OPERATING INSTRUCTIONS

SOLID-STATE AM/FM STEREO TUNER AMPLIFIER

SANSUI EIGHT

Sansui

SANSUI ELECTRIC COMPANY LIMITED

Congratulations on joining the thousands of proud, satisfied owners of quality stereo components from Sansui.

The Sansui **EIGHT** is the most advanced receiver ever offered by Sansui. The FM tuner section employs three FETs in the FM front end and three ICs plus crystal filter in the IF section for maximum FM sensitivity with no cross modulation, no drift, no distortion. The power amplifier section features direct-coupled circuits that deliver a full 160 watts (at 8 ohms) in music power output with unprecedentedly good tone quality.

The Sansui **EIGHT** is lavishly endowed with accessory circuits. These include the triple tone controls that allow adjustment of every nuance of tonal characteristics throughout the audio spectrum; a 6-way speaker selector which permits connecting three pairs of speaker systems, facilities to connect two phonographs and two tape decks; a balance meter which gives visual indication to simplify the job of adjusting for optimum balance of the right and left channel sound volumes; and two meters for FM tuning. Special provisions have also been made to permit the **EIGHT** to be built up into an electronic crossover stereo system and permit comparing such a system with a standard stereo setup.

From the superior performance characteristics to the careful finish of control knobs, Sansui's tradition of quality is evident. Packed with the most advanced circuits throughout, the **EIGHT** comes to you with the full confidence and guarantee of the manufacturer. It is now up to you to read the contents of this manual carefully before setting out to use it, so you may operate it correctly and obtain the maximum performance it is capable of offering for many years to you.

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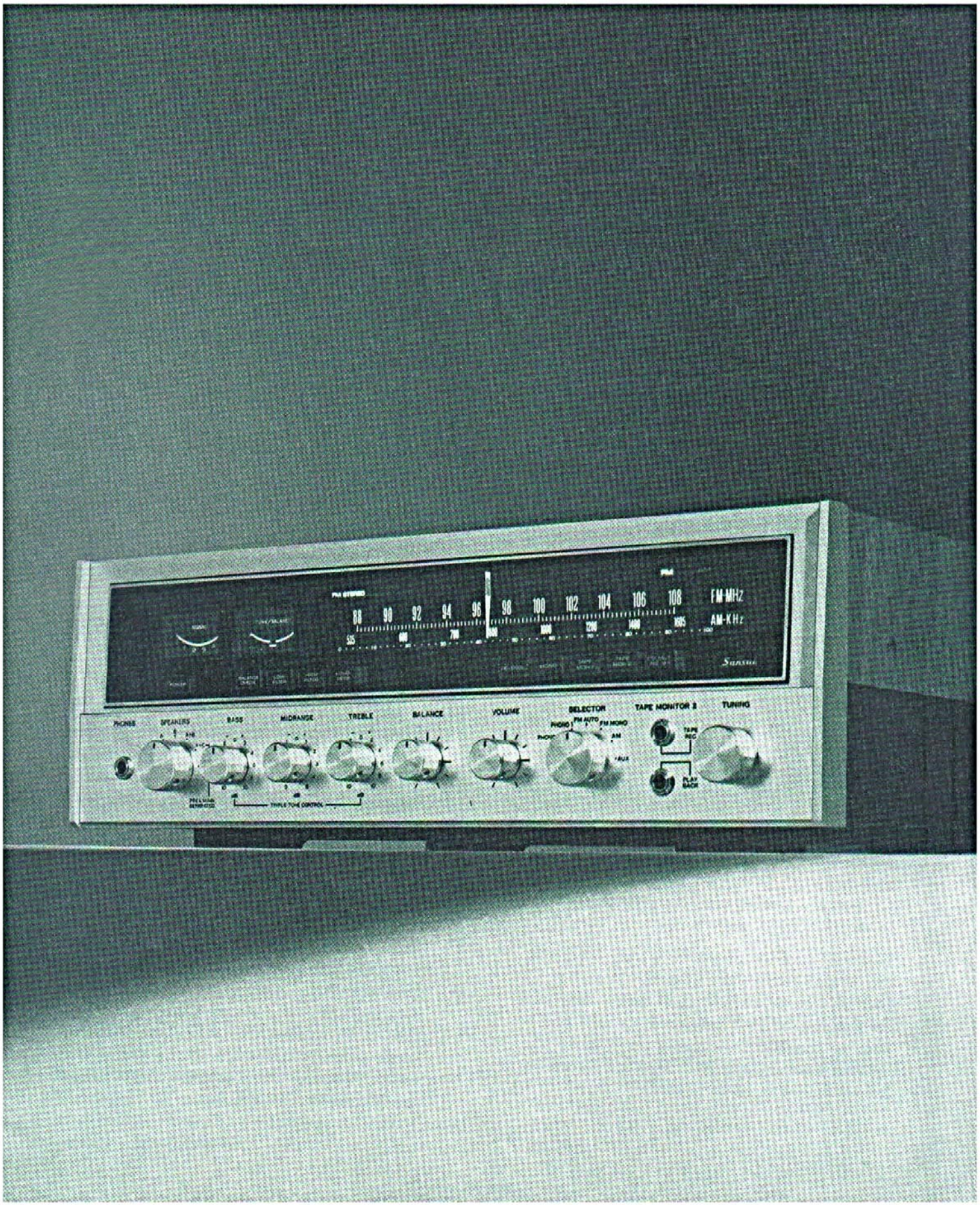

FM STEREO
88 90 92 94 96 98 100 102 104 106 108
FM-MHz
AM-KHz
535 600 700 800 1000 1200 1400 1605
Sansui
PHONES
SPEAKERS
BASS
MIDRANGE
TREBLE
BALANCE
VOLUME
SELECTOR
PHONO 1
FM AUTO
FM MONO
AM
AUX
TAPE MONITOR 2
TAPE REC
PLAY BACK
TUNING
TRIPLE TONE CONTROL

SWITCHES AND CONTROLS

Dial Scales

The dial scales appear when the SELECTOR switch is set to the 'AM', 'FM AUTO' or 'FM MONO' position. The upper scale is for FM, the lower for AM.

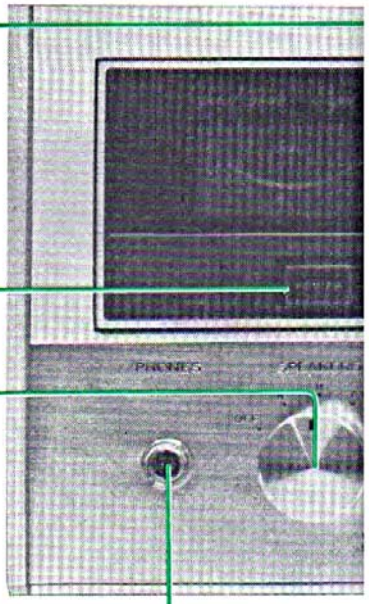
Power Switch

Push the POWER switch once to turn on the system. Push it again to turn the system off. It also controls the power to one of the two AC outlets on the rear panel of the amplifier.

Speakers Switch

This switch allows selection between three sets of stereo speaker systems connected to the EIGHT:
OFF—Use this position to cut off sound from all speaker systems for private listening with headphones connected to the PHONES jack.
A—Selects a pair of speaker systems connected to the SYSTEM-A outputs on the rear panel of the amplifier.
B—Selects a pair of speaker systems connected to the SYSTEM-B outputs.
A+B—Selects two pairs of speaker systems connected to the SYSTEM-A and SYSTEM-B outputs.
A+C—Selects two pairs of speaker systems connected to the SYSTEM-A and SYSTEM-C outputs.
C—Selects a pair of speaker systems connected to the SYSTEM-C outputs.

Note: If the PM connectors are removed with the SPEAKERS switch in either 'A+C' or 'C' position, the preamplifier and power amplifier sections can be used independently as a component of the Electronic Crossover System. An detailed description of the Electronic Crossover System will be found on p. 15.

