OPERATING INSTRUCTIONS

SOLID-STATE AM/FM STEREO TUNER AMPLIFIER

SANSUI 1000X



Sansui

SANSUI ELECTRIC CO., LTD.

Thank you for selecting the Sansui 1000X Solid-State AM/FM Stereo Tuner Amplifier. You have made an excellent choice, one that promises you years of rich stereo enjoyment.

As the world's foremost audio-only specialist, Sansui has spared on effort in making the 1000X the most powerful, most versatile and most sophisticated receiver available at its price. With an unprecedented 100 watts in power, the latest FET components, functional front panel design and an ability to handle two speaker systems simultaneously or individually, the 1000X considerably advances the art of stereophonic reproduction.

Before leaving our factory, your new 1000X was tested, inspected and certified to be in perfect operating condition. It is now up to you to keep it that way.

This manual has been prepared to guide you in installing and operating the receiver correctly. It contains some very helpful information on making antenna connections, using controls properly and operating components most effectively. Please read it carefully before operating the receiver and retain it for future reference.

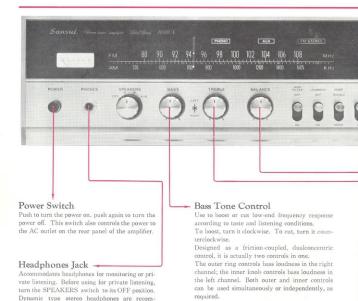
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SWITCHES AND CONTROLS

mended for use with the 1000X.





Tuning Knob

Use to select any desired AM or FM station.

Volume Control

Adjusts the overall sound level of both channels. Turn clockwise to increase volume, counterclockwise to decrease volume.

- Selector Switch

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

FM AUTO—Selects automatic switching between FM monophonic and stereo programs.

AM—Selects AM program.

AUX—Selects a component connected to the AUX inputs on the rear panel.

Balance Control

Use to adjust for equal sound 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.

Treble Tone Control

Use in the same way as the BASS control to boost or cut high-end response.



This meter aids in pinpointing a station. When the needle moves as far to the right as possible, the station is correctly tuned.

Speakers Switch -

A—Selects a speaker system connected to the SYSTEM A outputs on the rear panel of the amplifier.

B-Selects a speaker system connected to the SYSTEM B outputs.

A+B—Selects the two speaker systems connected to the SYSTEM A and SYSTEM B outputs.

OFF—In the OFF position, the switch cuts off sound from all speakers for private listening with headphones connected to the PHONES jack.

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 only when needed. At all other times, keep off.

Loudness Switch-

Use to boost 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.

Tape Monitor Switch Controls the 1000% s 1 and 2 tape monitor circuits. Detailed information on usage is given in the section entitled Operations, p.11.

-Mode Switch

STEREO—Use this position for all stereophonic

MONO—Use this position for all monophonic programs. The MODE switch in the MONO position connects either right or left, or both right and left programs, to speakers of both channels.

Dial Scales

Light up whenever the SELECTOR switch is set to a radio receiving position—FM AUTO or AM. The upper scale is for FM, the lower for AM.

Function Indicators

PHONO and AUX are illuminated in orange when the SELECTOR switch is set to corresponding positions.

FM Stereo Indicator

Lights up orange when the dial pointer crosses a station making an FM-MPX broadcast and the receiver is properly set for stereo reception.

Dial Pointer

The pointer is illuminated in red when the SE-LECTOR switch is set to FM AUTO or AM.

Muting Switch

Eliminates interstation tuning noise. It should be used sparingly. When tuning in a weak station, it should be kept off.

