

ULTIMATE HIGH FIDELITY STEREO COMPONENT



R-1030/1035

▶ OWNER'S MANUAL ◀
SOLID STATE AM/FM STEREO RECEIVER

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WARNING: TO PREVENT FIRE OR SHOCK HAZARD
DO NOT EXPOSE THIS APPLIANCE TO
RAIN OR MOISTURE

You are about to begin a new high fidelity experience. The LUXMAN R-1030/R-1035 Receiver is unique in the annals of high fidelity equipment. Though built with extremely sophisticated engineering, its concept is quite simple: to produce a receiver with performance comparable to that available in the finest separate tuners, preamplifiers and amplifiers.

After extensive reserach, the R-1030/R-1035 was designed without compromise to provide high output, low distortion and an exceptionally wide range of available power. In addition, this unit reflects great attention to control flexibility and human engineering.

The R-1030/R-1035 represents the finest standards of design and craftsmanship, but the proof is in the handling ... and in the hearing. As you proceed to connect the receiver may we suggest you read all the instructions carefully before turning the unit on? A few moments invested now can eliminate doubts or delays later.

If you have any questions, please do not hesitate to consult your dealer, or distributor in your territory.

Pleasurable listening!



SWITCHES & CONTROLS

1. Input Selector Switch

This switch permits proper selection of desired programme sources. You may set either of the positions provided (AM, FM, phono, aux). (MW/LW/FM/phono aux. for the R1035)

2. Tape Monitor Switch

When this switch is pressed in, tape playback is possible either from the Monitor terminals or the Tape Connector. In the case of 3-head tape-recorder which has a playback head simultaneous playback monitoring is possible while recording. In this case this receiver receives playback signals from the Monitor Terminals or Tape Connector while feeding recording signals to the Rec. Out Terminals or Tape Connector.

3. Mode Selector Switch

This allows to select sound reproduction modes such as Stereophonic and Monaural. For further details refer to the "Mode Selection".

4. Low Cut Filter

When this switch is pressed in, the amount of low frequency range you hear is reduced at the rate of -6dB/oct. below 70Hz. See the details in the "Operation of Low Cut Filter".

5. High Cut Filter

With this filter switch you can cut off the high frequency range above 7KHz at the rate of -6dB/oct. See the details in the "Operation of High Cut Filter".

6. Volume Control

A clockwise turn of this control increases volume, while a counter-clockwise turn decreases and finally cuts out volume. This is of dual concentric structure allowing separate control on the right and left channels. The front part is for the left channel, while the rear one is for the right. When the sound volume is balanced, sound is heard as if reproduced at the center of left and right speakers, with the Mode Selection Switch set at the "mono" position. Normally this receiver is delivered from the factory well balanced in volume showing a straight concave line on the knob. See the further details in the "Volume Control".

7. Loudness Switch

When pressed in this switch, loudness control starts to function. This may be useful when you listen to music at low volume level. Refer to the details in the "Operation of Loudness".

8. FM Muting Switch

Annoying interstation noise which is possible when the exact tuning point is not obtained can be eliminated by this switch in the case of FM reception. Keep this switch unpressed to remove interstation noises or other impracticably weak signals. Such FM signals as can be received at the "muting-on" position can be practised for stereo FM reception. It is recommended to set this switch always at the "protruded" position except when weak signals are received.

9. Bass Control

This is a level control of bass range. A clockwise turn of the control boosts the bass response, and a counter-clockwise turn decreases and finally cuts the bass. This yields a flat frequency response when set at the centre rotation angle.

10. Treble Control

A clockwise turn of this knob boosts the treble response, while counter-clockwise turn decreases the treble level. This control is of the same construction as that of the Bass Tone Control.

11. AM-FM Tuning Meter

This meter offers 2 operations; AM Signal Strength Meter and FM Center Tuning Meter.

a) AM signal Strength Meter

The accurate tuning point is obtained by the maximum swing of the needle of this meter. The needle movement is dependent on the strength of receiving signals. Even if the needle swings to the extreme right, it does not impair the meter. The needle moves from the center position towards the right direction.