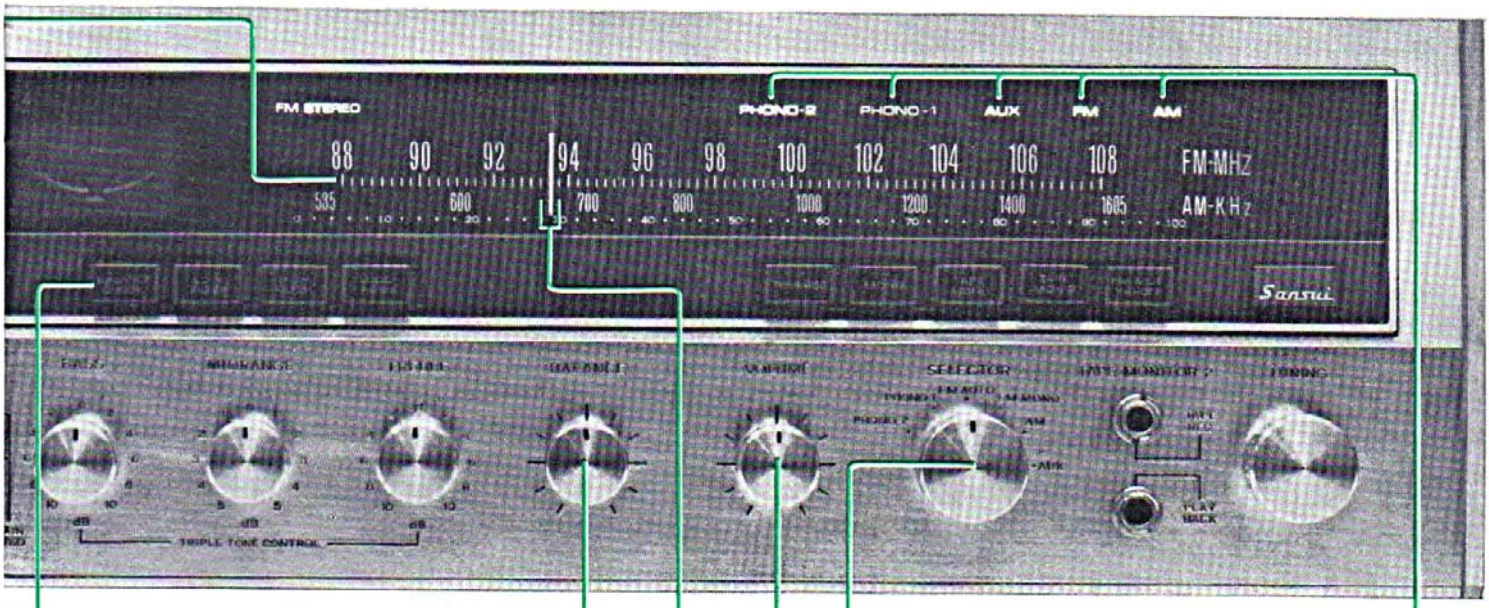


Headphones Jack

This jack accomodates headphones for monitoring or private listening. Before using for the private listening, turn the SPEAKERS switch to its OFF position. Dynamic type stereo headphones are recommended for use with the EIGHT.

Balance Check Switch

This switch allows visual balancing of the left and right output levels. When it is depressed, the BALANCE meter is switched on. To check the channel balance, depress the MONO switch and turn the BALANCE control, watching the BALANCE meter. When the needle of the BALANCE meter is centered, the left and right outputs are exactly balanced. After use, be sure to push off the BALANCE CHECK switch.



Balance Control

This control is used in conjunction with the BALANCE CHECK switch to adjust for equal sound levels from both left and right channels when slight imperfections in program material, variations in speaker output and the vagaries of room acoustics make this procedure necessary. Turning the control clockwise accents the right channel by reducing the left channel output.

Dial Pointer

The pointer is lit in red when the SELECTOR switch is set to FM AUTO, FM MONO or AM.

Volume Control

The VOLUME control adjusts the over-all sound level of both channels. To increase the volume, turn the control clockwise.

Function Indicators

When power is applied, one of the indicators is illuminated depending on the setting of the SELECTOR switch.

Selector Switch

PHONO 2—Selects a record player connected to the PHONO 2 inputs on the rear panel of the amplifier.

PHONO 1—Selects a record player connected to the PHONO 1 inputs on the rear.

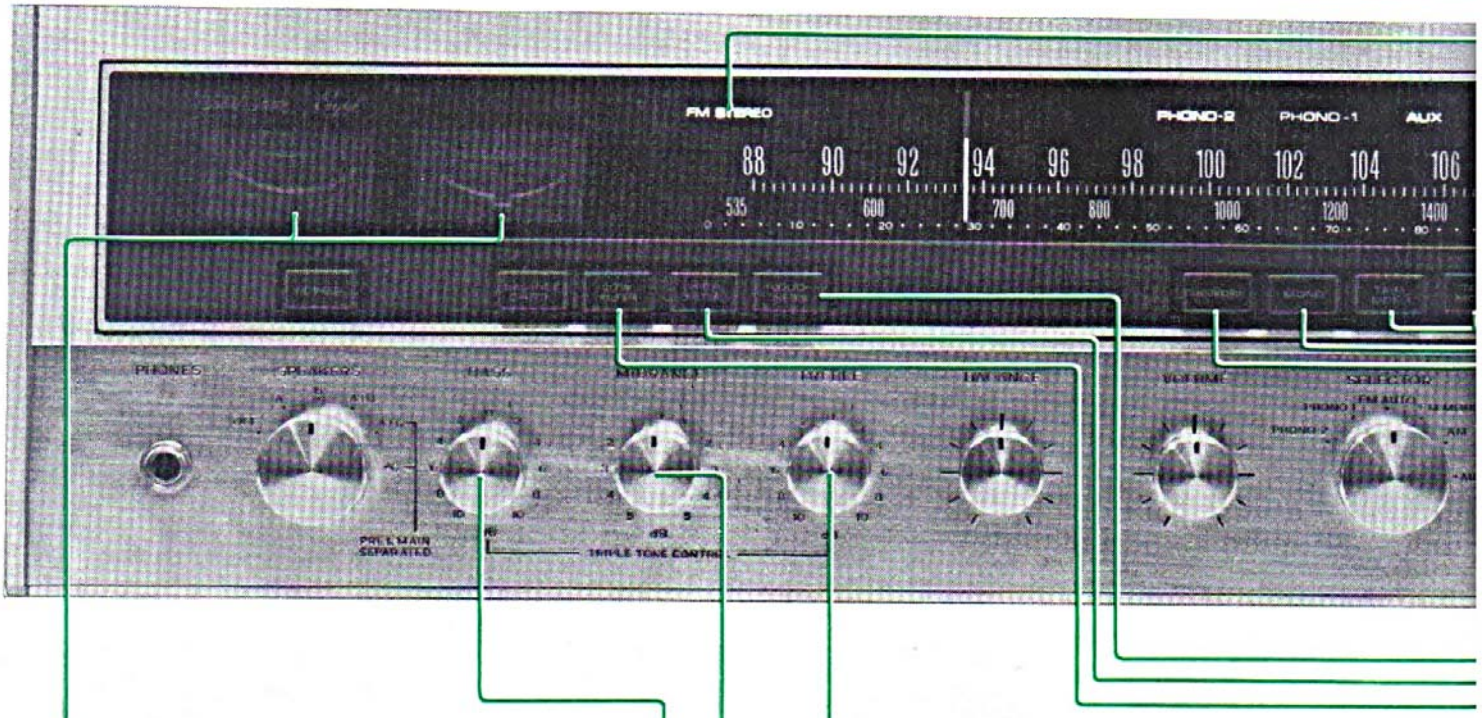
FM AUTO—Use this position for automatic switching between FM monophonic and stereo programs.

FM MONO—Use this position for all monophonic FM programs.

AM—Use this position for all AM programs.

AUX—Selects other sources connected to the AUX inputs.

SWITCHES AND CONTROLS



Tune/Balance and Signal Meters

When the SELECTOR switch is set to either 'FM AUTO' or 'FM MONO' position, both TUNE/BALANCE and SIGNAL meters are illuminated. The desired FM station is pinpointed when the needle of the SIGNAL meter swings as far to the right as possible and the pointer of the TUNE meter is perfectly centered.

When the SELECTOR switch is set to the 'AM' position, only the SIGNAL meter is illuminated. To tune in the desired AM station, turn the TUNING knob so that the needle of the SIGNAL meter swings as far to the right as it will go.

To check the channel balance visually, see the Balance Check Switch section.

Treble Control

The TREBLE control is used to boost or to cut the high-end response in the same manner as the BASS control. This control is graduated by 2 dB per step.

When the three tone controls are all centered at the '0' position, the response curve of the amplifier is flat.

Midrange Control

The MIDRANGE control does for the midrange what the BASS control does for the lows. This control is graduated by 1 dB per step.

Bass Control

The BASS control is used to boost or to cut the low-end response according to your taste, speaker response and listening conditions. To boost, turn it clockwise. To cut, turn it counterclockwise. It is graduated by 2 dB per step.

FM Stereo Indicator

This indicator is lit when the dial pointer crosses a station making an FM stereo broadcast and the receiver is properly set for the stereo reception. It remains lit during the stereo reception.

FM Muting Off Switch

This switch eliminates interstation tuning noise. When tuning in a weak station, it should be pushed down to its off position.

Tape Monitor Switches

These switches control the tape monitor circuits 1 and 2. A detailed description of the tape deck operation will be found on p. 13.

Mono Switch

The MONO switch is used for all monophonic programs, or if you want to reproduce a stereophonic program monophonically.

Reverse Switch

The REVERSE switch is used to reverse the signals between left and right channels during stereo operations. Keep it off when the left and right signals are fed correctly into the left and right speakers respectively.

Tuning Knob

Tune in the desired broadcasting station by turning this knob, watching the illuminated tuning meter or meters.

Tape Deck Jacks

A pair of jacks allow making recording from, and playback through, the amplifier. The front panel connections are used for tape decks with microphone plugs.

