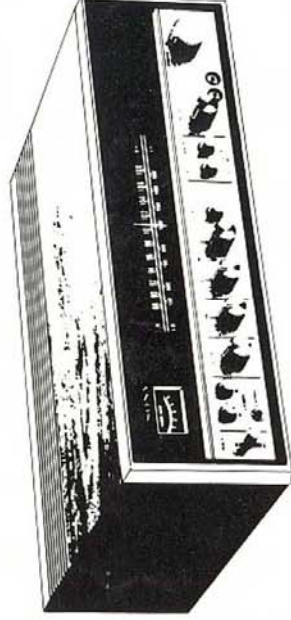


SONY

FM STEREO / FM-AM RECEIVER
STR-6036A



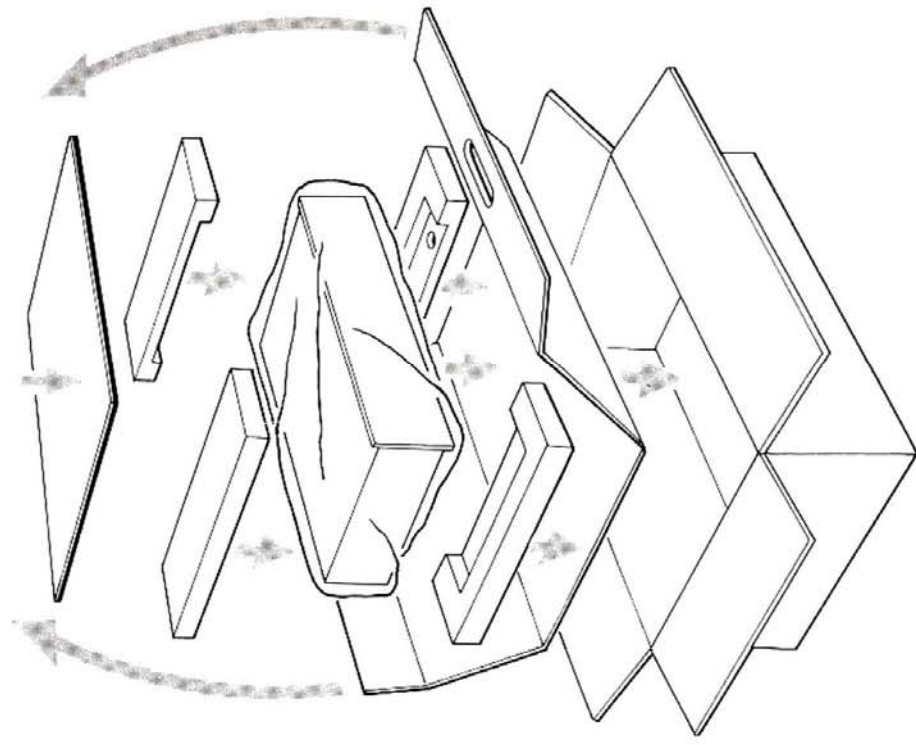
Owner's Instruction Manual

PREPARING FOR USE

UNPACKING

All Sony equipment comes to you carefully packed in cartons designed to withstand the rigors of shipment. Do not throw the carton or associated packing material away; they will come in handy if you ever have to transport or ship the STR-6036A. Inspect your STR-6036A immediately for signs of damage incurred in transit. If damage has occurred, consult your local Sony dealer for further instructions. Once again, save all packing material to help substantiate your damage claim.

When shipping the unit for repair work or simply to another location, the unit should be repacked in the original carton and packing material just as before.



● Your new STR-6036A is one of the most sophisticated of the Sony receivers. It consists of a sensitive fm stereo/a-m tuner, a low-distortion preamplifier, and a powerful amplifier, all contained in a stylish cabinet.

● In the fm tuner section, the front end uses the newly-developed junction FETs in the mixer and r.f. stages. These provide high sensitivity while retaining the ability to handle strong local stations without overload or spurious responses. The i.f. section has solid-state filters that offer excellent selectivity and stereo separation, good a-m suppression, and an excellent capture ratio which reduces the tuner's susceptibility to multipath distortion. The a-m tuner also employs solid-state filters to obtain high selectivity. A-m programs are received with a clarity that will gratify the discriminating audiophile.

● The amplifier section is "direct-coupled", to improve low frequency response, so that the damping factor is increased, and distortion is reduced. The total effect is to give you powerful yet natural stereo sound from your Sony STR-6036A.

● Your enjoyment of the STR-6036A is enhanced by its many features: MIC jacks for public address or tape editing with dubbed commentary, provision for two speaker systems, precision tuning with a long linear dial, accurate tuning meter and a fly-wheel tuning action with a silky-smooth feeling. Then there is the SQ four-channel system... merely add the Sony SQ adaptor (optional) and a pair of back speakers. Your receiver provides full quadrasonic sound reproduction from SQ, other matrix types, and discrete four-channel programs.

● Despite this exceptional versatility, the installation and operation of the STR-6036A is quite simple. Please take the time to completely read this manual, so that you can become familiar with the receiver's features and capabilities. Be sure to keep this manual for future reference.

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SYSTEM CONNECTIONS

No doubt you have already decided on a location for your STR-6036A. However, before going ahead with the installation, make sure that your choice of location agrees with the following list of DOs and DON'Ts.

DO allow at least one inch clearance around the STR-6036A for ventilation.

DO allow sufficient room behind the STR-6036A so you can make connections to the rear panel without disrupting your entire setup.

DON'T open the cabinet. There are no user serviceable parts inside. Refer servicing to qualified service personnel.

DON'T place the STR-6036A in direct sunlight, or near radiators, hot-air ducts, or any heat source. The STR-6036A must not be operated where the room temperature is over 110°F. Also, don't place it in any area subject to freezing temperatures or excessive moisture.

DON'T place anything on top of the cabinet which might block the top ventilation holes. Also, don't place the unit on any soft surface which may block the bottom ventilation holes.

DON'T make connections with power on.

DON'T connect the STR-6036A to other than the proper power source (120V ac, 60 Hz).

After you have found a suitable location for your unit, you can begin making the basic connections described in the following paragraphs. Refer to the overall-system connection diagram on page 5 while making these connections.

Antennas

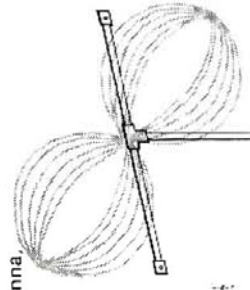
Good fm reception depends not only on the sensitivity of the STR-6036A but on the quality of the received signals.

