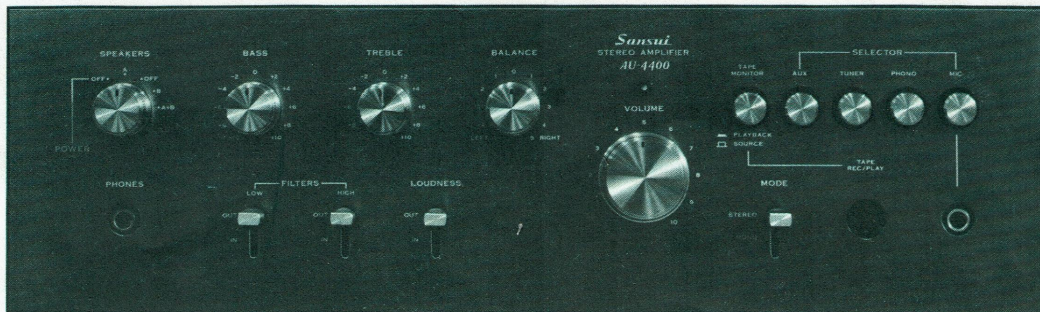


OPERATING INSTRUCTIONS

STEREO AMPLIFIER

SANSUI AU-4400



Sansui

SANSUI ELECTRIC CO., LTD.

We are grateful for your choice of the Sansui AU-4400 stereo amplifier.

Before you begin to operate it, we suggest that you read this booklet of operating instructions once carefully. You will then be able to connect and operate it correctly, and enjoy its superb performance for years.

IMPORTANT PRECAUTIONS

To keep the set in top condition all the times, observe these precautions:

1. Install the set where there is a good circulation of air.
2. Do not obstruct the ventilation opening of the cabinet.
3. Avoid an extremely hot or dusty places.
4. If the set is placed on a shelf, be sure that the shelf board is thick and strong.

HEAT RADIATED BY THE SET

As transistors are sensitive to heat, the enclosure of this set is designed to provide a good dissipation of the heat radiated inside this set. Thus, if you place something on top of the ventilation opening of the enclosure, place the set inside a closed box and operate it for many hours, it is possible that the set will break down. Always try to provide sufficient circulation of air around the set. But removing the enclosure or the bottom plate to allow better ventilation is not only dangerous but undesirable from the standpoint of electrical performance.

CONNECTIONS

CONNECTING CORDS

Pin-plug cords: These are shielded cables with RCA type pin-plugs soldered to each end. They are employed for connecting program source components, such as turntable, tape deck, etc. Keep cable lengths as short as possible to avoid attenuation of high frequencies; under 2 meters (7 feet) is recommended. If such cords have been supplied as accessories of the turntable or other equipment, they should be employed when connecting.

DIN record/playback cord: This is a special cable standardized to the German DIN specifications which allows 2-channel stereo tape recording and playback connections to be performed with a single cable. The TAPE REC/PLAY socket provided on the front panel of the set is for connection of this cable. Employ this socket if the tape deck is also equipped with a similar one. Operation of a tape deck connected to this socket is the same as for a deck connected to the rear panel TAPE REC/PLAY jacks. However, do not connect the DIN socket and TAPE REC/PLAY jacks simultaneously.

Vinyl covered cord: This is the same as standard lamp cord and is used for connecting the speakers. Strip a small amount of insulation from the ends and twist the stranded conductor to prevent fraying before connecting. Separate colors are suggested for each wire to prevent misconnection. For example, red covered cord

AC OUTLETS

Of the two AC outlets provided on the rear panel, the one marked 'SWITCHED' is controlled by the front-panel POWER switch. It is convenient to use it to power a program source component, such as your turntable. If you keep the power switch of such a component turned on, then that component will be turned on and off as you operate the POWER switch of this set. The other AC outlet, marked 'UNSWITCHED' is not related to the set's POWER switch.

The 'SWITCHED' outlet has a 100-watt capacity. The 'UNSWITCHED' one has a capacity of 150 watts. Do not connect any equipment whose power consumption exceeds the capacity of each of the outlets, as it is extremely dangerous.

