping label.

FUSE REPLACEMENT

The model Sc 1000 uses a 1.6 A 250 V time-lag fuse. Use a fuse with the same rating for replacement. If a fuse with a higher rating is used, serious damage may result. The guarantee does not cover damage resulting from use of a fuse of the wrong rating. If the fuse blows again when the power is turned on, contact your dealer or Marantz service center.

GENERATION OF HEAT

The Sc 1000 generates more heat than ordinary preamplifiers because it uses high capacity power supplies. Therefore, the temperature around the top of the preamplifier will be remarkably high; this is not an indication of trouble.

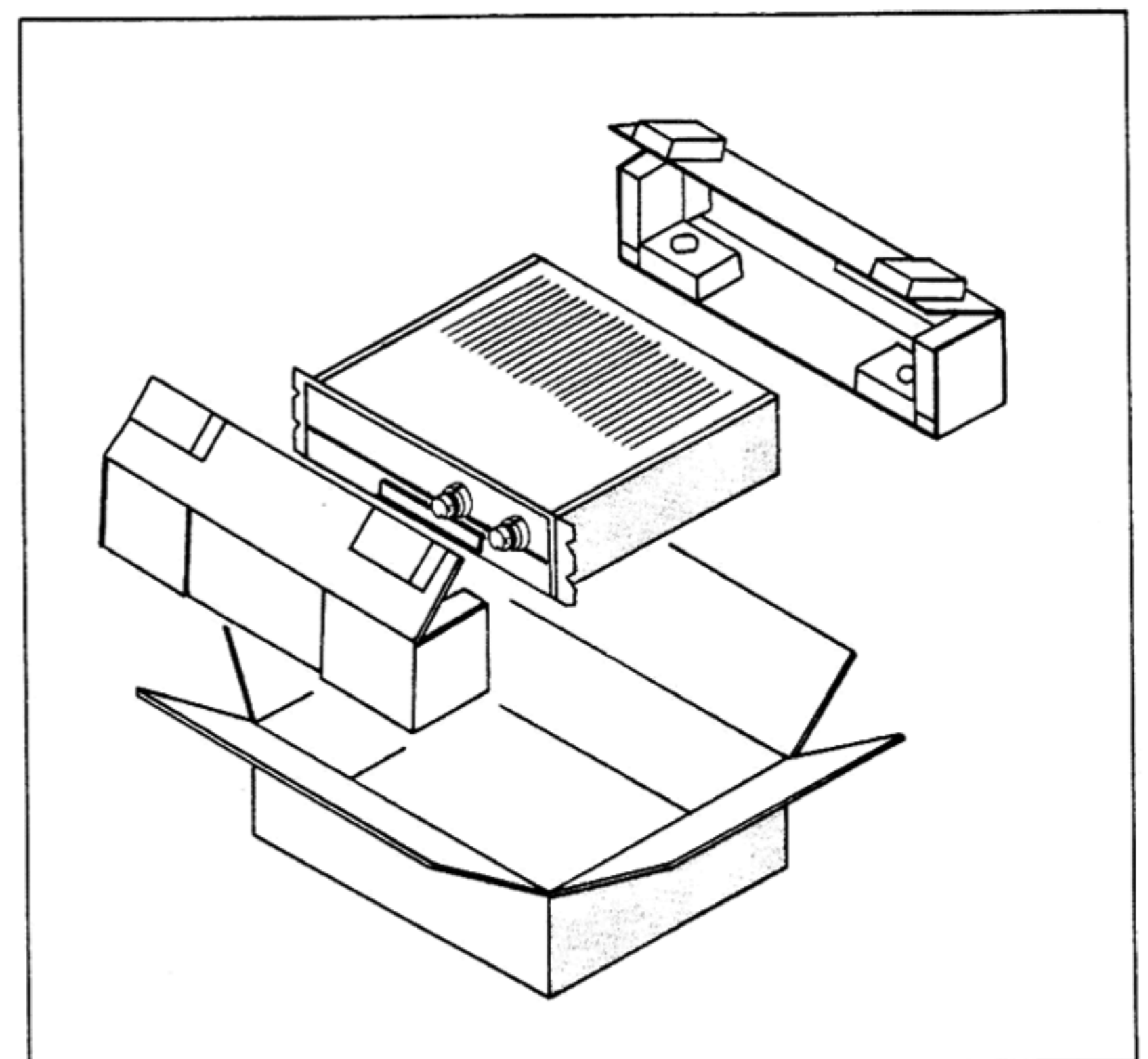


Figure 3. Packing Instruction

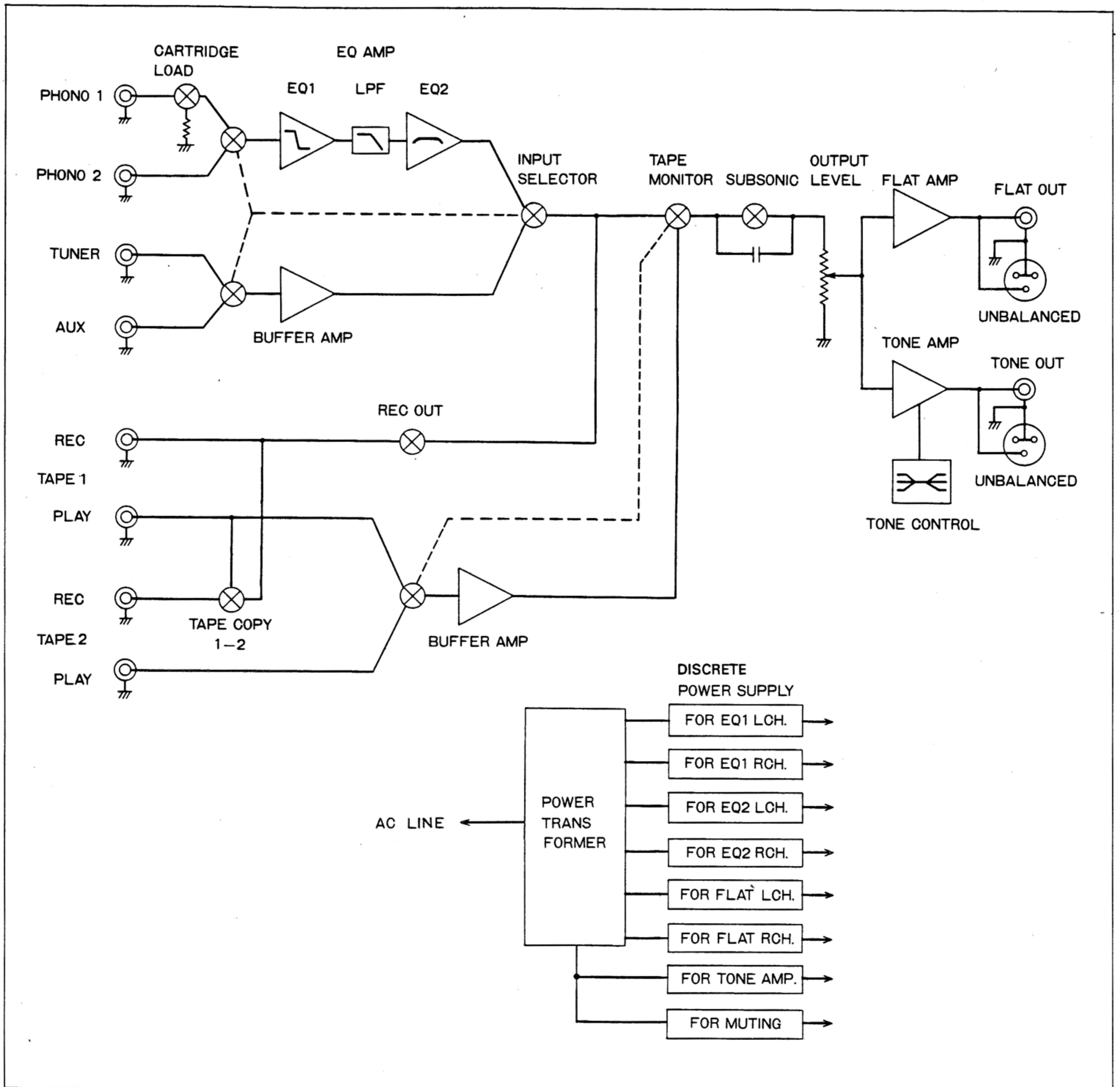


Figure 6. Functional Block Diagram

- ENGLISH :** This unit meets the requirements of EEC Recommendation 76/889.
- FRENCH :** Cet appareil est conforme à la recommandation CEE 76/889.