To improve your fm reception and get the best from the receiver, use the proper antenna for your location.

The factors determining the antenna requirements for your location include the following:

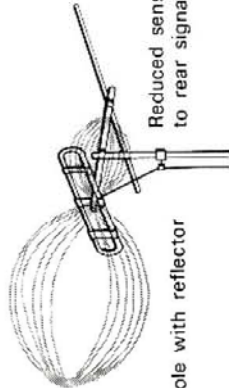
- 1 How strong are the signals in your neighborhood?
- 2 Are all the fm stations in the same direction, or are they scattered?
- 3 Is multipath reception a problem?

Ribbon dipole antenna, rabbit ear type antenna



Dipole antenna picks up signals from both the front and rear equally well.

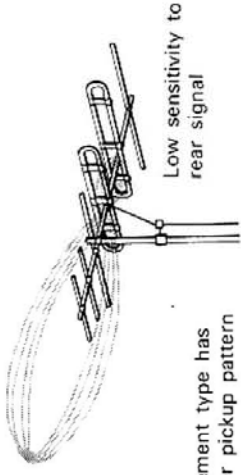
Directional outdoor antenna



Increased sensitivity to front signal

Dipole with reflector
Reduced sensitivity to rear signal

High frontal sensitivity



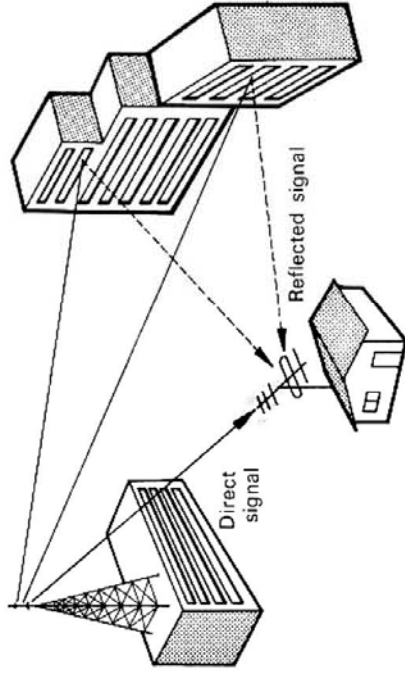
Low sensitivity to rear signal

Multi-element type has narrower pickup pattern

In a strong signal (metropolitan) area: A ribbon-type fm dipole (supplied) or the familiar "rabbit ears" antenna is easy to install and is usually suitable for good fm reception. The rabbit ear antenna is the more preferable of the two since it can easily be adjusted for best signal pickup. If there are many high structures nearby, and "fm ghosts" (multipath reception) cause the problems described later, use a highly-directional outdoor rotatable antenna. The STR-6036A can handle the resulting high input signal level without distortion due to its outstanding signal-handling capability.

In the suburbs: If you want to receive not only the local stations that an indoor antenna pulls in, but to reach out into areas where there may be programs more to your taste, use a high gain-directional outdoor fm antenna properly installed with a rotator.

MULTIPATH RECEPTION: The most important factor affecting signal quality is multipath reception. Multipath is caused by signal reflections that bounce off hills or structures and reach the receiving antenna much later in time. With fm—especially in stereo—multipath can cause severe distortion and complete loss of channel separation. The effects of a multipath condition appear as high-frequency noise and distortion, particularly noticeable in receivers with extended response.

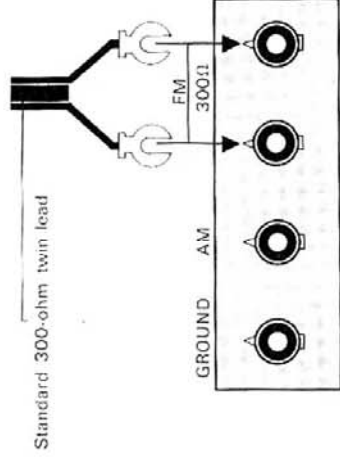


An antenna which has high frontal sensitivity rejects the reflected signals.

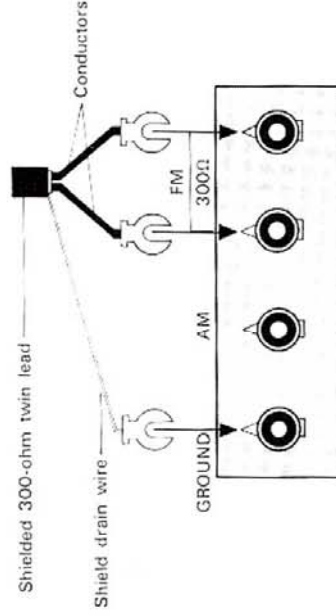
Multipath reception can be avoided to a great extent by using a shielded twin lead, and a good directional antenna that is correctly oriented.

FM ANTENNA CONNECTION: The receiver accepts 300-ohm twin lead. The 300-ohm twin lead may be either the standard or shielded type. Standard 300-ohm twin lead is inexpensive and will be perfectly adequate for most installations. However, in cases where local noise or multipath pickup on the transmission line causes interference, a shielded transmission line must be used.

To connect standard 300-ohm twin lead to the receiver, loosen the ANTENNA terminals marked FM 300Ω. Strip the plastic insulation from the two-conductor lead-in wire and wrap each conductor around a terminal. Tighten the terminal screws.



To connect shielded 300-ohm twin lead to the receiver, connect the two conductors as above, then connect the twin lead's ground wire to the GROUND terminal.



To obtain minimum signal leakage and pickup on the line, observe the following precautions.

- When installing the outdoor antenna lead, use commercially-available stand-off insulators to route the lead over the roof, outer wall, etc.

- Keep the lead as short as possible and avoid long horizontal runs.

- Do not fold the unused portion or the lead at the input of the receiver.

- If you must run the antenna lead for a long distance, or through walls or floors, a shielded twin lead is recommended. In addition, the shielded lead is impervious to moisture and weathering effects.

ANTENNA ORIENTATION: First, tune in the desired station with the tuning knob, then adjust the antenna direction and height for clearest sound. The signal strength is indicated by the degree of the TUNER INPUT meter deflection. The stronger the signal, the greater the deflection.