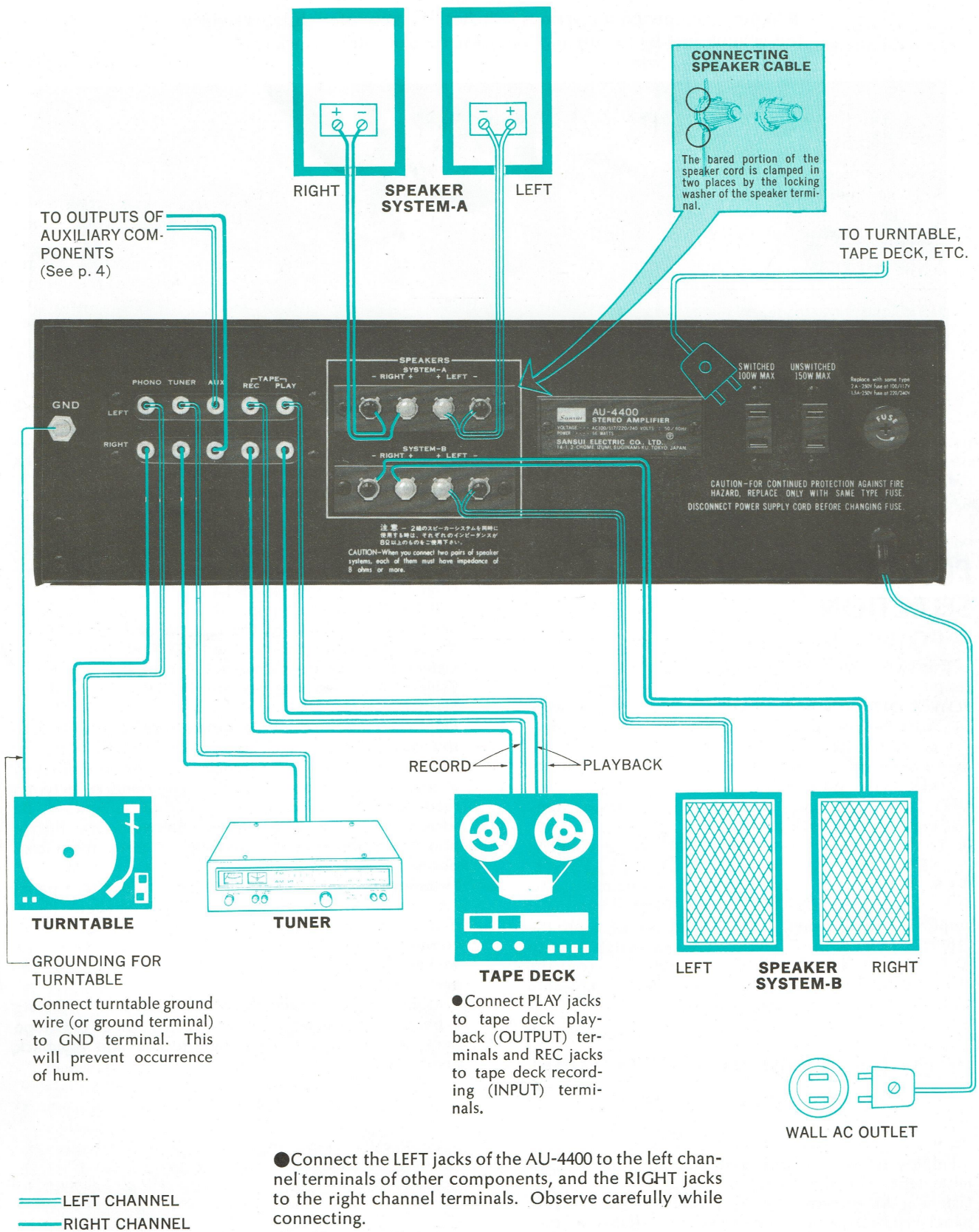
for + and black for -, or red and black for the left channel and brown and white for the right channel. Color coded speaker cord is also available at a high fidelity dealer.

SPEAKER CONNECTIONS

Connecting one set of speakers: This set will accept speakers of 4~16 Ω impedance. Connect speakers to either SYSTEM-A or SYSTEM-B SPEAKERS terminals on the rear panel. Be sure to confirm both polarity (+ & -) and left & right of speakers and terminals while performing connection. The POWER/SPEAKERS switch can then be set to A or B, according to the connected terminals.