Loudness Switch

The LOUDNESS switch boosts bass and treble response at low volume listening levels. Due to the sensitivity of human hearing, both bass and treble seem greatly reduced at low listening levels. This switch compensates for this apparent loss.

High Filter Switch

This switch eliminates or reduces high-frequency noise such as surface noise from old or worn records, tape hiss and radio noise caused by interference from nearby electrical appliances. Use it only when needed.

Low Filter Switch

This switch eliminates or reduces turntable rumble and other low-frequency noises. It is normally kept in the off position.

OPERATIONS
—— SPEAKER CONNECTIONS

Three pairs of 4- to 16-ohm speakers can be connected to the **EIGHT**. You can install the main set of speakers (SYSTEM-A) in your listening room and additional speakers (SYSTEM-B and C) in the same room or remotely in other rooms of your home. They can be used individually or in twos (A+B or A+C) by means of the front SPEAKERS selector. With the PM connectors removed, the preamplifier section, power amplifier section and speakers connected to the SYSTEM-C outputs can be used as a separate component of the Electronic Crossover System. A detailed description of the Electronic Crossover System is given on p. 15.

To connect the main set of speakers to the amplifier:

1. Connect the positive terminal of the speaker on your right (as viewed from the listening area) to the right channel SYSTEM-A ⊕ terminal on the rear of the amplifier.
2. Connect the common terminal (marked ⊖, C etc.) of the right speaker to the right channel SYSTEM-A ⊖ terminal of the amplifier.
3. The left speaker connections are made at the left channel SYSTEM-A terminals in the manner described above.
4. Set the SPEAKERS selector to the 'A' position.

In connecting the speakers to the amplifier, no more than ¼-inch of insulation should be removed from the end of a speaker cable, since any greater length of exposed wire is likely to cause shorts at the terminals. All wire strands should be tightly twisted. To connect to the amplifier, depress the terminal button with one hand, push the stripped end of lead wire in the hole with the other hand, and release the button.

To connect additional speaker systems to the amplifier:

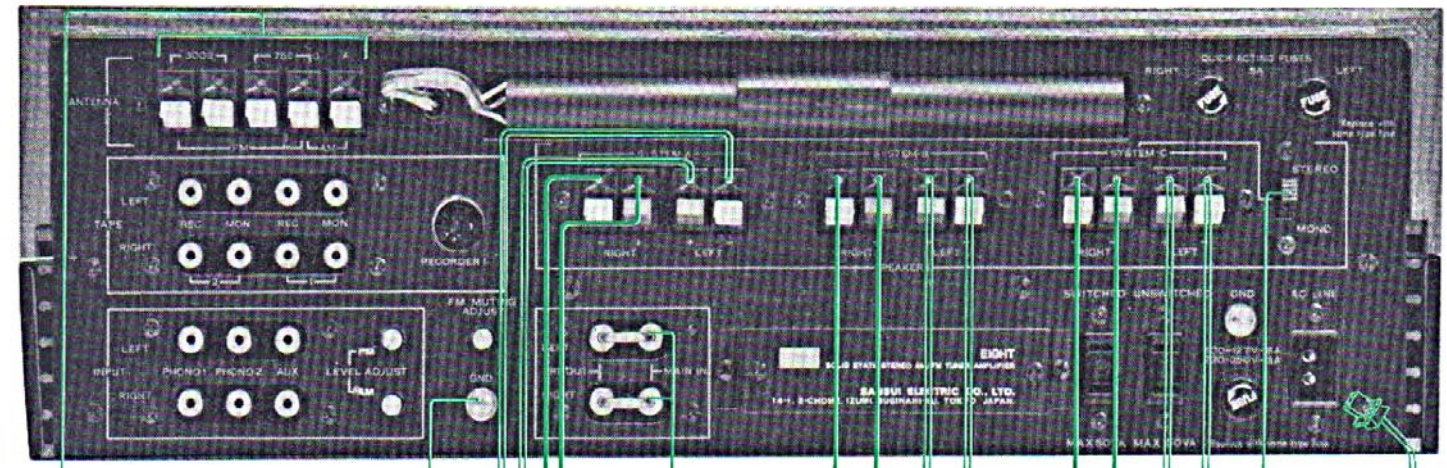
1. Connect the additional speaker systems to the SYSTEM-B and/or SYSTEM-C as indicated in the preceding section.
2. Set the SPEAKERS selector to the appropriate position.

To connect one speaker for temporary use:

1. Connect the speaker to either left or right channel SYSTEM-C terminal on the rear of the amplifier.
2. Turn the STEREO/MONO switch (located on the right of the SYSTEM-C terminals) to MONO.
3. Set the SPEAKERS selector to C or A+C.

Important:

1. The EIGHT delivers the 200-watt music power at 4 ohms. The power handling capacity of the speakers must be matched to the power output of the EIGHT. If the speakers having relatively low power handling capacity are connected to the EIGHT and operated at high listening levels, they may be damaged by excessive power input.
2. If you want to use two pairs of stereo speaker systems at the same time (SYSTEM A+B or A+C), their impedance must be more than 8 ohms each. If you want to connect two or more speakers to one channel in parallel, their combined impedance must be more than 4 ohms.
3. If the polarities (⊕ and ⊖) of the speakers and the amplifier are not matched correctly, sound cancellation at some frequencies or in some listening position occurs. Particularly when listening to monophonic reproduction, this condition is noticeable by an absence of sound at a point midway between right and left speakers. If this situation occurs, check the amplifier and speaker connections once more and reverse the connections between the amplifier and either right or left speaker.



SYSTEM A

LEFT SPEAKER

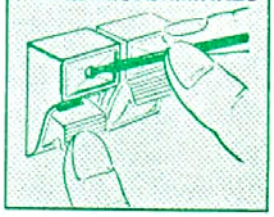
RIGHT SPEAKER

SYSTEM C

LEFT SPEAKER

RIGHT SPEAKER

CONNECTING TO ANTENNA TERMINALS



SYSTEM B

RIGHT SPEAKER

LEFT SPEAKER

WALL OUTLET

LEFT CHANNEL

RIGHT CHANNEL

OPERATIONS
—— RADIO RECEPTION

ANTENNA CONNECTION

The quality of reception that can be expected from the **EIGHT** is largely dependent on the correct positioning and use of antennas. The following procedures are recommended for noise-free reception.

FM Antenna

Where FM broadcasting stations are near and FM signals are strong, satisfactory FM reception can be obtained by using the folded dipole antenna accompanying the amplifier. Connect the dipole to the antenna terminals marked FM-300Ω on the rear panel, then fully extend the wire to a T form and fix it to a wall or ceiling where it allows the strongest reception.

If the **EIGHT** is used in a thick-walled building or in an area remote from FM broadcasting stations, the indoor dipole antenna may be inadequate for strong signal reception. An outdoor antenna designed exclusively for FM reception should then be installed.

FM antennas of the 300 ohm balanced type and 75 ohm unbalanced type can be used with the **EIGHT.** Connect either antenna to the matching antenna terminals on the rear of the amplifier. The 300 ohm feeder wire should be connected to the antenna terminals marked FM-300Ω. If a 75 ohm coaxial cable is used, connect the conductor to the antenna terminal marked FM-75Ω and the shielding wire to the G terminal.

Note: FM sensitivity cannot be raised simply by lengthening the antenna. Adjust the antenna's height and direction while actually listening to a broadcast for the best reception.

Built-in AM Ferrite Bar Antenna

This sensitive antenna, located on the rear panel of the amplifier, is usually adequate for AM reception. Position the antenna until the best reception is obtained, watching the SIGNAL meter on the front panel of the amplifier.

Outdoor AM Antenna

In ferroconcrete buildings or in areas remote from the broadcasting station, the built-in ferrite bar antenna may be inadequate for strong AM reception. An outdoor antenna then becomes necessary. This can be accomplished by connecting the PVC wire accompanying the amplifier to the antenna terminal marked AM-A on the rear panel. Run this wire to an antenna that has been installed outdoors and away from the building. At the same time, the unit should be grounded. Position the outdoor antenna where reception is strongest while actually receiving a broadcast. And, for reasons of safety, be sure to attach a lightning arrester to the outdoor antenna.

Radio Reception

FM Programs

1. Set the SELECTOR switch to the FM MONO or AUTO position, the former for only monaural broadcasts and the latter for automatic switching between monaural and stereo broadcasts. If too much noise or interference accompanies a stereo broadcast with the SELECTOR switch set at FM AUTO, turn the SELECTOR switch to the FM MONO position and listen to the same broadcast monaurally.

2. Select the desired FM station on the FM band of the tuning dial with the TUNING knob. The station is properly pinpointed when the needle in the SIGNAL meter moves as far to the right as possible, and when the needle in the TUNE meter is centered. For all stereo broadcasts being received, the STEREO Indicator will light up in red.