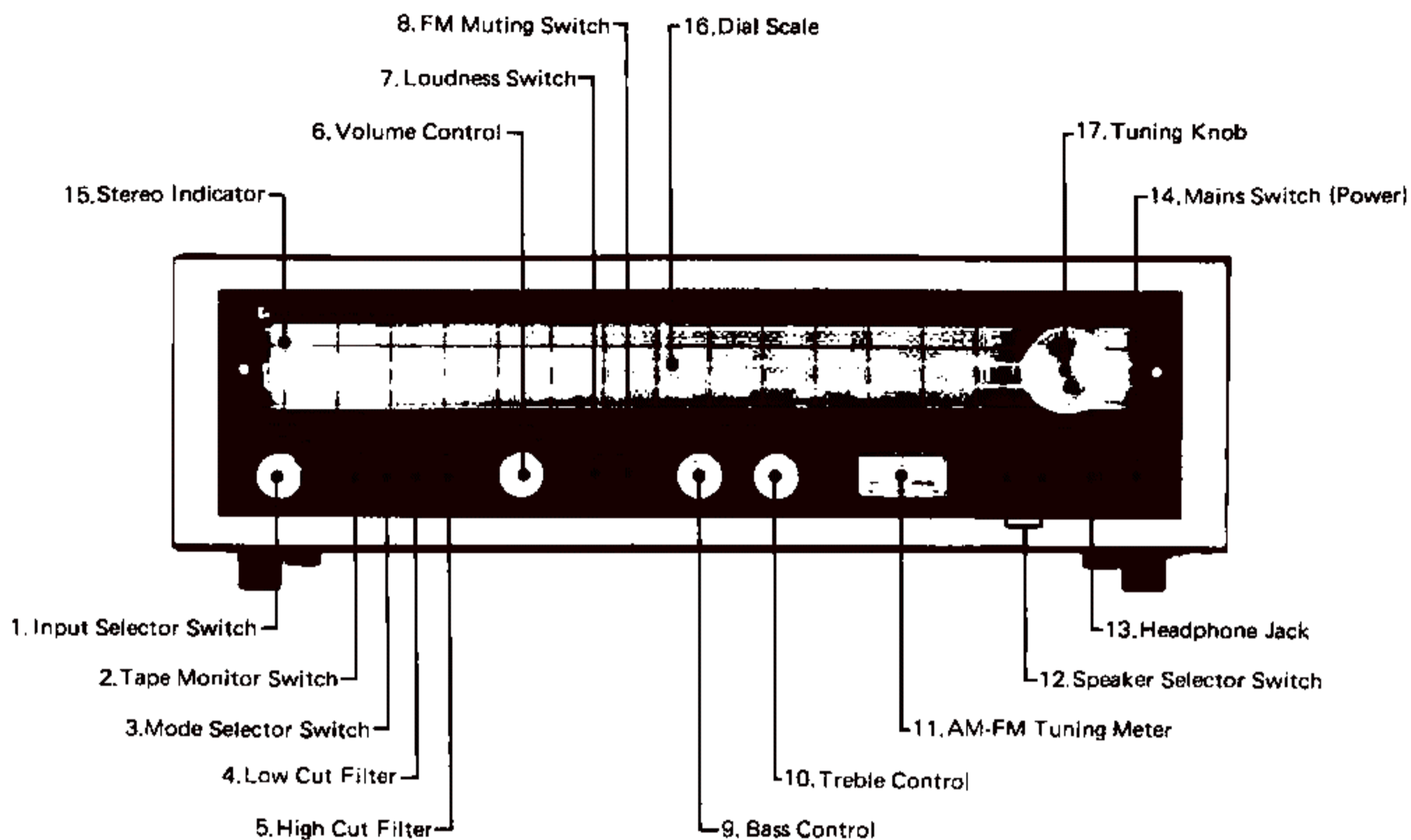
b) FM Center Tuning Meter

When no signal is on reception, this meter remains at the center position. As the tuning knob is turned, the needle of this meter comes out of the center, and when the accurate tuning point is very near, the needle comes again closer to the center position. Therefore an accurate tuning point is obtained when the needle comes to the real center position.

12. Speaker Selector Switch

This receiver offers convenience to use 2 pairs of loudspeakers. You can choose independent or simultaneous driving of 1 or 2 systems as per the indication on the panel. When the knob "A" is depressed "A" speaker terminal starts to function, and likewise the "A" and "B" are pressed in both "A" and "B" speaker terminals operate.

In this case note that the overall impedance should not be less than 4 ohms when 2 pairs of speakers are simultaneously driven.



13. Headphone Jack

This is provided for private listening by stereo headphone. Output signals are always available irrespective of the position of the Speaker Selector Switch. For use of headphone, however, it is recommended to set the Speaker Switch at the "off" (protruded) position.

14. Mains Switch (Power)

Repetition of pressing this knob ensures alternate switch-on and-off.

15. Stereo Indicator

When the Input Selector Switch is set at the "FM" position this Stereo Indicator lights up in case the FM stereo signals are being received, while it does not function against the mono signal. Further when mono FM on reception changes into stereo this lights up automatically to indicate stereo reception. On the contrary if receiving signals change from stereo to mono this indicator goes off. In case mono playback of stereo signals is desired, press in the Mode Selector Switch.

16. Dial Scale

Turn the tuning knob according to the frequencies marked on this dial and the desired station can be received. Receivable frequency range for FM is from 88MHz to 108MHz, while for AM from 525KHz to 1605KHz. When a stereo FM is being received the "Stereo" indicator lights up. (In the case of the R1035 the LW can be received ranging from 160KHz to 350 KHz.

17. Tuning Knob

Use this knob to tune in your desired station.

18. Mains Cord

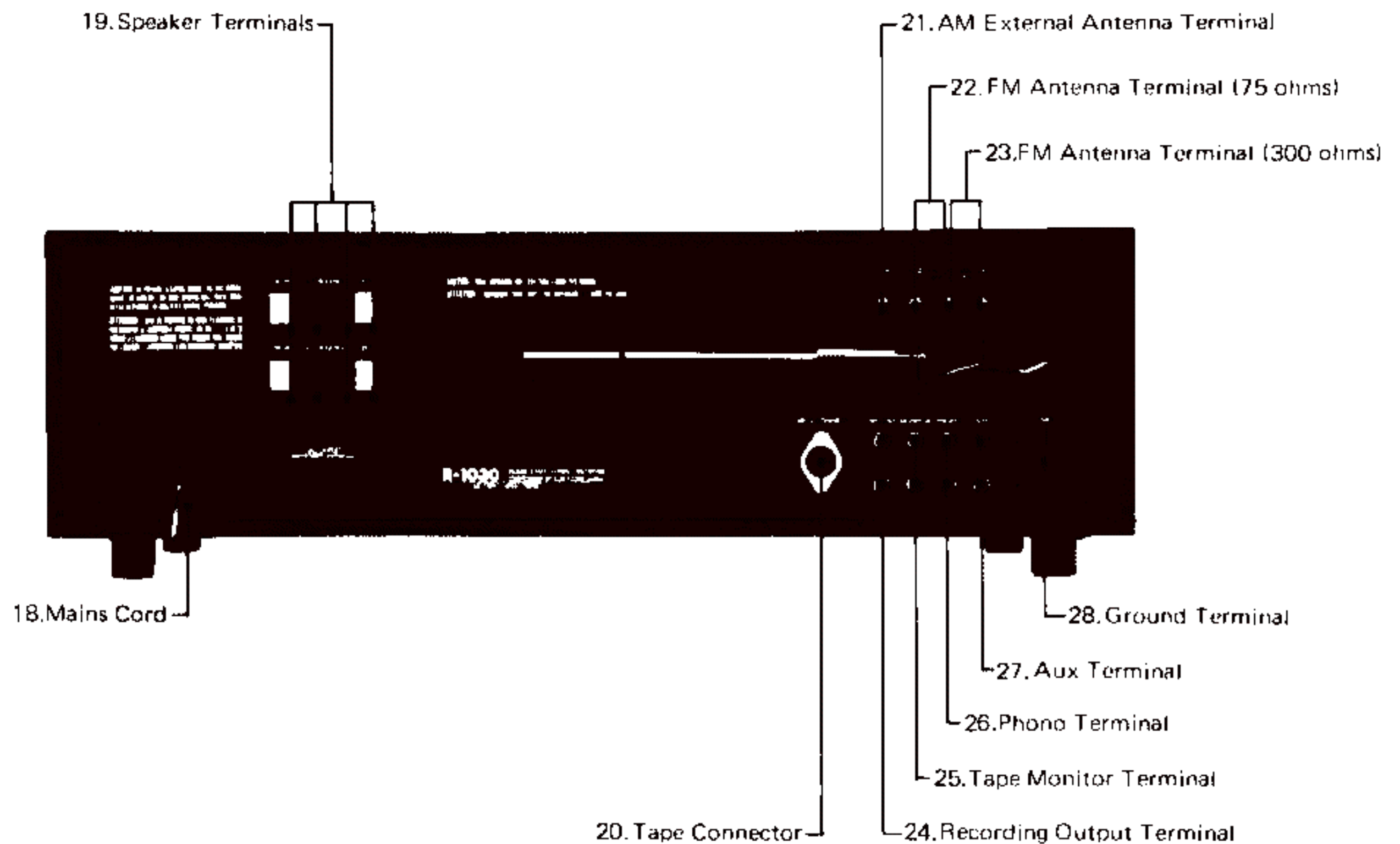
For operation of this receiver the mains plug should be connected to the mains power supply socket in your listening room.