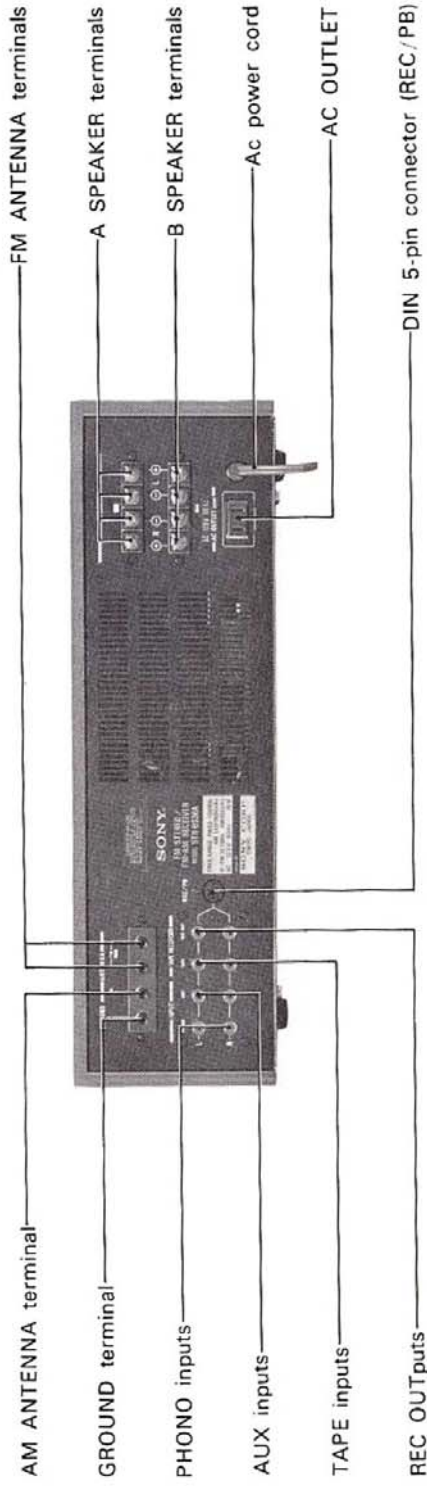
- If distortion is audible, adjust the direction and height of the antenna until the distortion is eliminated. Often, a slight turn will be sufficient.

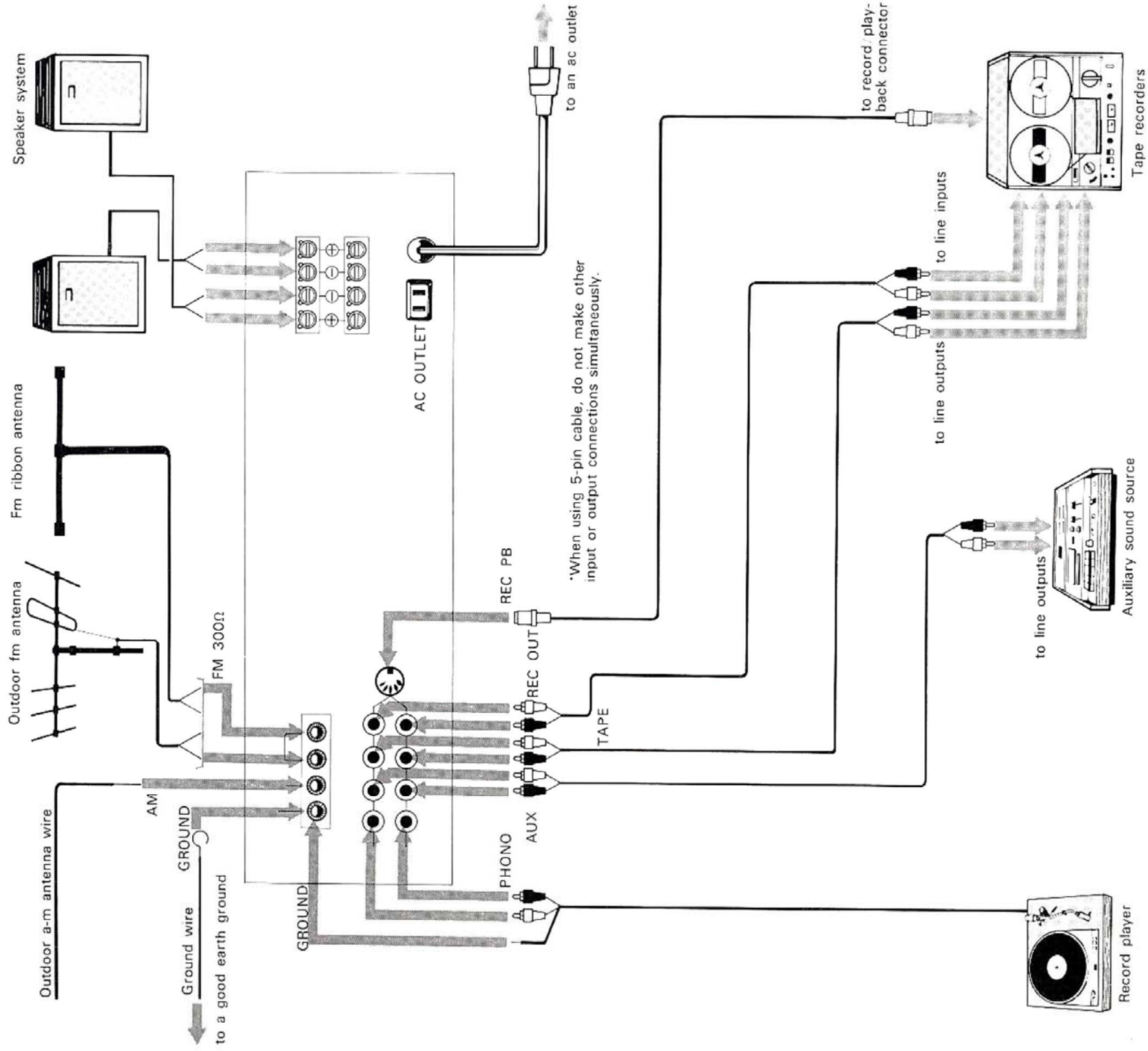
- In some cases multipath reception on two or more stations may require the antenna to be pointed in different directions. An effective and relatively inexpensive solution to this problem is the use of a remotely-controlled rotatable antenna.

- If an outdoor antenna cannot be erected, use a good indoor antenna ("rabbit ears" are satisfactory). Adjust the antenna for minimum distortion by listening to the sound quality.

AM RECEPTION: The built-in ferrite-bar antenna will provide good a-m reception under most circumstances. In difficult reception areas it may be necessary to connect a length of wire, 20 to 50 feet long, to the AM ANTENNA terminal. Extend this out of doors, keeping the greater portion horizontal.