- SPANISH :** Este aparato esta conforme a los requerimientos de la norma 76/889 de la CEE.
- GERMAN :** Dieses Gerät entspricht den Anforderungen der EWG Richtlinien 76/889.
- ITALIAN :** Questi apparecchi rispondono alla direttiva CEE 76/889.

MODEL SC1000 TECHNICAL SPECIFICATIONS (DIN)

M.M. CARTRIDGE INPUT

Frequency Response (RIAA 20 Hz to 20 kHz)	±0.2 dB
Signal-to-Noise Ratio "A" Weighted (7.75 mV input)	90 dB
Input Impedance	
Phono 1	100, 47 kohms
Phono 2	47 kohms
Input Sensitivity	2.5 mV
Input Equivalent Noise "A" Weighted	0.15 µV

AUX. INPUT

Input Impedance	47 kohms
Input Sensitivity	150 mV
Frequency Response (Flat out +0, -0.2dB)	10 Hz ~ 100 kHz
Signal-to-Noise Ratio (IHF-A 775 mV input).....	100 dB

OUTPUT VOLTAGE

Record Output	150 mV
Preamp Output	115 V

OUTPUT IMPEDANCE

Record Output	50 ohms
Preamp Output	50 ohms

GENERAL

Power Requirements	
E version	110/120/220/240 V AC, 50/60 Hz
Power Consumption	80 W
Dimensions	
Panel Width	483 mm
Panel Height	117.5 mm
Depth	441 mm
Net Weight	13.6 kg