19. Speaker Terminals

Speaker systems are to be connected to these terminals. Loosen the terminal head and turn the speaker's bare cord to the terminal shaft, then fasten it. Now firm connection is made. These terminals are coupled with the Speaker Selector Switch, which has to set at the very position corresponding to the terminals to which the speaker systems are connected. Red terminal is for (+) while black for (-). For further details refer to the "Connection of Speakers".



INPUT & OUTPUT TERMINALS



20. Tape Connector

This 5-pin connector is of DIN standard. With recording output (REC. OUT) and tape monitor (MONITOR) terminals in it, connection for recording and playback is possible with a single lead-wire of DIN plug if the tape recorder has the same connector. For playback through this Connector the Monitor has to be pressed in.

21. AM External Antenna Terminal

In case normal reception is possible with the built-in bar antenna, it is not necessary to use this terminal. But when reception of weak signals is desired, connect the exclusive outdoor antenna to this terminal. When simple wire antenna is used for this terminal, it is not always necessary to have a ground connection which sometimes deteriorates sensitivity. The exclusive outdoor antenna is effective to reduce undesired noises.

22. FM Antenna Terminal (75 ohms)

Use this connector for FM antenna with 75 ohms coaxial cable as lead-in wire. A coaxial cable can be easily connected — a core wire to the 75 ohms Terminal and the sheathing wire to the GND terminal.

23. FM Antenna Terminal (300 ohms)

Connect to this terminal a T type (di-pole) antenna or antenna feeder cable for TV (impedance 300 ohms) or FM antenna with TV feeder cable used as a lead-in wire. Do not use short wire on this terminal in place of the antenna, and always connect the exclusive FM antenna.

24. Recording Output Terminal

Signal for recording is taken out from this terminal, which is always available as long as an input signal is given to any of the Input Terminals (Phono, Aux, AM, FM) and the Selector Switch is set at the corresponding position.

25. Tape Monitor Terminal

Playback of line-output of tape recorder is possible from this terminal. For playback through this terminal press in the Tape Monitor Switch. A 3-head tape recorder makes it possible to monitor playback sound while recording.

N.B.

The extra mains outlet of "SWITCHED" type is provided for the Canadian CSA version which is useful to supply mains power to annexed audio equipment, eq., turntable etc.

26. Phono Terminal

This terminal is for playback of a magnetic pick-up (MM, MI, MC types). Input sensitivity 2.5mV with impedance 50K ohms. Almost all pick-ups can be used except MC type of very low output (0.01 – 0.1mV). For such MC type cartridges of extremely low output level, it is needed to boost the voltage up to the specified level by use of step-up transformers or head-amplifier.

27. Aux Terminal

This is an auxiliary input terminal for playback of such programme source of flat frequency response as SW/LW tuner, line output of tape recorder, and audio output of TV receiver. Input sensitivity 150mV and input impedance 70K ohms.

28. Ground Terminal

Connect the earth lead-wire of record player (from tonearm or motor). This terminal may be used as an earthing terminal of this receiver, which is, however, not always necessary.



INSTALLATION

While the R-1030/1035 Receiver has been designed for maximum ease of installation and operation, we strongly suggest you read this section through before proceeding to connect and operate the unit. Because the R-1030/1035 incorporates many technical and operating refinements, it may be a bit different from equipment you have used in the past.

PLACEMENT AND MOUNTING

The R-1030/1035 may be placed in virtually any convenient location, keeping in mind the necessity of connecting cables to your speakers and an antenna for FM. Because of its advanced solid-state construction, the unit produces little heat. But certain minimum ventilation requirements are still necessary to provide optimum operation.

When the R-1030/1035 is placed on an open shelf in a book-case or cabinet (mounted in its integral metal case or with the

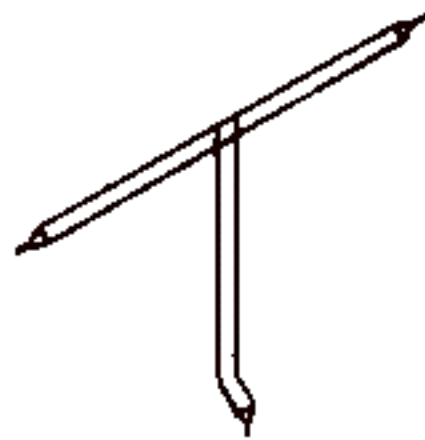
accessory furniture case) about 10 cm (3") of free space should be allowed above it.

ANTENNAS

Except in fringe areas no additional AM antenna is required with the R-1030/1035. For FM, a folded dipole, available from your dealer, is generally adequate. This section will tell you how to connect them.

AM Antenna

In all but remote rural locations, the special ferrite core bar antenna mounted inside the receiver provides excellent AM reception. For the best results, select the optimum location against the direction of the transmission. If an external antenna is required, connect a length of wire (any type will do) to the AM ANTENNA terminal on the rear panel.



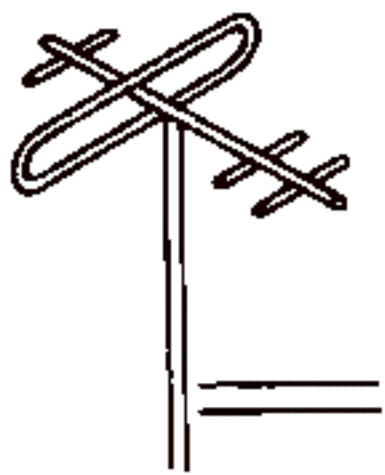
INDOOR DIPOLE ANTENNA

FM Antenna

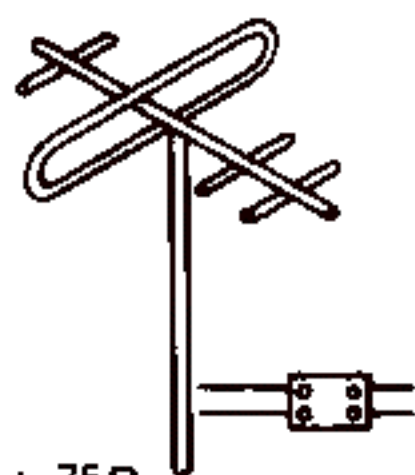
Connect the antenna lugs to the 300-ohm ANTENNA terminals on the rear panel. Rotation of the FM antenna will be needed for the best reception.

FM Outside Antenna

If you live in a remote fringe area, or in a metropolitan area with reception problems, it may be necessary to use an outside antenna. If you require a separate FM antenna, purchase a quality FM unit from your dealer. Connect the cable from the antenna to the 300-ohm ANTENNA terminals on the rear of the R-1030/1035.



300Ω OUTDOOR ANTENNA



300Ω : 75Ω
MATCHING TRANSFORMER

Master Antenna and Other 75-ohm Systems

Some buildings have master antenna that carry FM. Connect to the 75-ohm ANTENNA terminal on the rear of the unit.

Note: For clarification, if necessary, see your dealer, who can advise you concerning the best antenna installations.