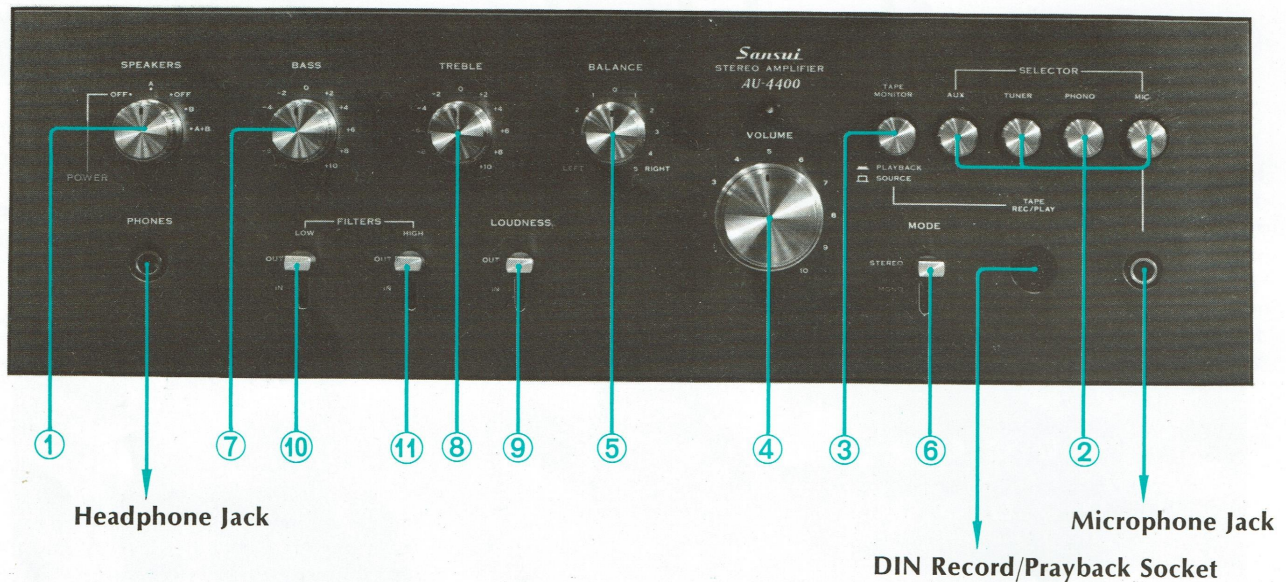
Connecting 2 sets of speakers: Two sets of speaker terminals are provided on the set. In a typical setup, speaker system A can be used in a private listening room, while speaker system B is installed in a living room. Sound can be obtained from both systems by setting the POWER/SPEAKERS switch to A+B. Be sure to employ speakers of at least 8 Ω impedance for this type of application. If even 1 of the speakers is less than 8 Ω , damage to the amplifier can be incurred. The reason for this is that when 2 sets of 8 Ω speakers are connected in parallel, their combined impedance is equal to a single 4 Ω speaker.

REAR-PANEL CONNECTIONS



OPERATING PROCEDURE

- When you operate the various switches, it is suggested that you reduce the volume first by turning the VOLUME control counterclockwise.



- Numbers in photograph refer to colored titles in this manual.

POWER AND SPEAKER SELECTION

① POWER/SPEAKERS Switch

This switch has the double function of switching the set on and off and selecting the speaker systems.

POWER-OFF: When the switch is turned clockwise from this position the power is switched on energizing the set.

A: To drive speakers connected to the rear-panel SPEAKER SYSTEM-A terminals.

OFF: To cut the sounds from the speakers when listening with headphones.

B: To drive speakers connected to the rear-panel SPEAKER SYSTEMS-B terminals.

A+B: To drive speakers connected simultaneously to the rear-panel SPEAKER SYSTEM-A and -B terminals.

Employing headphones: Insert headphone plug into the PHONES jack. If the POWER/SPEAKERS switch is set to A, B, or A+B sound will also be obtained from the corresponding speakers. At the OFF position, sound will not be heard from the speakers.

PROGRAM SOURCE SELECTION

② SELECTOR Switch

③ TAPE MONITOR Switch

Employ for selecting desired program source (turntable, tape deck, tuner, etc.)

Listening to records: Connect turntable to the rear panel PHONO jacks and depress the PHONO button

of the SELECTOR switch ②. Employ a magnetic cartridge when using these jacks.

If the turntable is equipped with a crystal or ceramic cartridge, connect it to the rear panel AUX jacks and depress the AUX button of the SELECTOR switch.

Listening to tuner: Connect tuner to the rear panel TUNER jacks and depress the TUNER button of the SELECTOR switch ②.