The signal strength of an a-m station is indicated on the TUNER INPUT meter; the stronger the signal, the greater the deflection toward the right.





Speakers

The STR-6036A can drive two speaker systems (A and B) simultaneously or independently.* The systems are turned on or off by means of two SPEAKER switches on the front panel. Speakers should have an impedance of 4-16 ohms.

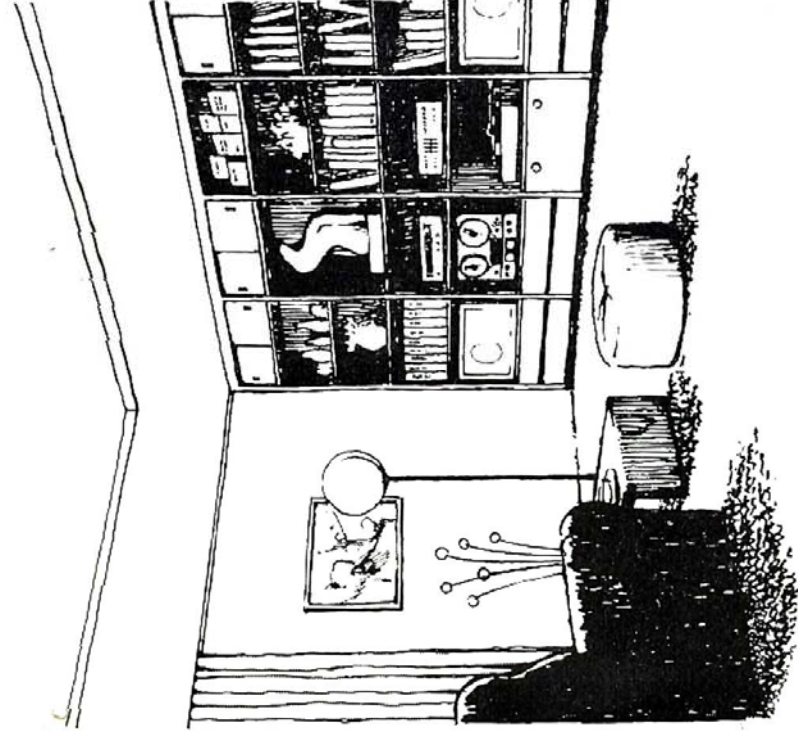
* When you connect one speaker system, do not simultaneously depress both SPEAKER switches, otherwise no sound will be heard.

CAUTION

The STR-6036A delivers approx. 28 watts (per channel) of dynamic power into each 8 ohm speaker. Be sure to use speakers with suitable power handling capabilities. If low wattage speakers are to be used, reduce the volume when removing the phonograph pickup from a record or when tuning across fm band. Speaker damage may result if this precaution is not observed.

Continuous power output at 8-ohms is 15 watts per channel, 20 hz - 20,000 hz, both channels driven.

See all specifications for power amp, preamp and tuner on page 11.



LOCATION: In many home-entertainment stereo systems, the choice of speaker location is often limited by the existing furniture arrangement. However, if rearrangement is possible, or you wish to furnish the area specifically for stereo listening, here are a few suggestions for optimizing your listening pleasure.

Set up your speakers in a large room having a rug on the floor. If the room has heavy draperies, so much the better. Rugs, draperies, and upholstered furniture minimize the multiple reflections of high-frequency sound that occur in a bare room, and which reduce the stereo effect.

The usual speaker location is on the floor against a wall. If you must position the speakers off the floor, do not place them higher than eye-level. Because of psychological conditioning, sound coming from the vicinity of the ceiling gives an unnatural feeling. Corner locations, however, are ideal for emphasizing the bass tones.

Position the left and right speakers in similar acoustic environments. If you set up the left and right speakers in an unbalanced acoustic condition, i.e. positioning the left speaker in a corner and the right speaker in the middle of a wall, you will produce unbalanced bass—the left channel sound will be emphasized in this case.

The distance between right- and left-channel speakers is important for stereo effect. Closely-spaced speakers produce minimum stereo effect. Widely-separated speakers produce maximum stereo effect, although too much separation produces an unnatural "hole-in-the-middle" effect. Proper distance between speakers is directly related to the distance from the speakers to the listening areas.

In most cases, fine results are obtained if the speakers are separated by an amount slightly more than the distance from the listening area to each speaker.

Experiment with the different speaker and listening locations until you find the setup that pleases you most.

CABLE TYPES: The type of speaker cord is not critical in most home stereo systems, and ordinary dual-conductor lamp cord is often used for this purpose. Common 18-gauge lamp cord is fine for short runs. However, 14- to 16-gauge wire may be needed for long runs to low impedance speakers to prevent excessive power losses in the wiring. If you use lamp cord or any other stranded wire, make sure that none of the strands separates and shorts across the speaker or receiver terminals.

CONNECTIONS: Connect your speaker systems to the SPEAKER terminals: A, B or both. Connect the right and left speakers to the R and L SPEAKER terminals respectively, ⊕ to ⊕ and ⊖ to ⊖. For simplifying the ⊕ and ⊖ terminal connections (speaker phasing), speaker cord has different colored leads. Connect the ⊕ terminals of a speaker and an amplifier with one color lead, and connect the ⊖ terminals with the remaining lead. When you use ordinary dual-conductor lamp cord, look for the colored thread molded in with one lead.

CAUTION

Do not connect the speaker terminals of one channel together with those of the other channel.

Notes on Input Connections

- To assure correct matching at the input and output terminals of your sound system, refer to the table of "SPECIFICATIONS" of the STR-6036A on page 11, and to the specifications given in the instruction manuals provided with the components you wish to connect to the STR-6036A. Generally the output level of a signal source (phono cartridge, tape recorder, etc.) should be equal to or slightly greater than the sensitivity of the corresponding input. Also, the output impedance of a signal source should be considerably lower (several times or more) than the impedance of the corresponding input. For example, a tape recorder having an output level and impedance of 250 millivolts and 10 k ohms respectively, can be connected to the TAPE input of this receiver.

- For input connections, use low-capacitance shielded cable, otherwise, hum may occur. Keep the cables as short as possible. In excessively-long horizontal runs (over 6 feet), the high-frequency response may be reduced.

- Be sure the cable connectors are fully inserted into the jacks.

A loose connection may cause hum and noise.

- If reconnection is required, turn the VOLUME control counter-clockwise.