SPEAKERS

Connecting Speakers

Look at your speakers. You will note that one terminal is unmarked. The other will be designated 'COM', 'COMMON', 'GND', 'GROUND', or Black. Connect the 'COM' terminal of each speaker to the appropriate black SPEAKERS terminal on the rear of the receiver. Make sure the wire does not contact the chassis or another terminal, to prevent shorts. Then connect the other speaker terminal to the appropriate red SPEAKERS terminal of the receiver. To connect a single pair of speakers, connect the wires from the left speaker (as viewed from the listening position) to the "L" A SPEAKERS terminals. Similarly, connect the right speaker to the "R" A SPEAKERS terminals of the receiver. The 2nd pair of speakers can be connected similarly to B SPEAKERS terminals.

Speaker Phasing

To enjoy good stereo reproduction, it is necessary that the two stereo speakers in any location work as a team, 'pushing' and 'pulling' the air in unison. Otherwise, low-pitched sounds will sound weaker than they should, and the stereo effect at higher frequencies will become indistinct. To connect your speakers for proper stereo effect (this is called "phasing"), proceed as follows:

Play an FM program with the Mode Switch in MONO position. If the low bass notes sound normal, the speakers are properly phased. If they sound thin, or weak, the speakers are out of phase. Should this occur, turn off the receiver and carefully check the connections at either one of the speaker.

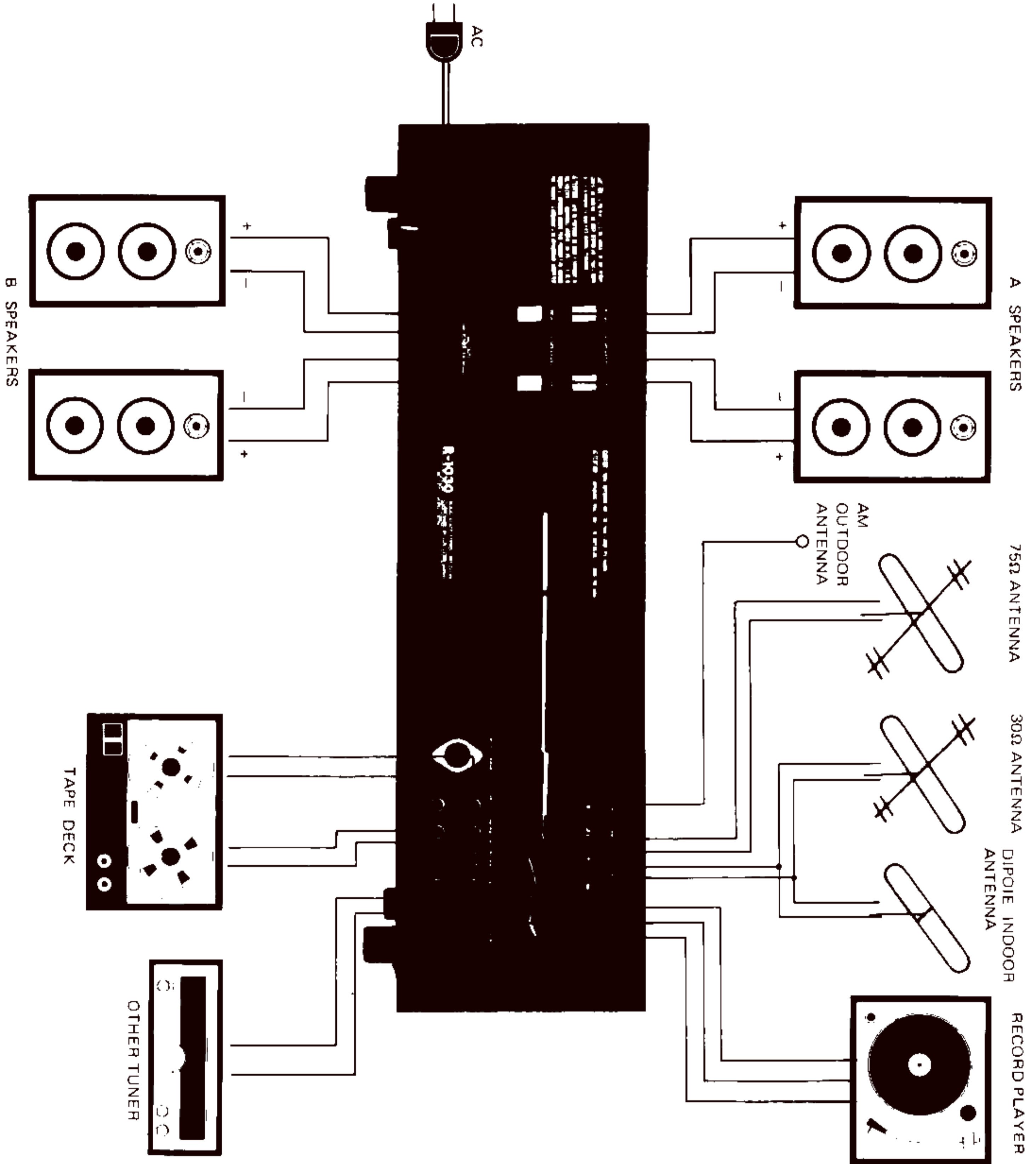
TAPE RECORDERS-DECKS

Tape Recorders and Decks

Tape recorders can be connected to record and playback through the R-1030/1035 by two methods: standard jacks and special DIN type connector on the rear panel. See page (11) for tape connections of all types. For additional information see the manual of your tape machine or consult your dealer.



CONNECTION PROCEDURE





FOR CORRECT PLAYBACK

Inputs (Connection of Input Equipments)

Check firm connection to the receiver's input terminals or output terminals of record players, tape-recorders etc. If no playback sound comes from speaker systems, the receiver may be, at first, suspected to be defective, so be sure about firm connection between arm and cartridge and also firm fixture of cartridge to the shell.

Outputs (Connection of Speaker Systems)

Check firm connection between receiver and speakers. The right-hand speaker viewed from the listener's position must be connected to the "RIGHT" terminals of the receiver, while the left speaker to the "LEFT" terminals. Be careful about the matching phase of left and right speakers. If mismatched, playback sound does not come from the centre of both speakers even if the mode selector is set at the "MONO" position, and in the case of stereophonic playback, faithful reproduction in low frequency range cannot be expected. Be sure that the speaker selector switch corresponds to the speaker terminals to which the speaker is connected.

Mains Source (Connection to Mains Source)

Check whether the mains plug of receiver is firmly connected to the mains power source, and whether the dial scale lights up when switched on.

Input Selector Switch

Check correct positioning of the switch corresponding to the input terminals (PHONO, AUX) to which input equipments are connected.

Tape Monitor Switch

For normal playback never press in this switch. Playback with tape-recorder is feasible when this switch is pressed in.