OPERATIONS

Connecting a Speaker System

To connect a stereo speaker system:

- Connect the (+) terminal of the speaker on your left (as viewed from the listening area) to the red terminal marked (+) LEFT SYSTEM A on the rear panel of the amplifier.
- Connect the (-) or common terminal of the left speaker to the black terminal marked (-) LEFT SYSTEM A.
- Connect the (+) terminal of the right speaker to the red terminal marked (+) RIGHT SYSTEM A.
- 4. Connect the (-) or common terminal of the right speaker to the black terminal marked (-) RIGHT SYSTEM A.
- To connect to the terminals of the amplifier:
- 1. Depress the colored button, opening a hole in the terminal.
- 2. Push the stripped end of lead wire in the hole and release the button.

After connecting the speaker system, set the front SPEAKERS switch to the A position.

Connecting an Additional Speaker System

Following the same procedure indicated above, one more speaker system can be connected to the 1000X by utilizing the speaker terminals SYSTEM B. Each of the two systems can be operated independently with the SPEAKERS switch on the front panel. In addition, the speaker systems A and B can be operated simultaneously when the SPEAK-ERS is set to the A+B position.

If Speaker Polarities Are Not Properly Matched...

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 monaural 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 again

and reverse the connections between the amplifier and either right or left speaker.

Speaker Impedance

If you are connecting only one pair of speaker systems to the 1000X, they may have any impedant from 4 to 16 ohms. Should you wish to drive two pairs of speaker systems simultaneously by turning the SPEAKERS switch to the A+B position, each speaker system should have impedance of 8 to 16 ohms. Using a system to connect two or more speaker systems to one channel in parallel, their combined impedance must be more than 4 ohms.

Connecting Record Player

- The following procedures are recommended for use with a player or turntable utilizing a magnetic cartridge with an output voltage between 2mV and 10mV.
- Connect the left channel output of a stereo turntable to the LEFT channel (upper) PHONO input jack on the rear panel of the amplifier.
- Connect the right channel output of the turntable to the RIGHT channel (lower) PHONO input iack.
- If a monophonic player or turntable is used, it may be connected to either RIGHT or LEFT channel PHONO input jack,
- NOTE: Although it is not recommended from a standpoint of tone quality, if a player with a crystal cartridge must be used, connect the output of the player to an input jack labeled AUX on the rear of the amplifier.

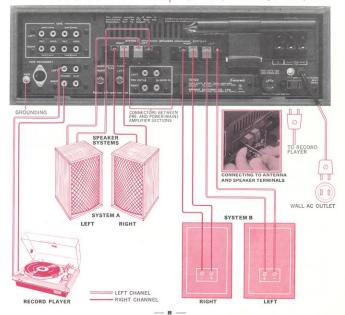
To Listen to Records

- Set the SELECTOR switch to the PHONO position.
- 2. Set the MODE switch to either STEREO or MONO, depending on the type of record player
- Switch on the record player and adjust its speed of rotation (RPM) for the record to be played. (33 ½, 45 etc.)

- After placing the needle on the record, adjust the BALANCE control for equal sound from both right and left channels.
- 5. Use other controls and switches according to your taste and listening conditions.

NOTE: When playing monophonic records on a

stereo record player, follow the same procedures as for stereo records for best results. To balance the sound from both channels, play a monophonic record the same as a stereo record and adjust the BALANCE control so that the sound is heard from a point midway between the right and left speakers.



OPERATIONS -----RADIO RECEPTION

The quality of reception that can be expected from the 1000X 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 feeder wire accompanying the amplifier. Connect the feeder wire to the antenna terminals marked FM-A1 and FM-A2 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 1000X is used in a thick-walled building or in an area remote from FM broadcasting stations, the indoor feeder wire antenna may be inadequate for strong signal reception. An outdoor antenna designed exclusively for FM reception should then be installed.

FM antennas for the 300 ohm balanced type and 75 ohm unbalanced type can be used with the 1000X. Connect either antenna to the matching antenna terminals on the rear of the amplifier. The 300 ohm feeder wire should be connected to the FM antenna terminals A1 and A2. If the 75 ohm coaxial cable is used, connect the conductor to the FM antenna terminal A, and the shielding wire to the terminal G.