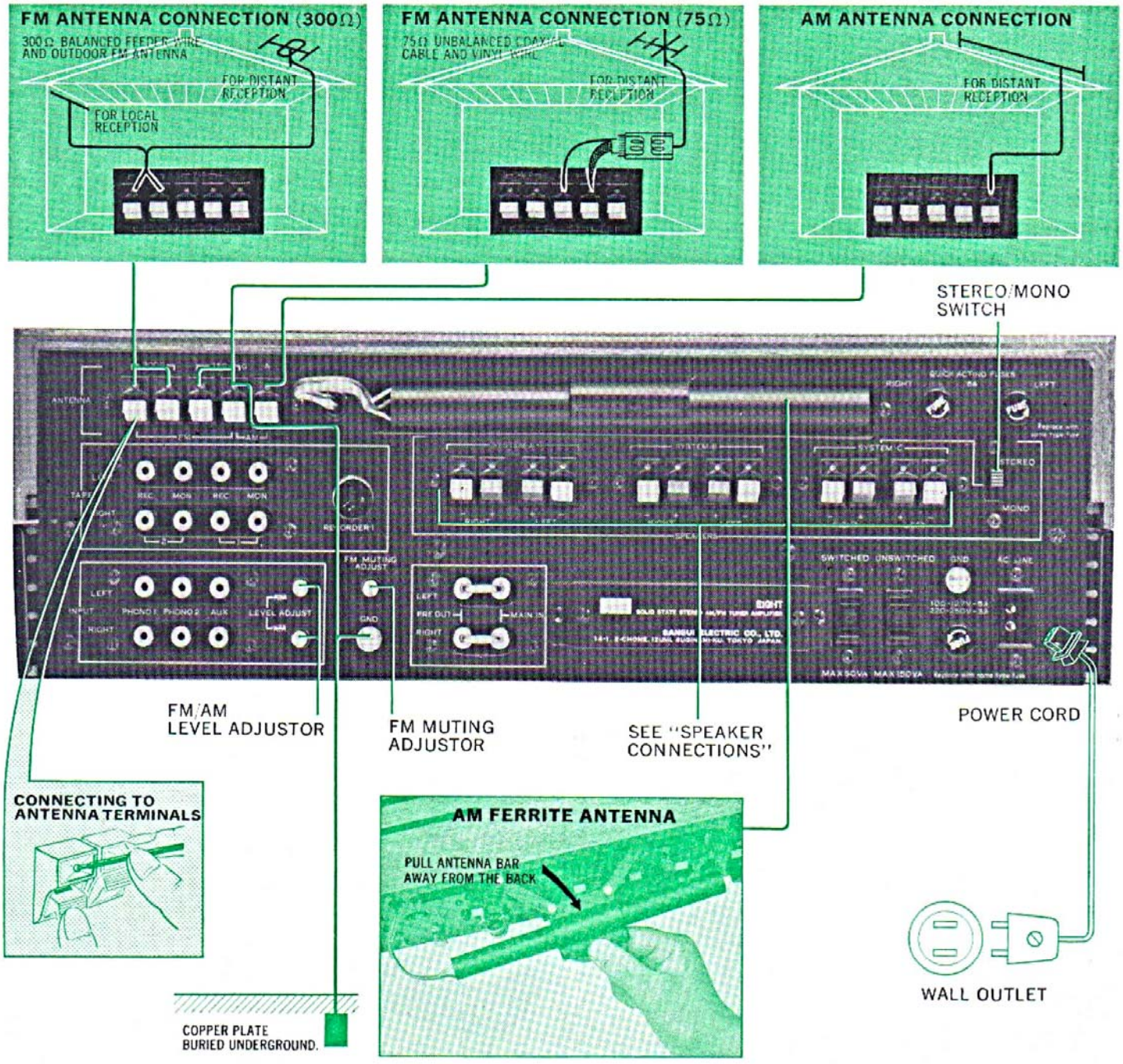
3. When a stereo broadcast is being received, use the BALANCE knob to control the balance of sound for both left and right channels. Use all other controls and switches according to taste and listening conditions.

AM Programs

1. Set the SELECTOR switch to the AM position.

2. Select the desired station on the AM band of the tuning dial with the TUNING knob. The station is properly tuned when the needle in the SIGNAL meter moves as far to the right as possible. The TUNE meter fail to light and does not operate for AM reception.

3. Use all other controls and switches as required. During AM reception, the light and left speakers produce the same sounds whether the REVERSE and MONO switches are on or off.



OPERATIONS
—— RECORD PLAYING

Connecting Record Players

The **EIGHT** has two sets of PHONO inputs to accomodate a pair of record players or pickup arms having a magnetic cartridge with output voltage of 2 to 10 mV. Both PHONO 1 and 2 jacks have the input impedance of 50 kΩ.

To connect a record player to the amplifier, proceed as follows:

1. Connect the left channel output of the record player to the left channel PHONO 1 (or PHONO 2) input jack on the rear of the amplifier.

2. Connect the right channel output of the record player to the right channel PHONO 1 (or PHONO 2) input jack.

3. If a monophonic player or turntable is used, it may be connected to either left or right channel PHONO jack.

4. Insert the power cord plug of the record player into the AC outlet marked SWITCHED on the rear of the amplifier. The power supply for the player will then be controlled by the POWER switch on the front panel of the amplifier.

Listening to Records

To listen to records, proceed as follows:

1. Set the SELECTOR switch to PHONO 1 or PHONO 2 depending on which input is being used.

2. If a monophonic record player is used, push the MONO switch on.

3. Make appropriate settings of controls on the record player.

4. Place the stylus on the record. When monophonic records are played on a stereo player, follow the same procedures as for stereo records for better results.

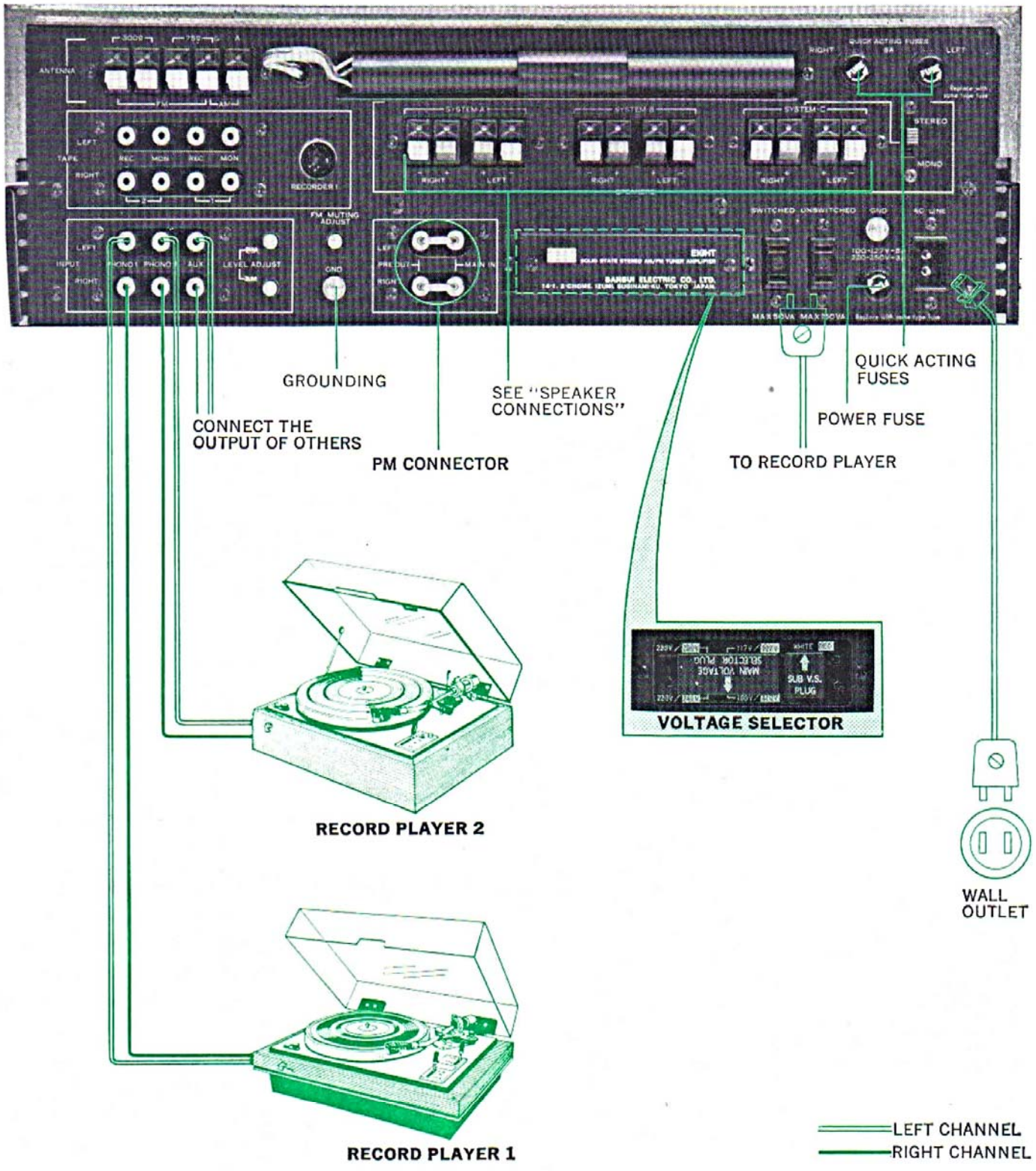
5. Adjust the BALANCE control to obtain equal sound from both right and left channels.