Record Player

A record player equipped with a magnetic (moving magnet or moving coil) cartridge can be connected to the PHONO inputs. For a very-low output cartridge (less than 2 millivolts output), use a step-up transformer or a head-amplifier unit.

Connect the ground wires* of the tonearm and turntable to the GROUND terminal. If these connections are poor or incorrect, hum may occur.

* Some players have one ground wire because the turntable and tonearm are connected internally.

Tape Recorder

For tape playback, connect the line outputs (or monitor outputs) of a tape recorder to the STR-6036A TAPE inputs. For tape recording, connect the line inputs of a tape recorder to the STR-6036A REC OUTPUTS.

If your tape recorder has the same type DIN 5-pin connector as that on the STR-6036A indicated REC/PB, the recording and playback connections can be made with a single record/playback connecting cord. In this case, the TAPE inputs and the REC OUTPUTS should not be used.

AUX Inputs

These inputs have been provided for connecting various program sources such as a tape recorder, additional tuner, etc.

Microphones

The MIC jacks accept microphones of high- and low-impedance. Refer to "USING MICROPHONES" on page 9.

Headphones

The HEADPHONE jack accepts most* low- and high-impedance headphones equipped with a standard stereo phone plug. For private listening, make sure that the SPEAKER switches are released.

* Some electrostatic headphones are designed to be driven by the speaker output and cannot be plugged into this jack.

SO Connections

Four-channel stereo reproduction from SO, other matrix types, and discrete four-channel programs is possible with the STR-6036A by connecting a matrix decoder (such as the Sony SQ Decoder), an additional amplifier and speakers.

Connect the STR-6036A TAPE inputs to the OUTPUT jack of the decoder, and the STR-6036A REC OUT jacks to the INPUT jacks of the decoder. When this is done, a tape recorder (2 or 4 channel) uses the tape connectors furnished on the decoder.

Ground Connection

Connect the ground wire from the record player to the GROUND terminal* of the STR-6036A. To reduce hum, it may be necessary to connect the GROUND terminal to the mounting screw of an ac outlet cover plate or a cold-water pipe, or directly to the earth. A direct ground or a cold-water pipe is recommended for lightning protection when an external antenna is used.

* You can simultaneously connect a shielded twin lead ground wire of the antenna to this terminal.

Power Connections

Before making any form of power connection, make sure that the STR-6036A POWER switch is OFF. Then plug the receiver line cord into the electrical outlet providing 120 V ac, 60 Hz.

A female UNSWITCHED outlet on the rear panel provides a convenient source of ac power for another component. The receiver POWER switch does not control the ac power to this outlet. The power consumption of the equipment plugged into this outlet must not exceed 300 watts.

OPERATING INSTRUCTIONS

LOCATION AND FUNCTION OF CONTROLS

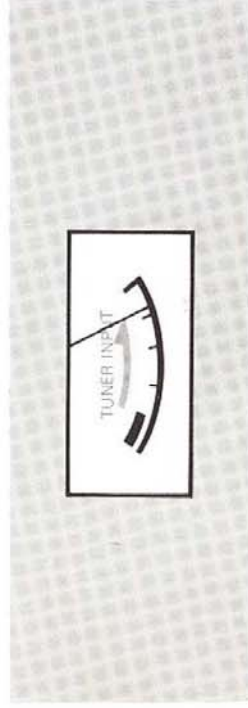
Before attempting to operate your STR-6036A, take a few minutes to learn the location and function of the controls mentioned in the operating instructions.

STEREO lamp

Lights when the STR-6036A receives an fm stereo broadcast of sufficient signal strength. When the stereo signal shifts to monophonic, the lamp goes out indicating that the receiver has automatically switched to monophonic reception. When the MODE selector is depressed (MONO), this lamp does not light.

TUNER INPUT meter

Indicates correct tuning and the signal strength of fm and a-m programs. Maximum pointer deflection to the right means best tuning of the signal. Relative strength of received signal is shown by the amount of pointer deflection. If the pointer stays in the red zone, the signal level is too weak for full performance, especially for fm stereo reception.



SPEAKER switches

To turn on the A speakers depress the A SPEAKER switch ; for the B speakers, depress the B SPEAKER switch. To use both speaker systems simultaneously, depress both SPEAKER switches. For headphone listening, keep the SPEAKER switches released (OFF).

NOTE : When using only one speaker system, do not simultaneously depress both switches.

BALANCE control

Adjusts the stereo balance to produce the optimum stereo effect. Turn the knob to the right to decrease left sound volume ; to the left to decrease right sound volume.

MODE selector

This selector is normally in the released position (STEREO). In the depressed position (MONO), each speaker and recording output provide monaural signals. This selector has no effect upon a-m reception.

MONITOR selector

TAPE (depressed)for listening to a tape connected to the TAPE inputs or to the REC/PB connector. When an SQ adaptor is connected, keep this selector depressed.

SOURCE (released) ...to listen to fm, a-m, phono and auxiliary programs, keep this selector in the released position and set the FUNCTION selector to the desired position.

FUNCTION selector

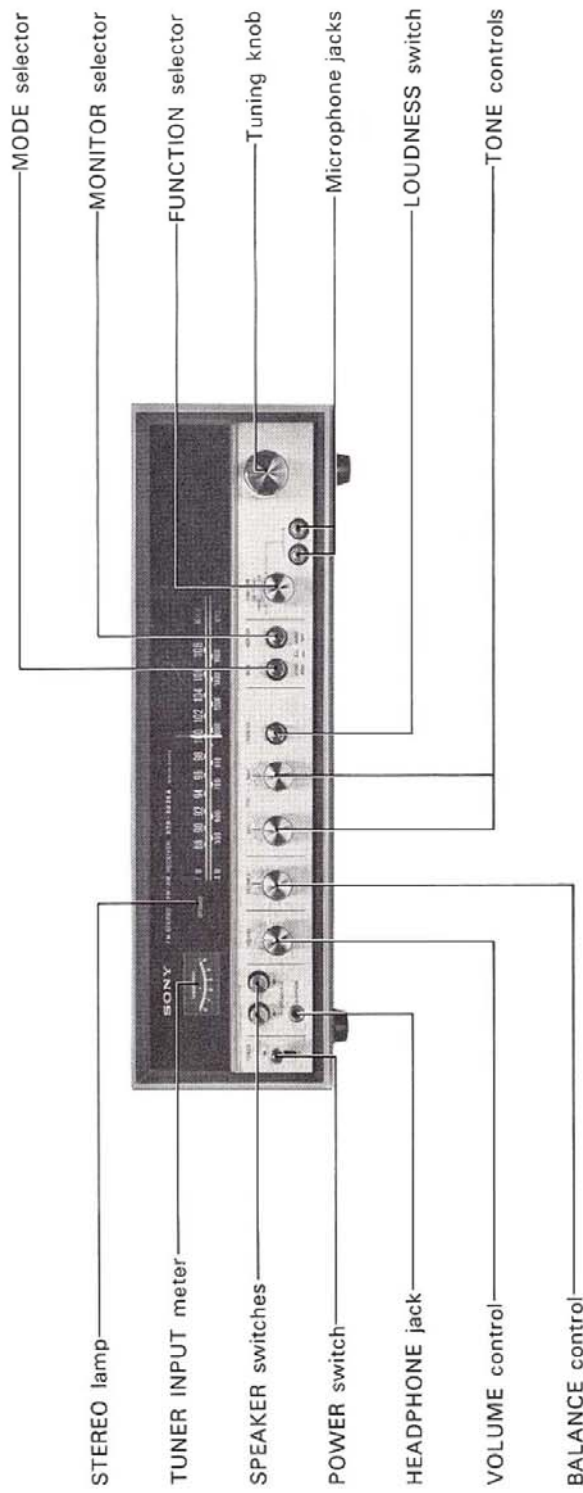
AMfor listening to a-m programs.