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

I'ms sensitive antiental, located on the rear panel to the amplifier, is usually adequate for AM reception. To use, pull it down and away from the back of the tuner until it comes to a stop halfway between the top and the bottom of the amplifier. Then move it from up to down until best reception is obtained.

Outdoor AM Antenna

In ferroconcrete buildings or in areas remote from the broadcasting station, the built-in ferrite bar antenna may be inadequate for 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 back 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. Adjust the outdoor antenna for maximum signal pick-up, while actually receiving a broadcast. And, for reasons of safety, be sure to attach a lightning arrester to the outdoor antenna.

To Listen to Monophonic FM Programs

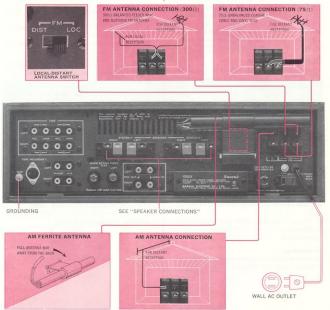
- Set the SELECTOR switch to the FM AUTO position.
- Keep the MODE switch in either MONO or STEREO position.
- Turn the TUNING knob to select the desired station. Once selected, adjust it so that the needle of the TUNING meter moves as far to the right as possible.
- Use all other controls and switches according to your taste and listening conditions.

To Listen to FM-MPX Stereo Programs

- Set the SELECTOR switch to the FM AUTO position.
- 2. Set the MODE switch to STEREO.
- 3. Select the desired FM stereo station with the TUNING knob and pinpoint the station with the TUNING meter. If the dial pointer crosses a station broadcasting MPX stereo, the FM STEREO indicator will light up.
- Adjust the BALANCE control for equal sound from both right and left channels.
- Use all other controls and switches according to your taste and listening conditions.

To Listen to AM Programs

- Set the SELECTOR switch to the AM position.
 Keep the MODE switch in either MONO or
- STEREO position.
- Select the desired AM station with the TUN-ING knob and pinpoint the station with the TUN-ING meter.
- Use all other controls and switches according to your taste and listening conditions.



OPERATIONS TAPE PLAYBACK TAPE RECORDING

Connecting Tape Decks Pin-Jack Connections

Connect the left channel input of the tape deck to the left channel TAPE REC (1) jack on the rear of the amplifier and the right channel input of the tape deck to the right channel TAPE REC (1) jack. Connect the left channel output of the tape deck to the left channel MON (1) jack and the right channel output to the right channel MON (1) jack.

The connections of the second tape deck should be made at the TAPE tacks marked (2).

DIN Plug Connection

Insert the DIN plug of the tape deck into the TAPE RECORDER 1 socket near the lower left corner on the rear panel of the amplifier. Note that the tape deck connected to the TAPE RECORDER 1 socket is in parallel with the tape deck connected to the iacks marked (1).

For Use with One Tape Deck

Recording:

- Set the SELECTOR switch to the program source to be recorded.
- Make appropriate settings of controls on the tape deck.

Playback:

deck.

- 1. Turn on the TAPE MONITOR 1 or 2 switch depending on which TAPE circuit is being used.
- depending on which TAPE circuit is being used.

 2. Make appropriate settings of controls on the tape
- 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 entiled 'Playback'.

For Use with Two Tape Decks

One tape deck (tape deck 1) should be connected to the TAPE 1 jacks or the TAPE RECORDER 1 socket on the rear panel of the amplifier and another tape deck (tape deck 2) to the TAPE 2 jacks.