6. Use other controls and switches according to your taste and listening conditions.

Humming and Howling

Care must be taken never to place a record player on or too near a speaker enclosure. Otherwise the vibration of the speaker enclosure is transmitted to the player and causes howling. It is best to keep these components completely separated, but if this is impossible, to place a thick cushion between them.

Humming is a phenomenon caused by incomplete or incorrect player-amplifier connections. If this occurs, check to see if all connections are complete and if the thickness of the connecting wire is sufficient.


GROUNDING
CONNECT THE OUTPUT OF OTHERS
PM CONNECTOR
SEE "SPEAKER CONNECTIONS"
QUICK ACTING FUSES
POWER FUSE
TO RECORD PLAYER
VOLTAGE SELECTOR
WALL OUTLET
RECORD PLAYER 2
RECORD PLAYER 1
LEFT CHANNEL
RIGHT CHANNEL

OPERATIONS
—— TAPE PLAYBACK
—— TAPE RECORDING

Connecting Tape Decks
Tape decks can be connected to record from, and playback through, the **EIGHT**. Tape monitoring is possible with a tape machine having a built-in pre-amplifier as well as separate recording and playback heads.

Tape Deck with DIN Connector
If your tape deck has a DIN (German Industrial Standard) 5-pin plug which simplifies the connections to the amplifier, just insert it into the TAPE RECORDER 1 socket on the rear panel of the amplifier.

Caution: The tape deck with DIN connector must not be used together with another tape deck connected to the TAPE 1 jacks. To use both decks simultaneously, the latter should be connected to the TAPE 2 jacks.

Tape Deck with Pin-Jack Connector
To record from the amplifier:

1. Connect the left channel input of the tape deck to the left channel TAPE 1 (or TAPE 2) REC jack on the rear of the amplifier.

2. Connect the right channel input of the tape deck to the right channel TAPE 1 (or TAPE 2) REC jack.

3. If a monophonic tape deck is used, it may be connected to either left or right TAPE REC jack.

To playback through the amplifier:

1. Connect the left channel output of the tape deck to the left channel TAPE 1 (or TAPE 2) MON jack on the rear of the amplifier.

2. Connect the right channel output of the tape deck to the right channel TAPE 1 (or TAPE 2) MON jack.

3. If a monophonic tape deck is used, it may be connected to either left or right TAPE MON jack.

Tape Deck with Microphone Plugs
This type of tape deck is connected to the amplifier by plugging into the jacks on the front panel of the amplifier. Microphone plugs for both monophonic and stereophonic reproductions can be used, but in either case the recording input should be connected to the upper jack marked TAPE REC and the playback output to the lower jack marked PLAY BACK. When the tape deck with microphone plugs is connected to the amplifier, the TAPE 2 jacks on the rear panel cannot be used.

For Use with One Tape Deck
Recording:

1. Set the SELECTOR switch to the program source to be recorded.

2. If a monophonic tape deck is used, push the MONO switch on.

3. Make appropriate settings of controls on the tape deck.

Playback:

1. Depress the TAPE MON 1 or 2 switch depending on which TAPE circuit is being used.

2. If a monophonic tape deck is used, push the MONO switch on.

3. Make appropriate settings of controls on the tape deck.

4. Use the amplifier's front panel controls and switches according to your personal taste and listening conditions.

Monitoring:

To monitor, follow the same procedures as indicated in the section entitled 'Playback'.

For Use with Two Tape Decks
One tape deck should be connected to the TAPE 1 jacks or the RECORDER 1 socket on the rear panel of the amplifier and another tape deck to the rear TAPE 2 jacks or the front TAPE MONITOR 2 jacks.

Simultaneous Recording with the Two Tape Decks:

1. Set the SELECTOR switch to the program source to be recorded.

2. If a monophonic tape decks are used, push the MONO switch on.

3. Make appropriate settings of controls on the two tape decks.

4. To monitor, connect a 3-head tape deck to the TAPE 2 jacks and depress the TAPE MON 2 switch.

Recording from Tape Deck 1 to Tape Deck 2:

1. Depress the TAPE MON 1 switch.

2. Set the tape deck 1 in the playback mode.

3. Set the tape deck 2 in the recording mode.

4. To monitor, connect a 3-head tape deck to the TAPE 2 jacks and depress the TAPE MON 2 switch.

Notes:

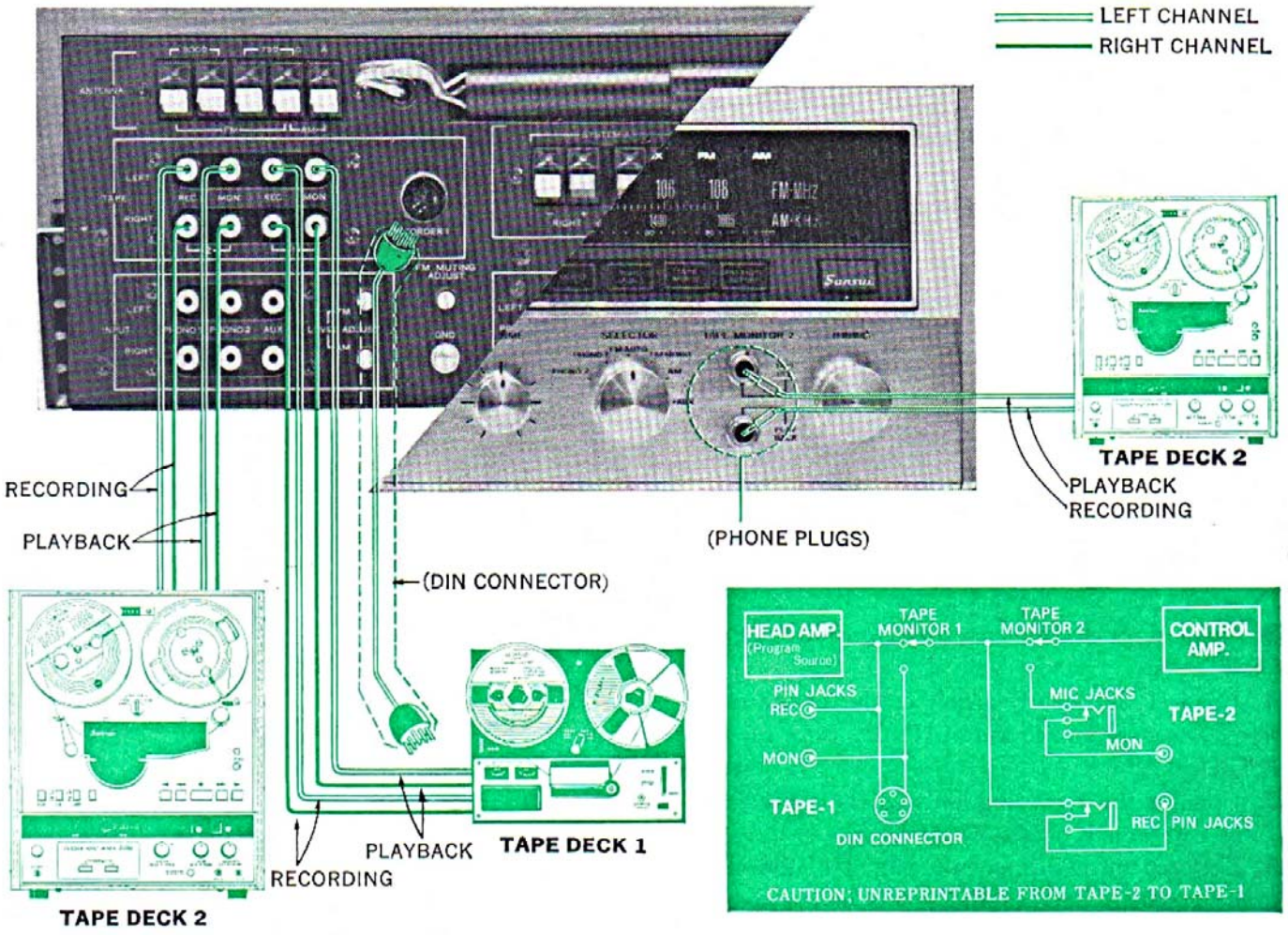
1. Tape decks referred to in this section include only those with built-in preamplifier.

2. Tape recorded sound cannot be controlled by the controls and switches on the front panel of the amplifier. They control sound from the speakers only.

3. To obtain better results, record directly through the **EIGHT** rather than through microphones placed in front of the speakers.