Volume Control

Full turn of this knob in the counter-clockwise direction yields no sound. Turn to the clockwise direction and enjoy playback at an appropriate volume.

Antenna

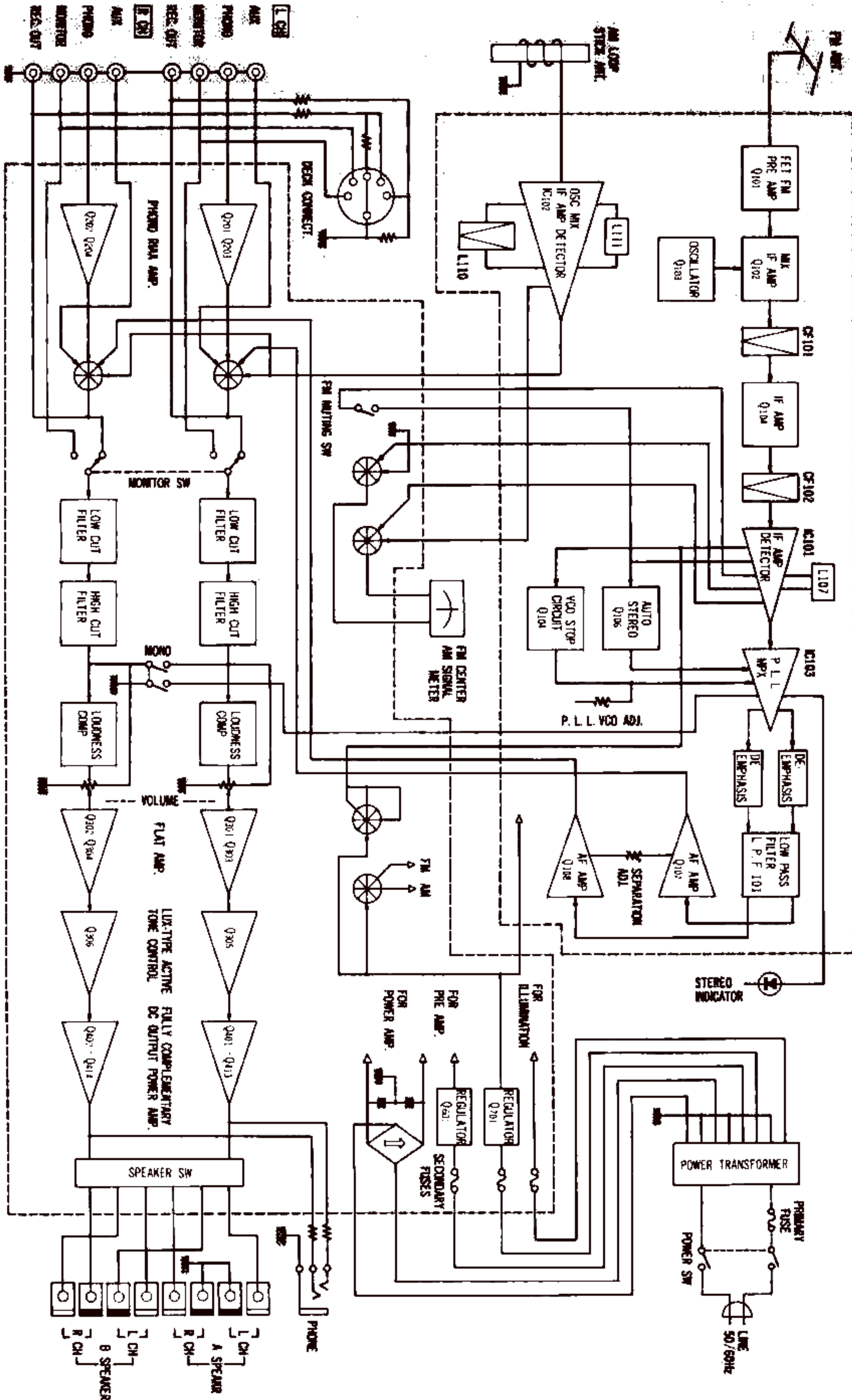
For satisfactory playback of FM and AM connect an appropriate antenna to the antenna terminal.

Mode Selector

This switch is to select the mode of reproduction. For stereophonic reproduction keep the switch unpressed, otherwise stereophonic reproduction cannot be obtained even if input signal is stereophonic.