Simultaneous Recording with the Two Tape Decks:

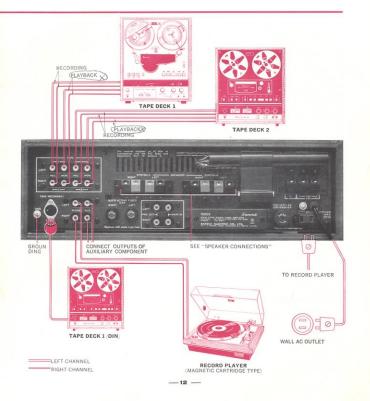
- Set the SELECTOR switch to the program source to be recorded.
 - Make appropriate settings of controls on the two tape decks.
- 3. To monitor, connect a 3-head tape deck to the TAPE 2 jacks and turn the TAPE MONITOR 2 switch on

Dubbing from the Tape Deck 1 to the Tape Deck 2:

- 1. Turn the TAPE MONITOR 1 switch on.
- 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 turn the TAPE MONITOR 2 switch on.

Notes:

- 1. The tape decks referred to in this section include only those with built-in preamplifier.
- The 3-head tape decks refferred to in this section include those with built-in preamplifier as well as separate recording and playback heads.
- 3. Don't depress the TAPE MONITOR switches except for playback or monitoring.



ELECTRONIC CROSSOVER SYSTEM

Pre- and Main Amplifier Sections Separately Usable

The 1000X's preamplifier section and the main or power amplifier section can be used as separate units by simply removing connectors from the jacks marked PRE OUT and MAIN IN on the rear panel. If you want to add another power amplifier to the 1000X, connect its inputs to the PRE OUT jacks. For connection of an additional preamplifier, connect its outputs to the MAIN IN jacks. When the additional preamplifier is connected, only the SPEAKERS switch is usable on the front panel of the 1000X. Thus, tone and volume should be adjusted by means of corresponding controls on the additional preamplifier. When the additional power amplifier is connected, all the controls and switches on the front panel of the 1000X are usable.

Electronic Crossover System

The independent pre- and power-amplifier sections make the 1000X more versatile. One of their most exciting uses is for Electronic Crossover System. In this stereo system, the frequency separation is accomplished electronically between the preamplifier and the power amplifiers (in the conventional system, an LC crossover network is used between the amplifier and the speakers), and the tweeters, midranges and woofers are driven independently by their own power amplifiers. At the present time, this system is acknowledged as the best system for true high fidelity sound reproduction.

The features and advantages of the electronic crossover system are:

1. Speakers more freely selectable

Since the tweeters, midranges and woofers are driven by separate power amplifiers, they can be freely selected on the virture of their tone quality alone, without regard to their efficiency and impedance characteristics.

2. Better filtering characteristic

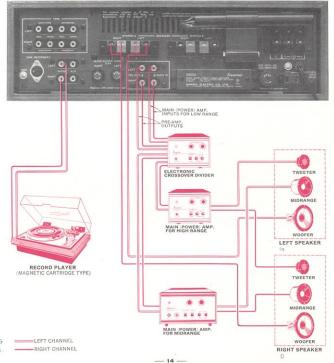
Designing a perfect LC crossover network is a highly complex job, and even the best network may fail to offer a perfect filtering characteristic. Also, as the impedance of a speaker varies with frequency, a network does not always divide the signals at the predetermined crossover points. In contrast, the electronic crossover system not only offers a much better filtering characteristic, but permits changing over the crossover frequencies and cutoff characteristics with rereat ease.

3. Damping factor not impaired

Amplifier's damping factor is not impaired, because there is no resistance between the amplifier and the speakers.

4. Power amplifiers used more effectively

Amplifiers best suited for each frequency band can be used. For example, an amplifier with a fairly big output is suited for driving the woofers, while amplifiers with better tone quality characteristics may be employed for driving the midranges and tweeters.



D.

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 vinvl 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. 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 cases 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 both T.V. set and FM unit with a splitter, 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, use the MUTING switch.

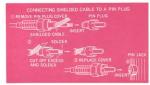
Noise Common to FM and AM

In an area with many ferroconcrete buildings, noise may occur at a particular time of day. This noise is easily distinguished from that discribed above. To eliminate such noise, attach a noise arrester to the interfering electrical appliances or to the power source of the 1000X. When you are listening to a FM-MPX program, you may notice a noise not heard with monophonic FM broadcasts. The unit is not a fault, just use 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.