4. Before connecting and operating the tape decks, be sure to look up the manufacturer's operating instructions.

5. Don't depress the TAPE MONITOR switches except for playback or monitoring.



ELECTRONIC CROSSOVER SYSTEM

Electronic Crossover System

The electronic crossover system has been acknowledged as the best hi-fi sound reproduction method available, featuring the following advantages:

1. Since the tweeters, midranges and woofers have their own amplifier, any speakers of different impedance and efficiency can be used for stereo arrangement.

2. This system has better filter characteristics than the conventional LC crossover network. You can determine the optimum crossover points for the speakers used.

3. Since there is no component between the amplifier and speaker, the damping factor of the amplifier is not affected and it is directly coupled to the speaker.

4. This system allows use of the power amplifiers effectively and efficiently. For instance, a big-power amplifier can be used for woofers, and ones with good characteristics for midranges and tweeters. You can select the amplifiers suitable for each of the woofers, midranges and tweeters.

Connections

The **EIGHT**'s preamp and main amplifier sections can be used separately by simply removing a pair of PM connectors from the PRE OUT and MAIN IN jacks on the rear panel. This feature enables you to use the **EIGHT** as a component of an Electronic Crossover System in the following manner:

1. Set the SPEAKERS switch to SYSTEM C.

2. Turn the POWER switch off and then remove the PM connectors from the PRE OUT and MAIN IN jacks.

3. Connect an electronic crossover unit to the PRE OUT jacks.

4. Connect the low-frequency output of the electronic crossover unit to the MAIN IN jacks on the **EIGHT**.

5. Connect the right and left woofers to the SYSTEM C terminals on the **EIGHT**.

6. Connect the mid-frequency output of the electronic crossover unit to the inputs of the second separate power amplifier, and the right and left midrange speakers to the said power amplifier.

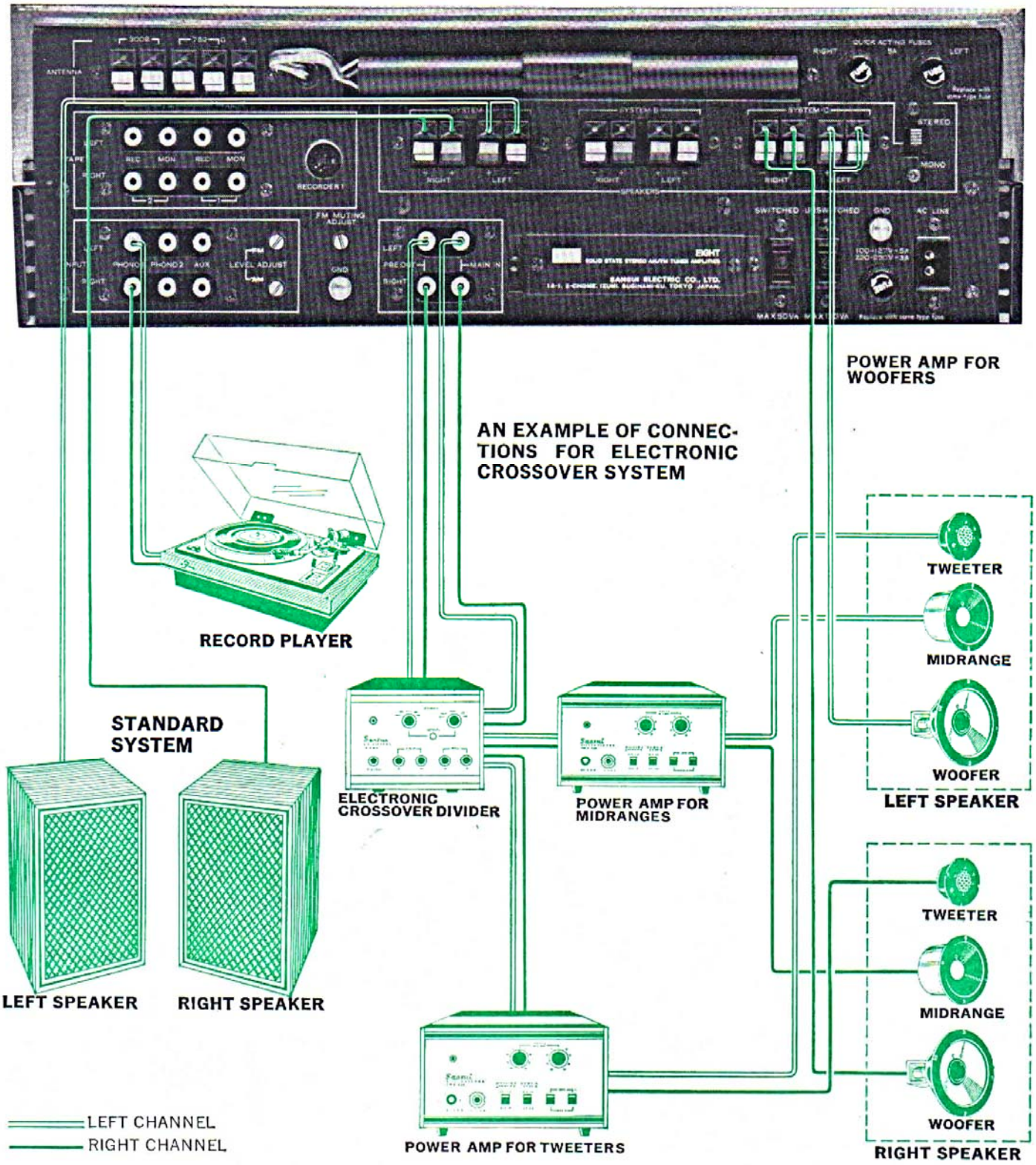
7. Connect the high-frequency output of the electronic crossover unit to the inputs of the third separate power amplifier, and the right and left tweeters to the said power amplifier.

Notes:

1. You can connect speakers to the SYSTEM A and B terminals in addition to the SYSTEM C and directly compare the sound of the Electronic Crossover System with that of the ordinary stereo arrangement by turning the SPEAKERS switch between the SYSTEM A, B and C positions.

2. The connection of an additional pre-amplifier to the MAIN IN jacks cuts off all front panel switches and controls except the BALANCE CHECK and SPEAKERS switches. Thus, to adjust the tone and volume, operate the controls of the additional pre-amplifier connected to the **EIGHT**. When an additional power amplifier is connected to the PRE OUT jacks, the tone and volume can be adjusted by the controls of the **EIGHT**.

3. Be sure to push the POWER switch off before removing or reinstalling the PM connectors.


POWER AMP FOR WOOFERS
AN EXAMPLE OF CONNECTIONS FOR ELECTRONIC CROSSOVER SYSTEM
RECORD PLAYER
STANDARD SYSTEM
ELECTRONIC CROSSOVER DIVIDER
POWER AMP FOR MIDRANGES
TWEETER
MIDRANGE
WOOFER
LEFT SPEAKER
TWEETER
MIDRANGE
WOOFER
RIGHT SPEAKER
LEFT SPEAKER
RIGHT SPEAKER
POWER AMP FOR TWEETERS
LEFT CHANNEL
RIGHT CHANNEL

MAINTENANCE

How to Eliminate Radio Noise

AM Reception

AM reception noise can often be eliminated by changing the position of the antenna. If you are located far from the broadcasting station, or in the mountains, a thick-walled building or a block of such buildings, radio waves will not be well received, resulting in unstable reception and increased noise. If reception is poor, connect a vinyl wire (supplied) to the AM antenna terminal and position it for best reception. If this does not reduce noise or improve sensitivity, erect an antenna outside the building and apart from the wall. This switch is located behind the AM ferrite bar antenna on the rear panel of **EIGHT.** Some noises are peculiar to a certain broadcasting frequency or a certain time of day. These result from the nature of AM signals. In some case the noise can be eliminated by grounding the amplifier or reversing the power-cord plug receptacle connections.

Note: If the antenna terminal marked A is touched with a finger, a hum may be heard. This is a natural phenomenon; the unit is not at fault.

FM Reception

Noise during FM reception can be generally attributed to either insufficient antenna input or interference from other electrical appliances.

Antenna input is insufficient when the antenna is not installed properly or when the station is far away. Extend and fix the attached antenna so that noise is minimized and the antenna input is at maximum. For better results, install an exclusive FM antenna in a position to receive signals most effectively.

If you use a T.V. antenna for the T.V. set and the FM unit with a divider, make sure that the television reception is not affected. To prevent noise, avoid using a long antenna wire.

FM reception is affected considerably by the transmitting conditions of certain stations; usually their power and antenna efficiency. You may receive one station quite well and another poorly. To eliminate interstation tuning noise, set the FM MUTING OFF switch to its up position.

Noise Common to FM and AM

In an area with many ferroconcrete buildings, noise may occur at a particular time of day. This noise is easily distinguished from that described above. To eliminate such noise, attach a noise arrester to the interfering electrical appliance or to the power source of the **EIGHT.** When you are listening to a FM-MPX program, you may notice a noise not heard with monophonic FM broadcasts. The unit is not at fault, just push the HIGH FILTER switch to eliminate the noise. In some cases, you can also eliminate the noise by setting the TREBLE control to "flat" or lower.