FM STEREO.....for listening to fm stereo programs. In this position the set will automatically switch to stereophonic reception when an fm stereo program is tuned in and the MODE selector is in the STEREO position. When the program is changed to a monophonic signal, the set will automatically switch to monophonic reception.

PHONOfor listening to records.

AUXfor listening to the program source connected to the AUX inputs.

MIC.....for using microphones.



LOUDNESS switch

In depressed position, an equalization network is switched into the circuit to compensate for the change in the tonal response of human hearing at low listening levels. Your ear is most sensitive to frequencies between 1500 Hz and 6000 Hz; it is not as responsive to frequencies above or below that range. This switch will boost the low and high frequency response to provide an apparently flat output while operating with low listening levels. Higher the listening level, little or no compensation is provided. To disconnect this network, depress the switch again to release.

BASS and TREBLE controls

Control the prominence of bass or treble tones to your preference. If you notice a lack of bass (or treble), turn the knob(s) to the right to increase response; to the left to decrease it.

INITIAL OPERATIONS

- Reduce the volume before turning the receiver ON to prevent speaker damage.
- Depress the SPEAKER switch A or B, or both, depending on which speakers you want to use. When using headphones, release the SPEAKER switches to cut off speaker outputs.

FM AND AM RECEPTION

- ① Turn on the receiver and the dial scale, pointer, and TUNER INPUT meter will light.
- ② Keep the MODE selector released (STEREO) and the MONITOR selector released (SOURCE).
- ③ For fm reception, move the FUNCTION selector to FM STEREO, for a-m reception, move the selector to AM. The MODE selector has no effect on a-m reception.

- ④ Tune in the desired station with the Tuning knob.

NOTE: When an fm program is stereophonic, the STEREO lamp will light. When a stereo signal shifts to monophonic, the lamp goes out indicating that the tuner has automatically switched to monophonic reception. When an fm stereo signal is too weak or noisy for enjoyable stereo listening, the STEREO lamp will flicker. In this event, keep the MODE selector depressed (MONO); use fm monophonic reception to reduce noise.

- ⑤ Adjust the sound level, stereo balance and tone quality to your listening preference with the VOLUME, BALANCE and TONE controls. When listening at low sound levels, depress the LOUDNESS switch for better tone.

In poor reception areas, connect an external antenna according to the instructions on page 3.

RECORD PLAYING

- ① Turn on the receiver.
- ② Keep the MODE and MONITOR selectors in the released position.
- ③ Move the FUNCTION selector to PHONO.
- ④ Turn on the record player, then lower the cartridge onto the record.
- ⑤ Adjust the VOLUME, BALANCE and TONE controls to your preference. When listening at low sound levels, depress the LOUDNESS switch for better tone.

OPERATION WITH A TAPE RECORDER

Tape Playing

- ① Turn on the receiver.
- ② Keep the MODE selector released (STEREO).
- ③ Keep the MONITOR selector depressed (TAPE). If the recorder output is connected to the AUX inputs, keep the MONITOR selector released (SOURCE) and move the FUNCTION selector to AUX.
- ④ Set the recorder controls for playback.
- ⑤ Adjust the VOLUME, BALANCE and TONE controls.

Recording

- ① Turn on the receiver and other equipment connected.
- ② Keep the MONITOR selector released (SOURCE) and the MODE selector released (STEREO).
- ③ Set the FUNCTION selector to the desired program.
- ④ Set the recorder controls for recording. Adjust the recording level at the recorder.

Notes on Recording

- The VOLUME, BALANCE, TONE controls, and LOUDNESS switch do not affect the recording results.
- If the tape recorder in use is a monaural type, and the program is stereophonic, keep the MODE selector depressed (MONO). When connecting a monaural tape recorder, connect it to either the left or right REC OUTPUT.

● When using a three-head tape recorder, instantaneous tape/source monitoring is possible by setting the MONITOR selector alternately to TAPE and SOURCE. The input signal can be monitored by setting the MONITOR selector to SOURCE, and the recorded signal can be monitored by setting the selectors of the STR-6036A and tape recorder to TAPE.

When connecting the recorder with the DIN 5-pin connector, this tape/source monitoring is not advisable.

USING MICROPHONES

When using one microphone, be sure to connect the microphone to L MIC jack; the monophonic input signal then connects to both left and right channels. (The R jack connects only to the right channel; the MODE selector must be depressed to MONO position.)

When stereo is desired, connect two microphones or a one point stereo microphone to the L and R jacks and keep the MODE selector released (STEREO).

For Public Address

- ① Keep the MONITOR selector released (SOURCE) and set the FUNCTION selector to MIC.
- ② Speak into the microphone. Adjust the sound level with the VOLUME control.

NOTE: If the microphone is too near the loudspeakers, a howling effect (acoustic feedback) may occur. In this event, place the microphone further away from the loudspeakers, or turn the front of the microphone away from the loudspeakers.

CARE OF YOUR STR-6036A

CLEANING

Finger prints, food and beverage stains, dust and dirt, etc. can mar the beauty of your STR-6036A. The panel, knobs or dial glass can be cleaned with a soft dampened cloth or polishing cloth (supplied). Do not use any type of scouring powder, abrasive pad, or solvent.