Wire Connections

When connecting tape decks, record players or other components to the 1000X, 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 10000X.

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



Connectors between Pre- and Main Amplifier Sections

Although the 1000X's preamplifier section and power amplifier section have been connected at the factory, you may use each section as a separate unit for the electronic crossover system, for instance, by simply removing the connectors from the jacks marked PRE OUT and MAIN IN on the rear panel. If you want to connect another preamplifier and/or power amplifier to the 1000X, refer to the Section titled under ELECTRONIC CROSSOVER SYSTEM. The connectors must be in place unless the additional component or components will be connected to the 1000X. Warning: Before connecting or disconnecting, be sure to push the POWER switch off.



Local-Distant Antenna Switch

This switch adjusts the tuner to the strength of FM radio waves. It should be set to DIST if the receiver is located in an area where FM signals are weak, or to LOC if it is located near broadcasting stations and there is danger of interstation interference.



MAINTENANCE

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 connection. If this occurs, check to make sure that all connections are complete and that the thickness of the connecting wire is sufficient. Be sure to connect the grounding lead (or terminal) of the record player to the GND terminal of the 1000X. It may suppress the hum noise which may otherwise occur.

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).



Quick-Acting Fuses

These fuses for right and left channels are also designed to protect the transistors by blowing instantly if shorting occurs between connections at a speaker system terminal. If, after the POWER switch is turned on and the function indicator or dial scales lights up, neither channel operates or only one operates normally, is either because one or both Quick-Acting fuses have blown. In this case, remove the 1000X's power supply cord from its outlet, serew out the fuse holders on the rear panel, and check to see if the fuses are blown. Replace them with identical 2.5A fuses after finding and eliminating the source of trouble that caused them to blow.



DIN Socket

If your tape deck has a DIN socket, it may be connected to the 1000X simply by the use of a cable with a 5-pin DIN connector on each end. Insert each connector to the DIN socket on the receiver's rear panel and into the one on the tape deck. The DIN connection system, designed to simplify inter-connections between the tape deck and amplifier, is based on the German DIN Standards.



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 bury 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 GND terminal.



AC Outlet

The 1000X is provided with AC outlet on the bock panel. It is controlled by the POWER switch on the front panel.

CAUTION: 1. The maximum capacity of this outlet is 50VA. Never use it beyond its rated capacity.

The voltage supplied by the AC outlet is the same as the power supply voltage used.



Power Fuse

Should the amplifier fail to operate and the function indicator fail to light up when the POWER switch is truned on, the probable cause is either a power stoppage or a blown fuse. To check, remove the 1000X's power supply cord from its outlet, turn the fuse holder on the rear panel counterclockwise, and remove the fuse. If it is blown, replace it with a new glass-tubed fuse of the same capacity (100~127V—3A, 220~250V—2A) after determining and eliminating the trouble source that caused the fuse to blow. Using wire or a fuse of a different capacity as a stop-gap measure is dangerous and should be avoided.



MAINTENANCE / ACCESSORIES

Voltage Adjustment

To reach the Voltage Selector, remove the two screws from the nameplate on the rear panel and then remove the nameplate. The Voltage Selector makes it possible to operate the 1000X at the correct voltage in any area.

The voltage has been pre-adjusted at the factory, but can be easily readjusted as follows:

STEP I Set arrow of main Voltage Selector plug to required voltage: 100, 110, 117, 127, 220, 230, 240 or 250 volts.

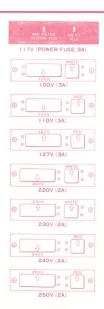
STEP II If numerals of voltage are printed in red, set arrow of adjacent sub V.S. plug to position marked red. If they are printed in white, set arrow to position marked white.

STEP III The power fuse should also be changed whenever the AC line voltage is changed. For 100~127 volt operation a 3 ampere fuse is required. For 220~250 volt operation the fuse should be changed to a 2 ampere unit.