Employing microphone: Insert microphone plug into the front panel MIC jack and depress the MIC button of the SELECTOR switch ②. If the microphone is employed at high volume in a room with high sound reflectivity, feedback will cause a howling sound to be emitted. Be sure there is adequate distance between the microphone and the speakers, and do not point the microphone toward the speakers.

Listening to tape: Connect tape deck to the rear panel TAPE REC (for recording) and PLAY (for playback) jacks. If it is equipped with a DIN type connector, it can be connected to the front panel TAPE REC/PLAY DIN socket. To play a tape, or to monitor a recording, depress the TAPE MONITOR button ③.

Monitoring of the recorded sound while a recording is being made can be performed with a 3-head type tape deck which possesses separate record and playback heads.

VOLUME AND BALANCE ADJUSTMENTS

④ VOLUME Control

Employ this control to adjust overall volume. Clockwise rotation increases volume.

⑤ BALANCE Control

The volume of the right and left speakers can be adjusted by the BALANCE control. As the control is turned counter-clockwise from the center position, the sound from the left speaker becomes louder than that from the right speaker, and vice versa.

STEREO VS. MONO

⑥ MODE Switch

When you are going to hear a stereo program source: Leave this switch at STEREO.

When you are going to hear a mono program source: Set the switch to MONO, then the monophonic mixture of the left and right channel signals is heard from both speaker systems. The switch should be in this position to hear a monophonic source (record or tape) on a turntable or tape deck, connected to either the left or right input terminals on the rear panel.

TONE ADJUSTMENTS

⑦ BASS Control

⑧ TREBLE Control

Employ the BASS control ⑦ to adjust low frequency tone. Clockwise rotation from center enhances bass, while counter-clockwise rotation decreases it.

High frequency tones, such as cymbals, can be adjusted by the TREBLE control ⑧. Operation is the same as for the BASS control.

To enhance mid-range sounds, such as human voice, turn both BASS and TREBLE controls counter-clockwise for suitable reduction. Since this an apparent decrease in volume, increase the overall volume with the VOLUME control.

⑨ LOUDNESS Switch

Set this switch to IN when listening at low volume level to enhance low and high frequencies and provide more natural sound. The switch compensates for the human ear response to low and high frequencies at low volume.

ELIMINATING NOISE

⑩ LOW FILTER Switch

⑪ HIGH FILTER Switch

Use the LOW FILTER switch to eliminate low-frequency noise. Pushing it reduces disturbing low-frequency noise such as may be produced by a turntable motor.

If high-frequency noise disturbs you, push the HIGH FILTER switch. Surface noise from a worn record, fluorescent lamp noise and other kinds of high-frequency noise will be reduced.

◆ If no low- or high-frequency noise disturbs you, be sure to keep both switches off.

TAPE RECORDING

Connection: Connect rear panel TAPE REC jacks to the tape deck recording input (INPUT) terminals, and the rear panel TAPE PLAY jacks to the tape deck playback output (OUTPUT) terminals. Carefully observe recording (REC) and playback (PLAY) sides when performing connections.

Operation

1. Prepare the desired program source for normal listening operation and set the SELECTOR switch accordingly. When recording from tape to tape (dubbing), connect the tape deck for playback to the rear panel AUX jacks and depress the AUX button of the SELECTOR switch.
 2. Begin recording. Adjust the recording level with the controls of the tape deck. The VOLUME and tone controls of the set do not affect the recorded sound.
 3. To monitor playback during recording, depress the TAPE MONITOR switch. Confirm also that the tape deck is set to allow playback.
- ▷ When employing a tape deck with a combined record/

playback head, set the TAPE MONITOR switch to SOURCE (undepressed position) and listen to the sound prior to recording.

EMPLOYING THE AUX JACKS

The AUX jacks permit connection of an auxiliary program source component, such as a tape player or second tape deck (in event the TAPE PLAY jacks are already occupied). Playback only can be performed through these jacks. Also use the AUX jacks to connect a turntable that is equipped with a crystal or ceramic cartridge. Other equipment that can be connected to these jacks includes a tuner, or amplifier-equipped adapter (for guitar, etc.).

Input sensitivity of the AUX jacks is 150mV. Nearly all audio products with output voltages of more than about 150mV can be connected. To determine whether a particular component can be connected to the AUX jacks, refer to its operating instructions and specifications.

▷ Depress the AUX button of the SELECTOR switch when employing a playback component connected to the AUX jacks.