BLOCK DIAGRAM





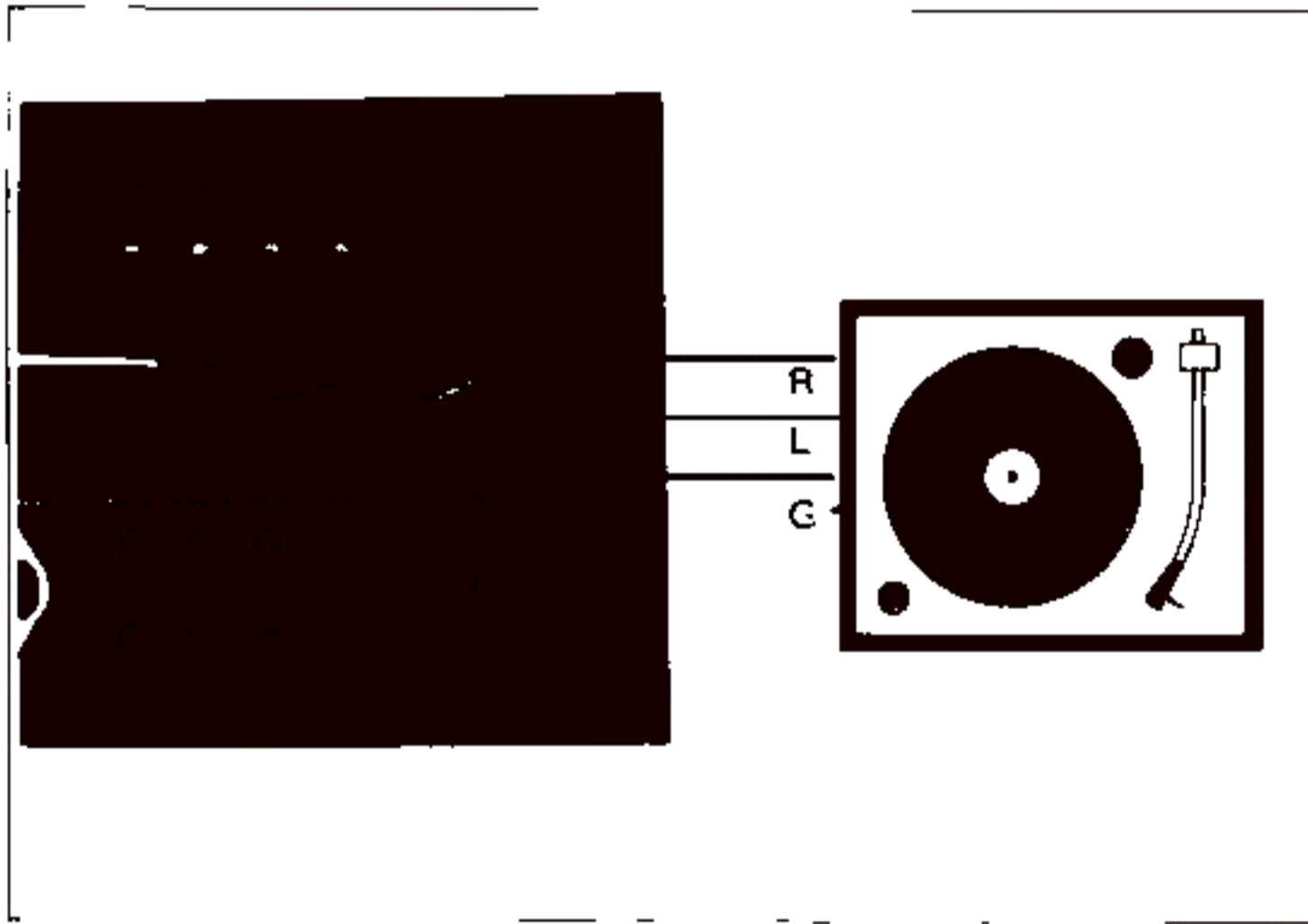
OPERATION PROCEDURE

PLAYBACK FROM RECORD DISC

Connections

Generally a record player consists of a turntable ensuring constant rotation of the record disc, a pick-up (cartridge) whose stylus (needle) traces the sound groove of the disc converting the physical signal of the record sound into the electric signal, and the arm which holds this cartridge. The player has 2 cords with pin plug at its end for both right and left channels. Connect the pin connectors to the input terminals of this receiver.

A probable earth lead of player may be connected to the GND terminal (28) of this receiver.



Signal Paths

Put the disc on the turntable, switch on the phono motor, and set the stylus on the groove of disc. Then recorded signals begin to be fed to the receiver. First, signals fed to the receiver through PHONO terminals are brought to the equalizer section, where recorded signals are equalized and restored to the original frequency curve. Incidentally this equalizer curve has been standardized to the RIAA curve. The equalized signals are then fed to the input selector switch (function switch). If this switch is not set at the correct position of PHONO, the signals are blocked here and no more advance is possible. Then the signals are divided into 2 channels, one line to the recording output terminal, and the other to the tape monitor switch. If the monitor switch (2) is not pressed in, the signals are sent to the mode selector switch, and volume control, but if pressed in the tape monitor terminals start to function and the signals are stopped at this point. Except when the tape playback is made by tape monitor terminals, the monitor switch must be kept unpressed at the normal position. But when the input signals are fed to PHONO or AUX terminals recording output is always obtainable regardless of the position of the monitor switch. Then the signals are sent to the volume control through the mode selector, filters, and loudness control. If the volume knob

is turned to the extreme counter-clockwise direction, the signals cannot proceed ahead. It is necessary to set this control at the optimum volume.

Such controls as low-cut filter, high-cut filter, loudness, and tone controls are for flexible and diversified adjustment of playback sound and do not block the signals completely. Then the signals reach the speaker switches amplified by the main amplifier. Sound playback from speaker systems is thus realized if the speaker switch is set at the very position corresponding to the speaker terminals to which the speakers are connected. The above is the feeding path of PHONO signals starting from input terminals to the speaker systems. Difficult as it may sound, you can easily understand it from the attached block diagram. For your pleasant command of this receiver we recommend you to bear the block diagram in your mind.

Playback Performance

Now put a disc on the turntable for playback performance. As the volume control is turned clockwise from the cut position, playback sound comes out from speakers. As explained in the paragraph of Signal Paths the sound playback is possible regardless of the position of Mode Selector etc. as far as these essential controls are set at the correct position such as Input Selector Switch (1), Tape Monitor Switch (2), Speaker Selector Switch (12) and Volume Control (6). Now all preparations have been completed. Check if the volume levels on both right and left speakers are identical. If deviated adjust it by the Volume (Balance) Control. For stereophonic playback see to it that the Mode Selector Switch is kept at the "unpressed" position, otherwise correct stereophonic playback is not feasible.

Playback of AM/FM Broadcasting Program

Selection of the input selector (1) at the AM or FM position ensures playback of AM or FM broadcasting programme. If you want you can connect other tuner (AM, FM, LW or SW etc.) to the AUX terminal of this receiver. In this case the selector must be set at the corresponding position. As shown in the block diagram the input signals from the tuner section on AUX terminals are directly fed to the Input Selector Switch. Afterwards the signals trace the same blocks as explained in the paragraph of Playback from Record Disc and are reproduced from the speaker systems. Both for FM stereophonic and monaural broadcasting the Mode Selector Switch can be set at the position of "FM", for such accommodation to the input source can be made in the tuner section. In case weak FM stereo is received and you feel it noisy, set the Mode Selector Switch (3) at the "pressed" position for better reproduction. In case of AM/LW programme from other tuner there is possible trouble of modulation hum, which can be eliminated by varying the distance and angle of these components.



Other Playback

The signals of flat frequency response from such sources as TV receivers do not need an equalizer stage, and for playback of such audio equipments the AUX terminal can be used. Connection and operation is same with that of AM/FM broadcasting programme.

PLAYBACK FROM TAPE

Playback from Tape Monitor Terminals

Almost all of tape-recorders, and tape-decks currently marketed integrate audio pre-amplifiers in their circuit. Also there is a tape-player exclusively for playback. Connect the output terminal (LINE OUT) to the Tape Monitor Terminal (25). Then press in the Monitor Switch and the playback from the Monitor Terminal is realized. This amplifier section can be divided into 2 sections – one before the Recording Output Terminals (REC. OUT) and the other after the Tape Monitor Switch, and 3-head tape-recorder makes it feasible to make recording with the former section and simultaneously to make playback with the latter section. Note that normal function cannot be expected if 2 sets of tape-recorder for playback are connected to the terminals of TAPE MONITOR and Tape Connector (20) at the same time, since these two are coupled in the inside circuit and effect each other.

Playback from Aux Terminals

Playback of tape is possible if the line output of tape recorder or tape-deck is connected to the AUX terminal of this receiver by use of pin-jack lead and the Input Selector Switch is set at the "aux" position. Note that when tape playback is made through AUX terminals, the line input or AUX input terminals of the tape-recorder should not be connected. If connected to the Recording Output Terminals (REC. OUT) of the receiver there may be possible oscillation by feed-back of signals.

Playback from Tape Connector

This connector is of DIN norm, and very convenient for simple connection by a single patch cord between the tape-recorder and recording/playback connectors of this receiver. A DIN cord should be connected between DIN connector of the tape-recorder and Tape Connector of this receiver. Playback from Tape Connector is possible if the Monitor Switch is pressed in.