Listening to FM-MPX Stereo Programs Monaurally

In areas remote from broadcasting stations, FM-MPX broadcasts may be accompanied by noise that is not noticeable with regular FM monaural broadcasts. This is because the stereo broadcast wave has a service area only half as long as the monaural wave. If the noise accompanying a stereo broadcast cannot be supressed satisfactorily by using the HIGH FILTER or by adjusting the TREBLE control to a flatter level, set the SELECTOR switch to the FM MONO position and listen to the same broadcast monaurally.

FM Muting Adjustor

Muting suppresses the background noise and hiss normally heard between stations. Weak stations that may not override the noise and interference are also suppressed by the muting. If you want to pull in such weak stations with the FM MUTING OFF switch in the 'on' osition, turn this adjustor counterclockwise. Turning it clockwise allows reception of strong stations only and suprression of weak ones.

AM and FM Level Adjustors

The AM and FM level adjustors are provided to adjust the output level of the AM and FM broadcasts respectively. They allow trimming these sources so that when switching from one input to another there will not be a sudden change in the loudness level. Turning them clockwise increases the loudness level.

Quick-Acting Fuses

The **EIGHT** is double protected by the quick-acting fuses at every power transistor stage and in the output circuit. If sound from the speakers is distorted or not heard at all, immediately remove the power plug from its outlet; check for the blown QUICK ACTING FUSES on the rear panel;and, if necessary, replace them with the new 5-ampere fuses (supplied). If OK, remove the bottom plate from the **EIGHT**, check the inside fuses; and, if necessary, replace them with the new 5-ampere fuses (supplied). Before replacing, check for the source of trouble that caused the fuses to blow. If the new fuses blow as soon as the POWER switch is turned on, check for the defective power circuit. If the trouble source cannot be located, contact the nearest Sansui dealer or Service Center.

Power Fuse

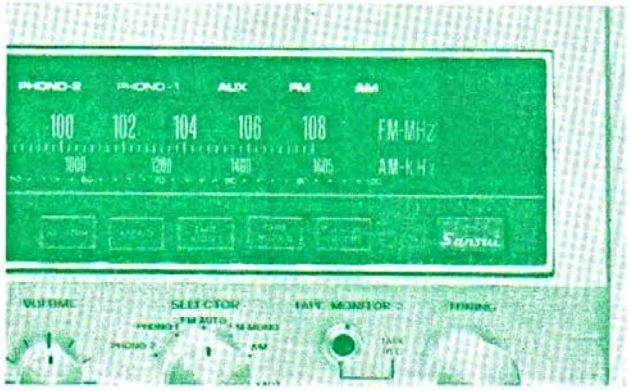
Caution: For the power supply voltage of 100 to 127 volts, use a 5-ampere fuse; for 220 to 250 volts, use a 3-ampere fuse.

If the unit remains completely dead when the power is switched on (FUNCTION indicator fails to light), the power fuse is probably blown. In this case, remove the power plug from its AC outlet and replace the fuse after finding and eliminating the trouble that caused the fuse to blow.

Use only a glass-tubed 5 (or 3) ampere fuse. Never attempt to use a piece of wire or a fuse of a different capacity as a substitute.

Should the Function Indicator Fail to Light...

If one or more function indicators fail to light in the dial window when the SELECTOR switch is turned to the appropriate position, it is most likely one or more indicator lamps behind the window have burnt out. To replace, remove the bonnet from the amplifier (see Service Manual).

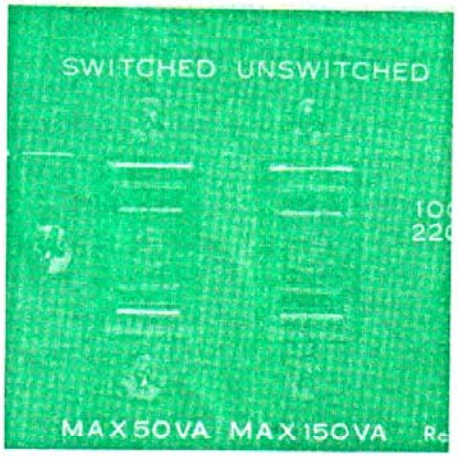


MAINTENANCE/ACCESSORIES

AC Outlets

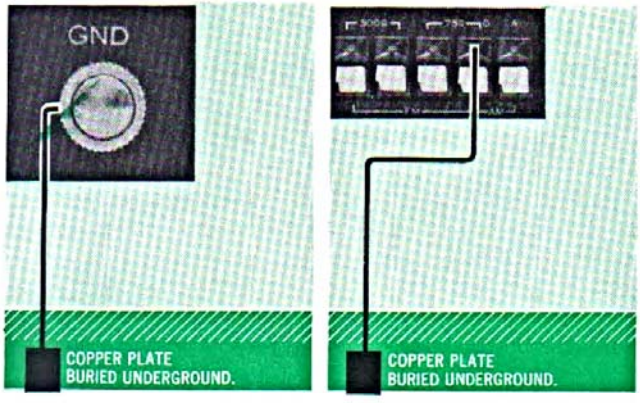
The **EIGHT** is provided with two AC outlets on its rear panel. The left outlet marked SWITCHED is switched on and off by the POWER switch on the front panel.

Caution: The SWITCHED outlet has a maximum capacity of 50VA and the UNSWITCHED outlet 150VA. Never use them beyond their rated capacities.



Grounding

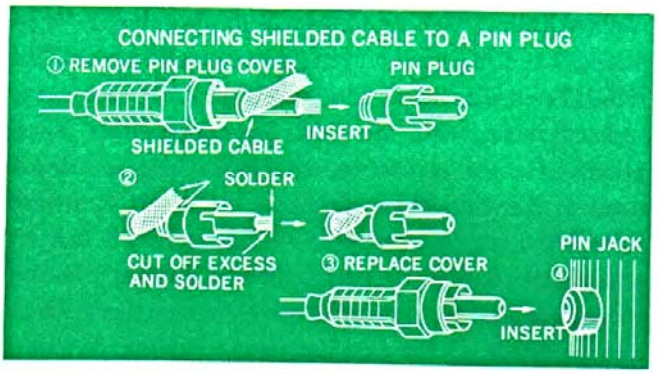
Connect one end of vinyl or enameled wire to the terminal screw marked GND at the rear of the amplifier, attach a copper plate to the other end, and burn it underground. Whenever an outdoor AM antenna is used, grounding becomes necessary. In all cases, grounding is desireable since it allows a better SN ratio to be obtained. To ground an entire audio system, connect the grounding wire of each component used to this terminal.



Wire Connections

When connecting tape decks, players or other components to the **EIGHT**, be sure to use shielded wire. The use of an ordinary cord or vinyl wire may cause humming and buzzing. The length of the shielded wire used should be shorter than 5 feet. Be sure that all lead wires between the amplifier and components are properly connected. If the connections are loose or in touch with other parts, the amplifier will not function properly, may pickup noise, and even breakdown over a period of time. Also, be sure to read the manufacturer's instructions for any component before connecting it to the **EIGHT**.

The shielded wire is made up for use as illustrated below:



Voltage Adjustment

To reach the voltage selector, remove the two screws from the nameplate on the near panel and then remove the nameplate. The voltage selector make it possible to operate the **EIGHT** at the correct voltage in any area. The voltage has been pre-adjusted at the factory, but can be easily readjusted as follows:

1. Set the arrow of the main voltage selector plug to the required voltage: 100, 110, 117, 127, 220, 230, 240 or 250 volts.

2. If the numerals of voltage are printed in red, set the arrow of the adjacent sub V.S. plug to the position marked red. If they are printed in white, set the arrow to the position marked white.

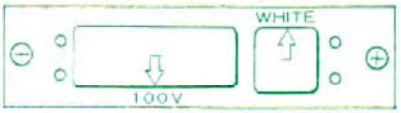
3. It may be necessary to change the power fuse when the AC line voltage is changed. For 100–127 volt operation a 5-ampere fuse is required. For 220–250 volt operation the fuse should be changed to a 3-ampere unit.

Note: The Voltage Adjustor can be used to eliminate the trouble caused by the considerable voltage fluctuation. In this case, it should be set to the peak voltage.