SIMPLE MAINTENANCE HINTS

IF OPERATION IS ABNORMAL

Many cases of apparent malfunction can be traced to either misoperation or a defective program source. Not a few of these cases can be remedied by simply checking and correcting the cause.

In event a suspected malfunction occurs, as a first precaution, again confirm operating method and connections.

SIMPLE CHECKING HINTS

*If sound is completely absent, set the VOLUME control to a low position. In sequence, check first the source component (turntable, tape deck, etc.), then this set, and speakers for proper operation and connections.

*Listen to records, tape, and broadcasts. If only one among these is abnormal, the trouble is most likely within that component or its connections.

OPERATION CHECKLIST

1. Is power supply connected?
2. If tape playback cannot be heard, is the TAPE MONITOR switch in the depressed position?
3. Is the proper SELECTOR switch button depressed?
4. Has the VOLUME control been set to a suitable position?
5. Has the POWER/SPEAKERS switch been set to a suitable position?

CONNECTION CHECKLIST

1. Observe that the power cord is plugged into a wall outlet.
2. Examine pin plugs and connecting cables between source equipment and this set. Also check DIN cord and sockets if employed. Do not use other than shielded cable for any of these connections.
3. Check for loose speaker cord connections at this set and speaker terminals.

*If after performing the above checking and correcting, the set still does not operate normally, contact dealer from whom it was purchased or the nearest SANSUI Authorized Service Station.

WHEN SPEAKER POLARITY IS INCORRECT

Reversed speaker polarity can produce such effects as unclear instrument and performer positioning, absence of center sound, sound discontinuity, impaired stereo directionality, deficient low frequency power, and unnatural sound. Since polarity (+ & -) or channel reversal can easily occur during speaker connection, examine speaker wiring if any of these symptoms occur.

USING A MICROPHONE

Microphones are available in high impedance (approximately $10K\Omega \sim 50K\Omega$) and low impedance (about 600Ω) types. High impedance types should be employed with this set.

A low impedance microphone is effective when a long extension cord is planned. However, when a low impedance type low output microphone (dynamic type etc.) is to be used, a matching transformer is required between the microphone cord and the set's MIC jack.

HOWLING WHILE USING A MICROPHONE

Loud oscillating noise may be heard from your speaker systems when using a microphone. This is a phenomenon called howling, and happens because the sound from your speakers is fed back to the microphone and amplified again, repeating the process infinitely. It is more likely to take place in an acoustically reflective room especially if you raise the sound volume.

It can be avoided either by directing or moving the microphone away from the speaker systems. Also, it may stop if you manipulate the HIGH FILTER switch.

HUM OR HOWLING WHEN OPERATING COMPONENT

If hum or howling occurs when operating a turntable, tape deck or other component, it is nearly always due to one of the following reasons, rather than to set malfunction.

*Turntable is placed on top of or located too closely to speaker. Vibrations from the speaker can be transmitted to the turntable, causing feedback howling. Correct by increasing the distance between speaker and turntable, or by placing thick cushioning material under the turntable.

*Hum or howling can also be produced if other than shielded cable is employed for connecting components. Other items to check are reversed shield and inner conductor connections, and proper turntable motor and tonearm grounding. Connect turntable and tape deck etc. ground terminals (or ground wires) with the GND terminal of the AU-4400.

THE QUICK-ACTING FUSES

When a Power Indicator is glowing, and/or if no sound comes out of one or more of the four speaker systems, examine their connections and operation once. If nothing is wrong with them, it is possible that the quick-acting fuse or fuses protecting the power transistor have blown.

If this should happen, disconnect the power cord from the AC outlet immediately and check the four quick-acting fuses inside the rear panel. To reach them, remove the cover from the set. If you find any of them blown, eliminate the cause of the malfunction and replace fuse(s) with the new 2.5-ampere quick-acting fuses supplied. Probable causes of the blowout include excessively large input signals, a shortcircuit at the speaker terminals, etc.

SHOULD THE POWER FUSE BLOW

If no Power Indicator should glow and the set simply remains dead even after you have turned on its POWER switch, it is possible that its power fuse has blown.

If this happens, disconnect the power cord from the

AC outlet at once and examine the power fuse on the rear panel. If you find it blown, replace it with a new glass-tubed fuse of the rated capacity (2-ampere for 100 to 117 volts, 1.5-ampere for 220 to 240 volts).