RECORDING ON TAPE

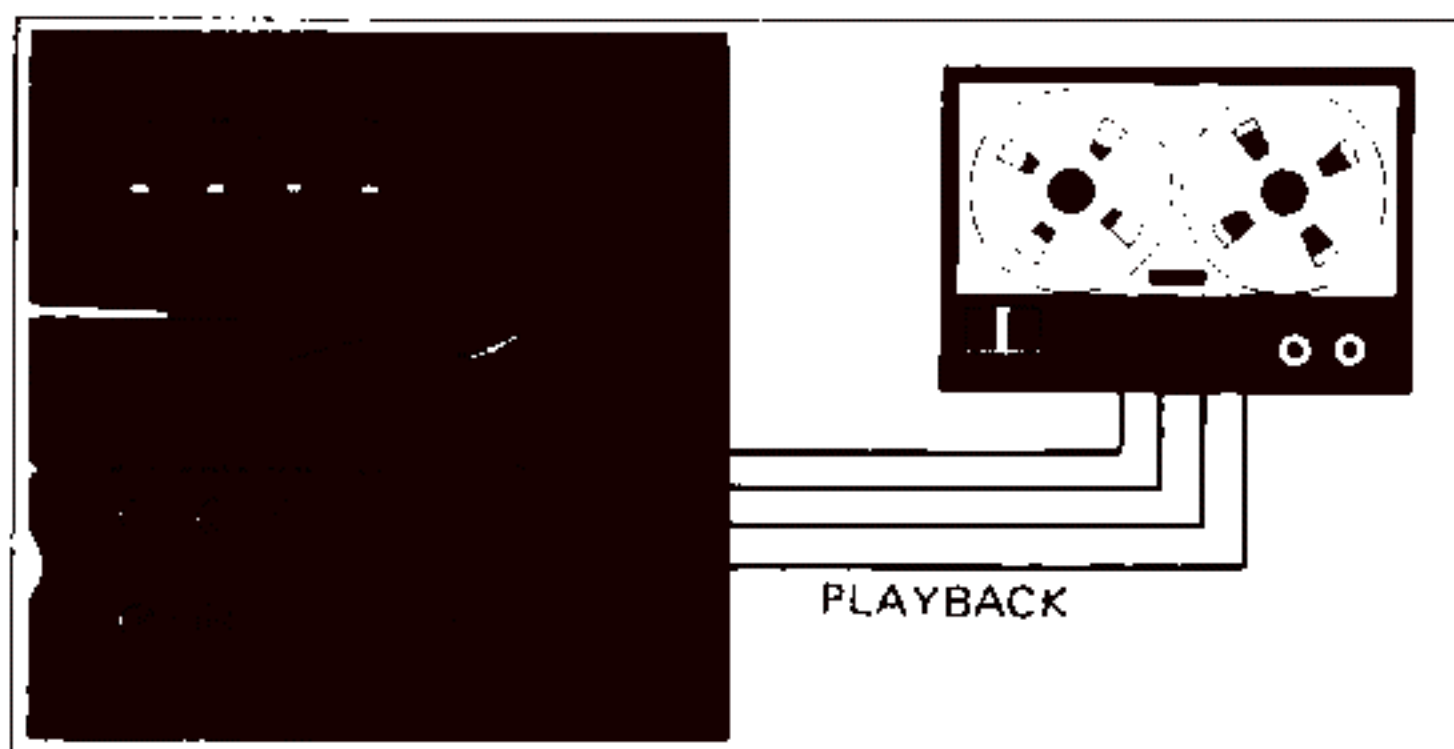
In case of playback of various programme sources through input terminals of this amplifier, the same signals to those reproduced in speakers are available at the Recording Output Terminals (24) and Tape Connector (20). By connection of these terminals to the input terminals (AUX or LINE-IN) of the tape recorder you can enjoy simultaneous recording and playback. These recording signals are taken out before the Tape Monitor Switch and there is no influence of such controls as Volume Controls, Tone Controls and Filters etc.

Simultaneous Playback Monitoring

3-head tape-recorder ensures Simultaneous Playback Monitoring enabling to ascertain perfect recording. In case of 3-head tape-recorder, heads and amplifiers for recording and playback exist independently in the circuit which ensures simultaneous recording on tape and playback of the sound recorded on the tape.

In this case recording on tape and playback of the recorded sound is practised at the same time, and connection must be made for both functions. Need to connect the Recording Output Terminal (24) to the Line Input Terminals (AUX Input) of tape-recorder, and the Tape Monitor Terminal (25) to the Output Terminals (LINE OUT) of the tape-recorder. Now repetition of pressing the Monitor Switch makes it feasible to compare the original sound with recorded one.

Thus possible recording error can be prevented in case of 3-head tape-recorder. Incidentally note that reproduction of recorded sound becomes a little bit delayed as compared with that of original sound since there is a gap between recording head and playback head. Simultaneous Playback Monitoring can be made through the Tape Connector (20) as well. A single DIN patch cord ensures connection for recording and playback.



About DIN Tape Connector

The Tape Connector of this amplifier is provided at the rear panel for convenient connection. This is of DIN norm. As explained in the paragraph of Playback from Tape and Recording on Tape, if tape-recorder is equipped with DIN connector, connection by a DIN patch cord suffices for recording and playback. See to it that this connection is practised only by DIN CORD since the impedance at Recording Output Terminals is kept relatively high at 80K ohm \pm 20K ohms.

OPERATION OF TONE CONTROLS

Selection of Mode

This receiver is for stereophonic reproduction and integrates independent amplifiers for 2 channels (right and left). Without the Mode Selector the signals fed to the right channel terminal are reproduced at the right channel speaker. The Mode Selector is placed between these 2 amplifiers to change the mode of reproduction.

knob position	connection		performance	use
	input	output		
STEREO (unpressed)	R → R L → L		normal stereo playback	for normal stereo playback
MONO (pressed)	R → R L → L		right and left input signals are integrated	for monaural playback of stereo program

Volume Control

Sound volume can be properly adjusted by volume control. In the attenuation characteristics turning angle is proportionate to attenuation degree of dB, and the dB value and the volume audible to human ears are in the proportionate relation. That is to say, the rotation of knob is in proportion to the sound volume felt by human ears. The increasing degree of volume is felt quite natural as the knob is turned on to the clockwise direction.

This is of dual concentric structure and allows separate control on both right and left channels. The front knob varies the left channel volume, while the rear one controls the right volume.

In case of deviation between the volume levels of right and left channels, adjust unbalanced volume level by 2 knobs. The volume balance of both channels can be adjusted so that monaural disc sound reproduced by the stereo cartridge comes from the centre of the right and left channels. Usually the volume level of both channels is adjusted identical at the straight engraved line on the knob.

Thus, a proper balance is established through all playback stages. If a program source is unbalanced (or the speakers are placed in an oblique position), establish the correct balance with this control.