TROUBLE CHECKS

Should any difficulty arise with your STR-6036A, make the following simple checks to determine if the trouble is really in the receiver or external to it. Quite often hi-fi equipment fails to operate properly because of incorrect system connections. If the trouble persists after you have made these checks, consult your Sony dealer for further instructions.

Off-the-air Programs :

- STEREO lamp flickers.
If the TUNER INPUT meter indicates a weak signal input, use an outdoor antenna. A multi-element type is recommended. If the meter shows a sufficient level but fluctuates, adjust the antenna to eliminate multipath reception.
 - STEREO lamp not lit when receiving stereo programs
Check that the MODE selector is released (STEREO).
 - Noisy and distorted reception
Adjust the antenna for maximum signal strength.
- Set the MODE selector to MONO and change to monophonic reception.
- Poor reception
Tune accurately and adjust the antenna.
 - Ignition noise
Tune accurately. Do not install the outdoor antenna facing heavy traffic.

Other Program Sources :

- No audio and the dial lamp is not lit.
Check the ac power cord and wall outlet for presence of power.
- No audio but dial lamp lit
Check the speaker connections. When you connect one speaker system, do not simultaneously depress both SPEAKER switches. Check the MONITOR and FUNCTION selector settings. Turn the VOLUME control clockwise.
- No audio from one channel, or unbalanced left and right volume
Check the speaker and input connections of dead channel. Adjust the BALANCE control.
- Lack of bass tone or obscure instrument position
Check speaker phasing.
- Reversed left and right sounds
Check speaker location and connection.
- Severe hum or noise
Use shielded connecting cables.
Keep connecting cables away from transformers or motors, and at least 10 feet from TV sets and fluorescent lights. Reverse the ac plug in the receptacle. Ground the receiver.
- Rustling sound
Make secure connections.
Wipe the plugs and jacks with a cloth lightly dampened with methanol.

Tape Editing with Dubbed Commentary

- 1 Connect the microphone(s). Connect the tape recorder to the STR-6036A REC OUTPUTS.
- 2 Keep the MONITOR selector released (SOURCE) and set the FUNCTION selector to the desired program*.
- 3 Listen to the program source and make the recording level adjustment on the recorder.
- 4 Turn the FUNCTION selector to MIC.

Speak into the microphone and check that the microphone input to the recorder shows the same level as that on the line program.

- 5 Now start editing: start the line program recording. When the desired portion is reached, stop the recorder. After setting the selector to MIC, start the recording again and speak into the microphone.

* If you want to add your voice to a tape program, use two tape recorders: connect the playback mode recorder to AUX inputs and connect a recording mode recorder to REC OUTPUTS.

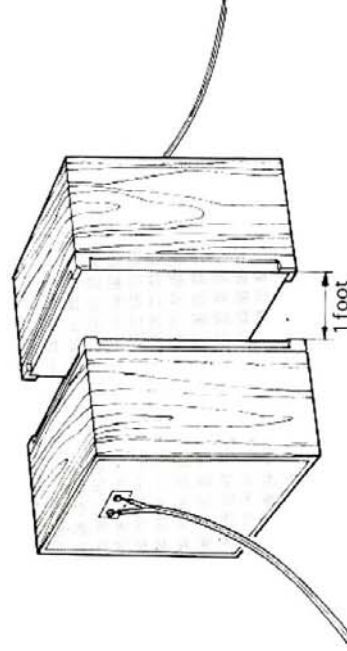
BALANCING THE STEREO SYSTEM

As soon as you are familiar with the operation of your STR-6036A, make the following checks and adjustments on your stereo system to secure the best possible stereo listening.

Speaker Phasing Check

If the sound seems to lack bass tones and the position of the instruments is obscure, the speakers may be improperly phased. Check the phasing as follows :

Move the right and left speakers so that they are about one foot apart and facing each other. Depress the MODE selector (MONO) and move the BALANCE control to its center. Listen to a recorded passage containing prominent bass tones. Then reverse the connection to one of the speakers and listen to the same bass passage again. If it now sounds like there is less bass, the speakers were correctly phased and the original connection should be restored. However, if the bass appears to have increased, the speakers were originally phased incorrectly and the new connection should be used.



Stereo Balance

The feeling of direction and depth that stereophonic sound produces is greatly reduced if the levels of both channels are not balanced. Depress the MODE selector (MONO) and adjust the BALANCE control for equal output from right and left speakers. Balance variations with different program sources are due to differences in the recording levels. Stereo balance is also influenced by the acoustics of the room. Carpets, furniture placement, and room size and shape have a definite effect upon sound quality and balance.

TECHNICAL DATA

SPECIFICATIONS

Fm Tuner Section

Tuning range 88 MHz-108 MHz
 Antenna terminals 300 ohms, balanced
 Intermediate frequency 10.7 MHz
 Sensitivity 2.2 μ V, IHF
 1.7 μ V, S/N=30 dB

Image rejection 55 dB
 Spurious rejection 78 dB
 A-m suppression 55 dB
 Capture ratio 1.5 dB
 Selectivity 60 dB
 S/N ratio 68 dB

Frequency response

Harmonic distortion 30 Hz-15 kHz \pm 0 dB
 Mono 0.3% at 400 Hz, 100% modulation
 Stereo 0.8% at 400 Hz, 100% modulation
 Better than 35 dB at 400 Hz

Stereo separation

A-m Tuner Section
 Tuning range 530 kHz-1605 kHz
 Antenna Built-in ferrite bar antenna and external antenna terminal
 Intermediate frequency 455 kHz
 Sensitivity 48 dB/m, built-in antenna
 30 μ V, external antenna
 Image rejection 56 dB at 1000 kHz
 I-f rejection 40 dB at 1000 kHz
 S/N ratio 50 dB
 Harmonic distortion 0.8%

Amplifier Section

Continuous RMS output power Both channels driven simultaneously
 (Less than 0.8% THD)
 At 20 Hz-20 kHz
 15+15 watts (8 ohms)
 At 1 kHz
 18+18 watts (8 ohms)
 20+20 watts (4 ohms)
 55 watts (8 ohms)
 70 watts (4 ohms)

Dynamic output power

(IHF constant power supply method)
 Power bandwidth IHF 10 Hz-25 kHz
 Damping factor Better than 25 (8 ohms)
 Harmonic distortion Less than 0.8% at rated output
 Less than 0.2% at 1 watt
 Less than 0.8% at rated output
 Less than 0.2% at 1 watt