NOTE: The Voltage Selector 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

	-
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6. PIN-PLUGS	4
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SPECIFICATIONS

TUNER SECTION AUDIO SECTION <FM> POWER OUTPUT: 88 to 108MHz MUSIC POWER (IHF): 100W at 4 ohms load TUNING RANGE: 76W at 8 ohms load SENSITIVITY (20dB quieting): 1.6µV CONTINUOUS POWER: 35/35W at 4 ohms load (IHF): 28/28W at 8 ohms load TOTAL HARMONIC DISTORTION: TOTAL HARMONIC DISTORTION: less than 0.8% less than 0.8% at rated SIGNAL TO NOISE RATIO: better than 60dB better than 40dB SELECTIVITY: INTERMODULATION DISTORTION (60Hz:7,000Hz CAPTURE RATIO (IHF): 2.5dB =4:1 SMPTE method); less than 0.8% at rated IMAGE FREQUENCY REJECTION: better than 90dB POWER BANDWIDTH (IHF): 20 to 30,000Hz IF REJECTION: hetter than 95dB FREQUENCY RESPONSE: (at normal listenig level): SPURIOUS RESPONSE REJECTION: 20 to 30,000Hz ± 1dB AUX OVER ALL: better than 90dB POWER AMPLIFIER SECTION: 15 to 40,000Hz±1dB STEREO SEPARATION: better than 35dB at 400Hz CHANNEL SEPARATION(at rated output, 1,000Hz): SPURIOUS RADIATION: less than 34dB PHONO: better than 50dB ANTENNA INPUT IMPEDANCE: better than 50dB ALIX: 300 ohms balanced, 75 ohms HUM AND NOISE (IHF): unhalanced PHONO: better than 70dB < AM> AUX: better than 75dB TUNING RANGE: 535 to 1,605kHz INPUT SENSITIVITY (at rated output, 1,000Hz): 150g/V at 1,000kHz SENSITIVITY: 2.5mV (50k ohms) (Bar antenna) AUX: 150mV (100k ohms) IMAGE FREQUENCY REJECTION: 150mV (100k ohms) TAPE MON (Pin): better than 90dB at 1,000kHz TAPE RECORDER (DIN): 150mV (100k ohms) better than 85dB at 1,000kHz IF REJECTION: RECORDING OUTPUT (at rated input, 1,000Hz): better than 30dB at 1,000kHz SELECTIVITY: 160mV TAPE REC (Pin): SWITCHES: 30mV TAPE RECORDER (DIN): LOAD IMPEDANCE: 4 to 16 ohms FM MUTING: ON, OFF RIAA NF type FOLIALIZER PHONO: FM ANTENNA SWITCH: DISTANT, LOCAL 30 at 8 ohms load DAMPING FACTOR: SEMICONDUCTORS: TONE COTROLS: Transistors: 45 FET: 1 Diodes: 22 BASS: ±12dB at 50Hz POWER REQUIREMENTS: TREBLE: ±10dB at 10,000Hz POWER VOLTAGE: 100, 110, 117, 127, 220, LOUDNESS CONTROL: +8dB at 50Hz, +3dB at 230, 240, 250V 50/60Hz 10.000Hz (Valume control at -30dB) POWER CONSUMPTION: 60W (rated) 416mm (16-3/8") W, 145mm DIMENSIONS: PRE-AMPLIFIER OUTPUT VOLTAGE: (5-3/4")H. 300mm(11-7/8")D 0.8V at rated Input WEIGHT: 10.3kg (22.71bs) 3V maximum output POWER AMPLIFIER INPUT VOLTAGE:

0.8V at rated output

-10dB at 10 000Hz

PHONO, FM AUTO, AM, AUX

STEREO, MONO

SWITCHES:

MODE:

HIGH FILTER:

SELECTOR:

TAPE MONITOR-1 AND2: OFF, ON

SPEAKER SELECTOR: OFF, A, B, A+B

CHARACTERISTICS