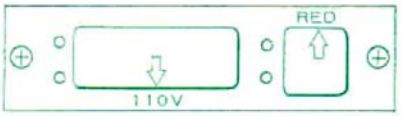
Accessories List

1.	FM ANTENNA	1
2.	OPERATING INSTRUCTIONS	1
3.	SERVICE MANUAL	1
4.	OPERATING SHEET	1
5.	PIN-PLUGS	6
6.	BUTTERFLY BOLTS	2
7.	WASHERS	2
8.	POLISHING CLOTH	1
9.	QUICK ACTING FUSES (5A)	2

117V (POWER FUSE 5A)



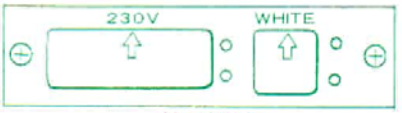
100V (5A)



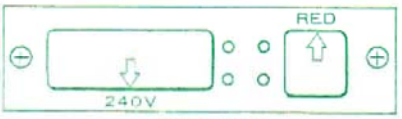
110V (5A)

127V (5A)

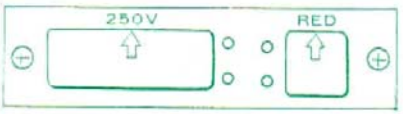
220V (3A)



230V (3A)



240V (3A)



250V (3A)

SPECIFICATIONS /CHARACTERISTICS

POWER AMPLIFIER SECTION

POWER OUTPUT
- MUSIC POWER (IHF): 200W at 4 ohms load, 160W at 8 ohms load
- CONTINUOUS POWER: 80/80W at 4 ohms load, 60/60W at 8 ohms load

TOTAL HARMONIC DISTORTION: less than 0.3% at rated output

INTERMODULATION DISTORTION: less than 0.4% at rated output (60Hz : 7,000Hz=4 : 1 SMPTE method)

POWER BANDWIDTH (IHF): 10 to 40,000Hz

FREQUENCY RESPONSE: (at normal listning level) 5 to 50,000Hz ±1dB

CHANNEL SEPARATION: (at 1,000Hz, rated output) better then 60dB

HUM AND NOISE (IHF) better than 90dB

INPUT SENSITIVITY: 0.8V for rated output

INPUT IMPEDANCE: 50k ohms

LOAD IMPEDANCE: 4 to 16 ohms

DAMPING FACTOR: 60 at 8 ohms load

PRE-AMPLIFIER SECTION

OUTPUT VOLTAGE
- MAXIMUM OUTPUT VOLTAGE: 3V
- RATED OUTPUT VOLTAGE: 0.8V

TOTAL HARMONIC DISTORTION: less than 0.1% at rated output voltage

FREQUENCY RESPONSE: 10 to 40,000Hz ±1dB

CHANNEL SEPARATION: better than 60dB (AUX. 10k ohms, at 1,000Hz)

HUM AND NOISE (IHF)
- PHONO-1 AND 2: better than 70dB
- AUX: better than 80dB

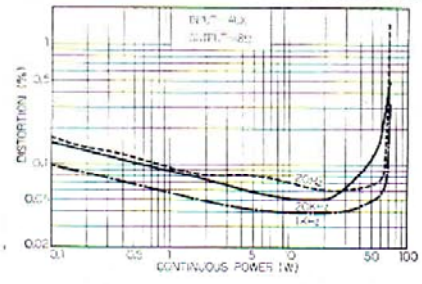
INPUT SENSITIVITY: (at 1,000Hz, rated output voltage)
- PHONO-1 AND 2: 2mV (50k ohms)
- AUX: 180mV (50k ohms)
- TAPE MON (pin): 180mV (50k ohms)
- TAPE RECORDER (DIN): 180mV (50k ohms)

RECORDING OUTPUT
- TAPE REC (pin): 180mV
- TAPE RECORDER (DIN): 30mV

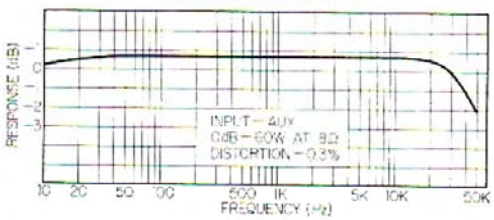
EQUALIZER
- PHONO: RIAA N.F. type

CONTROLS
- BASS: +10dB, −10dB at 50Hz (2dB step type)
- MIDRANGE: +5dB, −5dB at 1,500Hz (1dB step type)
- TREBLE: +10dB, −10dB at 10,000Hz (2dB step type)
- LOUDNESS: +8dB at 50Hz, +3dB at 10,000Hz (Volume control at −30dB)

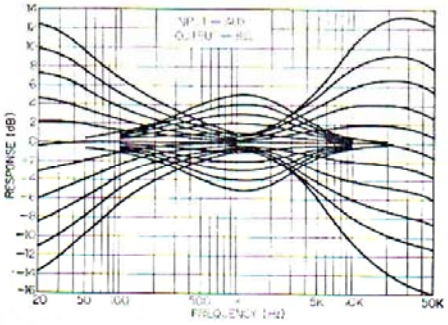
POWER OUTPUT HARMONIC DISTORTION



POWER BANDWIDTH



TRIPLETONE CONTROL



SWITCHES

SELECTOR:	PHONO-2, PHONO-1, FM AUTO, FM MONO, AM, AUX
TAPE MONITOR-1 AND 2:	SOURCE, PLAY BACK
MONO:	STEREO, MONO
REVERSE:	NORMAL, REVERSE
LOW FILTER:	—10dB at 50Hz (12dB/oct)
HIGH FILTER:	—10dB at 10,000Hz (12dB/oct)
SPEAKER SELECTOR:	OFF, SYSTEM-A, SYSTEM-B, SYSTEM-A+B, SYSTEM-A+C, SYSTEM-C
METER SELECTOR:	FM TUNING, AUDIO BALANCE
FM MUTING:	ON, OFF

TUNER SECTION

<FM>

TUNING RANGE:	88 to 108MHz
SENSITIVITY (20dB quieting):	1.4μV
(IHF):	1.7μV
TOTAL HARMONIC DISTORTION:	less than 0.5%
SIGNAL TO NOISE RATIO:	better than 65dB
SELECTIVITY:	better than 60dB
CAPTURE RATIO (IHF):	1.5dB
IMAGE FREQUENCY REJECTION:	better than 100dB
IF REJECTION:	better than 100dB
SPURIOUS RESPONSE REJECTION:	better than 100dB
STEREO SEPARATION:	better than 35dB at 400Hz
SPURIOUS RADIATION:	less than 34dB
ANTENNA INPUT IMPEDANCE:	300 ohms balanced, 75 ohms unbalanced

<AM>

TUNING RANGE:	535 to 1,605kHz
SENSITIVITY (IHF):	100μV at 1,000kHz
(Loop Stick Antenna):	180μV/m at 1,000kHz
IMAGE FREQUENCY REJECTION:	better than 90dB at 1,000kHz
IF REJECTION:	better than 80dB at 1,000kHz
SELECTIVITY:	better than 30dB

CONTROLS AND SWITCHES (rear panel)

FM MUTING LEVEL

MODE OF SPEAKER SYSTEM-C: STEREO, MONO

FM LEVEL

AM LEVEL

SEMICONDUCTORS:

Transistors; 78 Diodes; 43 FET; 5 IC; 3

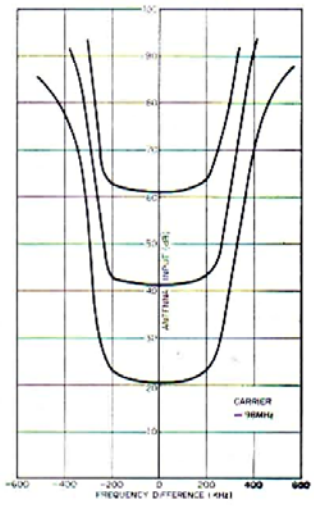
Zener Diodes; 4

POWER REQUIREMENTS

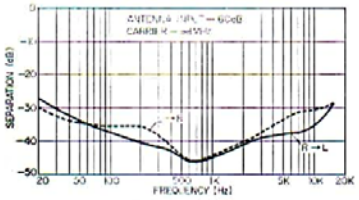
POWER VOLTAGE:	100, 110, 117, 127,220, 230, 240, 250V 50/60Hz
POWER CONSUMPTION:	360W (max. signal)
DIMENSIONS:	444mm (17½″)W, 140mm(5½″)H, 327mm (12⅞″)D
WEIGHT:	17kg (37.4 lbs.)

* Manufacturer reserves right to change design and/or specifications without notice for purpose of improvement.

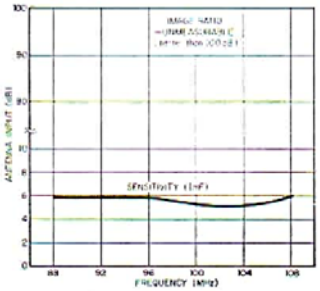
FM SELECTIVITY



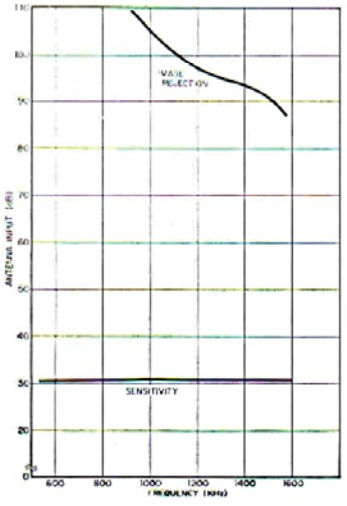
FM STEREO SEPARATION



FM SENSITIVITY & IMAGE RATIO



AM SENSITIVITY & IMAGE REJECTION



Sansui

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