IM distortion

(60 Hz : 7 kHz=4:1)

Frequency response

PHONO RIAA equalization curve \pm 2 dB
 MIC 30 Hz-10 kHz \pm 0 dB
 AUX }
 TAPE } 30 Hz-40 kHz \pm 0 dB
 REC/PB (input) }

S/N ratio

	S/N	Weighting network	Input level
PHONO	60 dB	B	PHONO 2.5 mV
MIC	60 dB	B	MIC 2 mV
AUX	70 dB	A	AUX 250 mV
TAPE	80 dB	A	TAPE 250 mV
REC/PB (input)			REC/PB (input) 250 mV

Input sensitivity and impedance

	Maximum sensitivity	Impedance
PHONO	2.5 mV	47 k ohms
MIC	2 mV	47 k ohms
AUX		
TAPE	250 mV	100 k ohms
REC/PB (input)		

Measured with continuous RMS output into 8-ohm loads (both channels driven simultaneously) at 1 kHz.

Output level and impedance

	Level	Impedance	Input level
REC OUT	250 mV	10 k ohms	PHONO 2.5 mV MIC 2 mV
REC/PB (output)	30 mV	82 k ohms	AUX 250 mV TAPE 250 mV REC/PB (input) 250 mV
HEADPHONE	Accepts low and high impedance headphones.		
SPEAKER	Accepts 4-16 ohm speakers.		

Tone controls

BASS \pm 10 dB at 100 Hz
 TREBLE \pm 10 dB at 10 kHz
 Loudness control +6 dB at 50 Hz, +4 dB at 10 kHz
 (Att. -30 dB)

General

System

Superheterodyne fm/a-m, switching MPX

Quasi-complementary symmetry circuit (SEPP OTL)

Direct output coupling

2 FETs+21 transistors for reception.

6 transistor for auxiliary circuit

2 ICs

18 diodes

120 V ac, 60 Hz

70 watts

1 unswitched, 300 watts maximum

Approx. 17 1/8" (w) x 5 11/16" (h) x

13 9/16" (d)

Including projecting parts and controls

Approx. 18 lb 15 oz (net)

Approx. 24 lb 5 oz (in shipping carton)

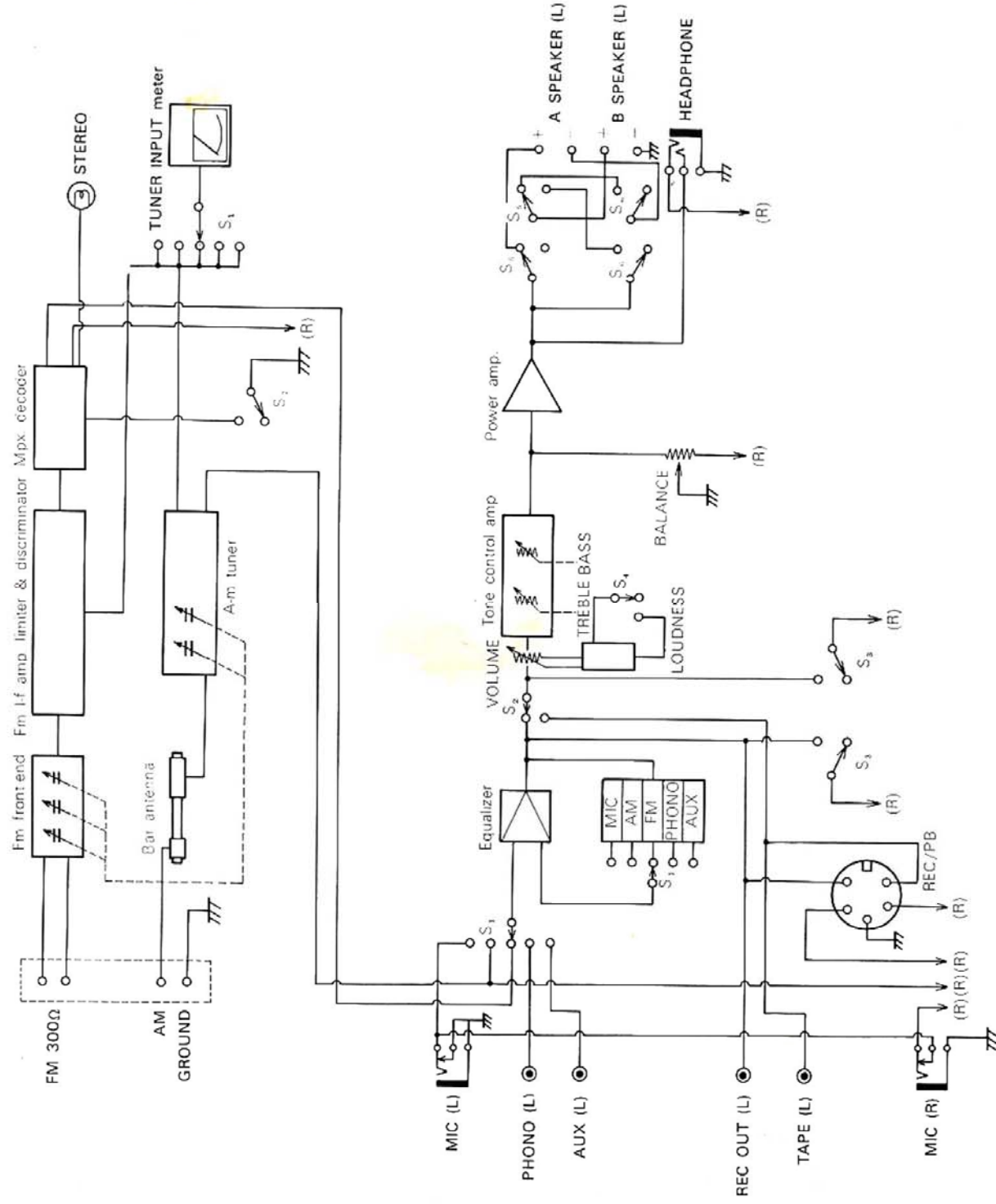
Fm ribbon antenna (1)

Polishing cloth (1)

Supplied accessories

Design, specifications and circuit diagram subject to change without notice.

BLOCK DIAGRAM



- S₁: FUNCTION switch
- S₂: MONITOR switch
- S₃, S₇: MODE switch
- S₄: LOUDNESS switch
- S₅: A SPEAKER switch
- S₆: B SPEAKER switch