NEVER use a fuse of a different capacity or a piece of wire, even as a stop-gap measure.

VOLTAGE ADJUSTMENT

Your set is adjusted to operate at the correct power supply voltage of your area prior to shipment from our factory.

If you move after purchasing it, or send it as a gift to a friend living in an area where the voltage is different, it may be necessary to adjust its Voltage Selector.

To adjust it, disconnect AC power, remove the two screws securing the name plate on the rear panel, then set the arrow mark on the Voltage Selector Plug to the correct voltage indication (100, 117, 220 or 240 volts). It may be necessary to replace the power fuse as well whenever the voltage has changed. For operation at 100 to 117 volts, use a 2-ampere fuse. For operation at 220 to 240 volts use a 1.5-ampere one.

SPECIFICATIONS

* Design and specifications subject to change without notice for improvements.

| | |
|---|---|
| CONTINUOUS RMS POWER OUTPUT | 20 Watts per channel × 2 (both channels driven) |
| LOAD IMPEDANCE | 8Ω |
| POWER BAND | 40 to 20,000Hz |
| TOTAL HARMONIC DISTORTION | less than 0.3% (from AUX inputs) |
| Music power (IHF) | 96W (4Ω 1,000Hz) 72W (8Ω 1,000Hz) |
| Continuous RMS power output | 23+23W (8Ω 1,000Hz) |
| INTERMODULATION DISTORTION (at rated power output, 70Hz : 7KHz = 4 : 1 SMPTE method) | |
| OVERALL (from AUX) | less than 0.5% |
| FREQUENCY RESPONSE (at 1 Watt power output) | |
| OVERALL (from AUX) | 20 to 30,000Hz ± ₂ dB |
| EQUALIZATION (at TAPE REC output) | RIAA Curve (30Hz ~ 15KHz ±1dB) |
| DAMPING FACTOR | 50 (8Ω) |
| CHANNEL SEPARATION (1KHz at rated power output) | |
| PHONO | better than 45dB |
| TUNER, AUX, TAPE | better than 45dB |
| IHF HUM AND NOISE | |
| PHONO | better than 70dB |
| MIC | better than 70dB |
| TUNER, AUX, TAPE | better than 85dB |
| INPUT SENSITIVITY AND IMPEDANCE (1KHz for rated power output) | |
| PHONO | 2.5mV 50KΩ (Max. input capability: 100mV at 0.2% distortion) |

| | |
|----------------------------|---------------------------------------|
| MIC | 2.5mV 10kΩ |
| TUNER, AUX | 150mV 50KΩ |
| TAPE PLAY (Pin jack) | 150mV 50KΩ |
| TAPE REC/PLAY (DIN socket) | 150mV 50KΩ |
| RECORDING OUTPUT | |
| TAPE REC (pin jack) | 150mV |
| TAPE REC/PLAY (DIN socket) | 30mV |
| SWITCHES AND CONTROLS | |
| BASS | +12dB, -12dB (50Hz) |
| TREBLE | +12dB, -12dB (15KHz) |
| LOUDNESS (volume control) | -30dB +10dB (50Hz) +8dB (10KHz) |
| LOW FILTER | -3dB (100Hz, 6dB/oct.) |
| HIGH FILTER | -3dB (7KHz, 6dB/oct.) |

GENERAL

POWER REQUIREMENTS

| | |
|---------|--------------------------------|
| VOLTAGE | 100, 117, 220, 240V 50/60Hz |
|---------|--------------------------------|

| | |
|-------------|---|
| CONSUMPTION | 56W (rated), 156W (max.) |
| DIMENSIONS | 400mm (15 ³ / ₄ ") W 120mm (4 ³ / ₄ ") H 240mm (9 ¹ / ₂ ") D |
| WEIGHT | 6.3Kg (13.9 lbs) net 7.6Kg (16.8 lbs) packed |

ACCESSORY PARTS

| | |
|--|--------|
| Speaker protecting fuses (Quick-acting fuses 2.5A) | 2 pcs. |
|--|--------|

Operating Instructions Stock No. 9208310

The Sansui logo consists of the word "Sansui" in a white, italicized serif font, set against a solid black rectangular background.

SANSUI ELECTRIC CO., LTD.

14-1, 2-chome, Izumi, Suginami-ku, Tokyo 168, Japan.
TELEPHONE: (03) 323-1111 / TELEX: 232-2076

Printed in Japan (D4M201)