Tone Controls

The ultimate purpose of the audio system is to make the high fidelity reproduction of programme sources. The reproduction conditions and circumstances do not always match with recording conditions, and it is impossible to reproduce the same sound with the original one.

Also there is no objective standard to judge good sound from inferior one. The only possible solution is for every listener to create his favorite sound according to his own taste. It is therefore very important that the audio system offers such

facility to permit flexible controls for creation of the best sound. This receiver is equipped with various tone controls for subtle and minute control of the reproduced sound such as Bass Control (9) and Treble Control (10).

Bass Control is a tone control on frequency response of low frequency range. It is designed so that response is flat at the electric centre point, and a clockwise turn of the knob intensifies low frequency range while counter-clockwise turn yields attenuation.

Operation of Low Cut Filter

When this filter is switched on the amount of low frequencies you hear is reduced at the attenuation rate of 6dB/oct below 70Hz. Useful for removal of low frequency noise such as rumbling of phono motor. Also this can be used as an auxiliary control for Bass Control.

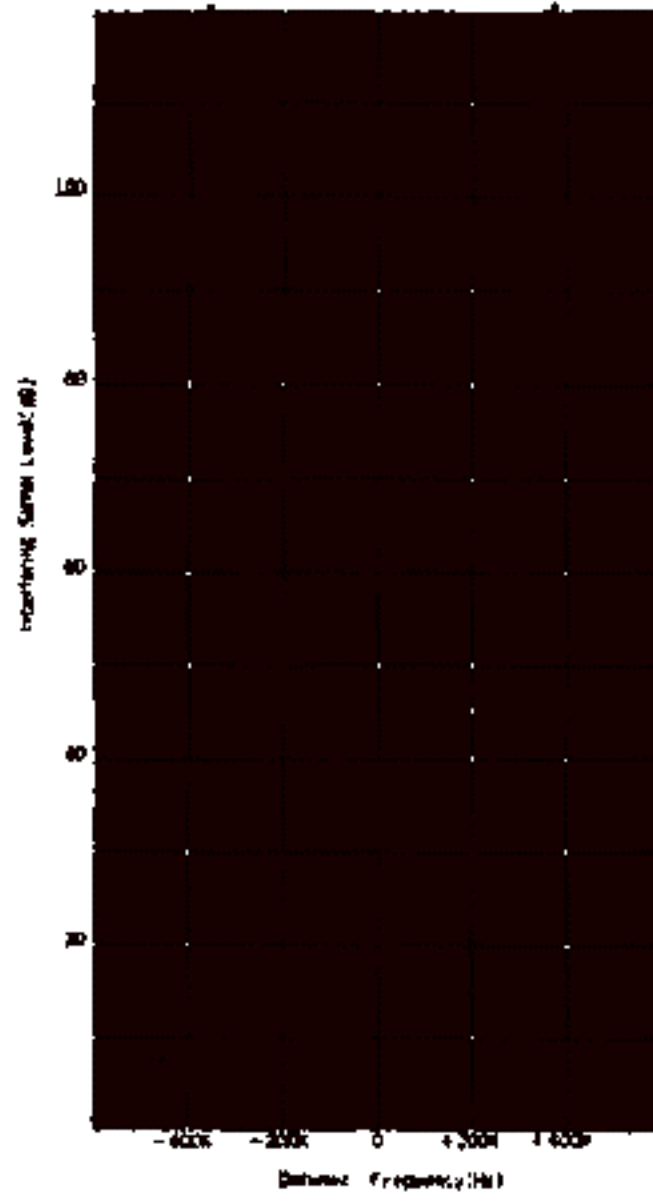
Operation of Loudness Switch

Because loudspeakers and ears generally respond less to extreme high and low (treble and bass) frequencies as volume levels are reduced, the LOUDNESS switch is included to boost these frequencies and thereby provides tonal compensation. Whether or not you use this switch depends upon the levels at which you generally listen, the kind of speakers you have, the room acoustics and a number of other variables. Experimentation is the best guide to using the LOUDNESS switch.

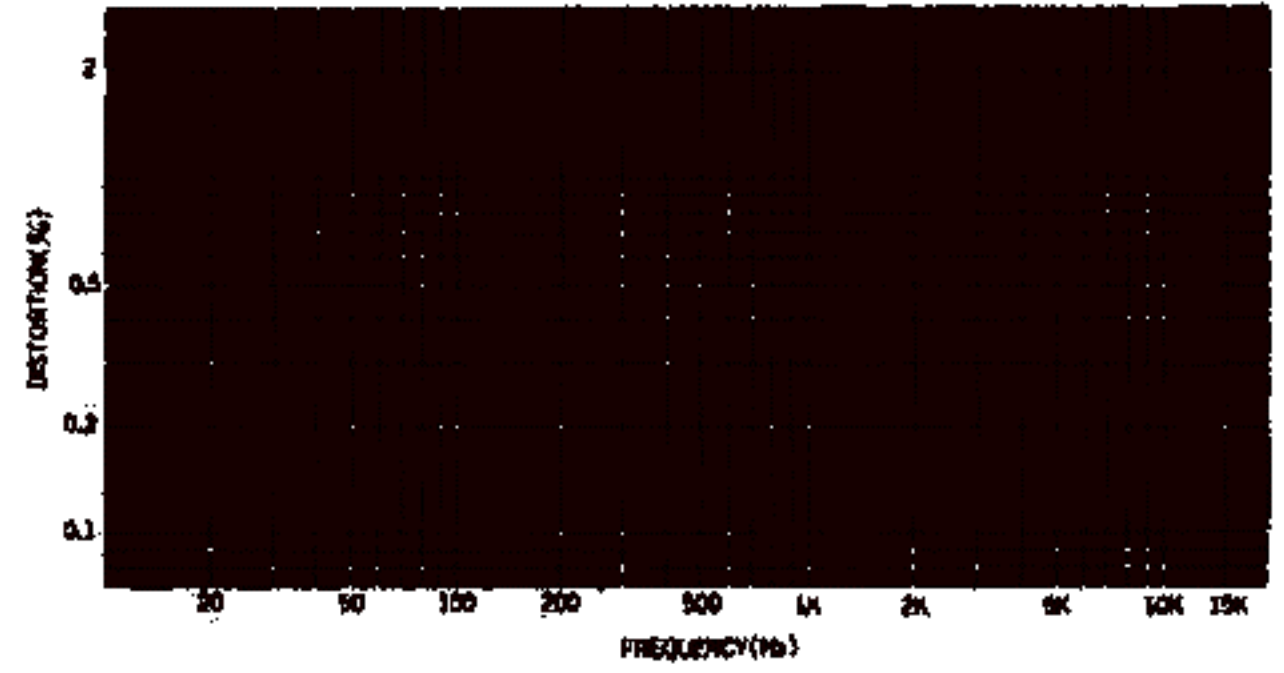


STANDARD CURVES

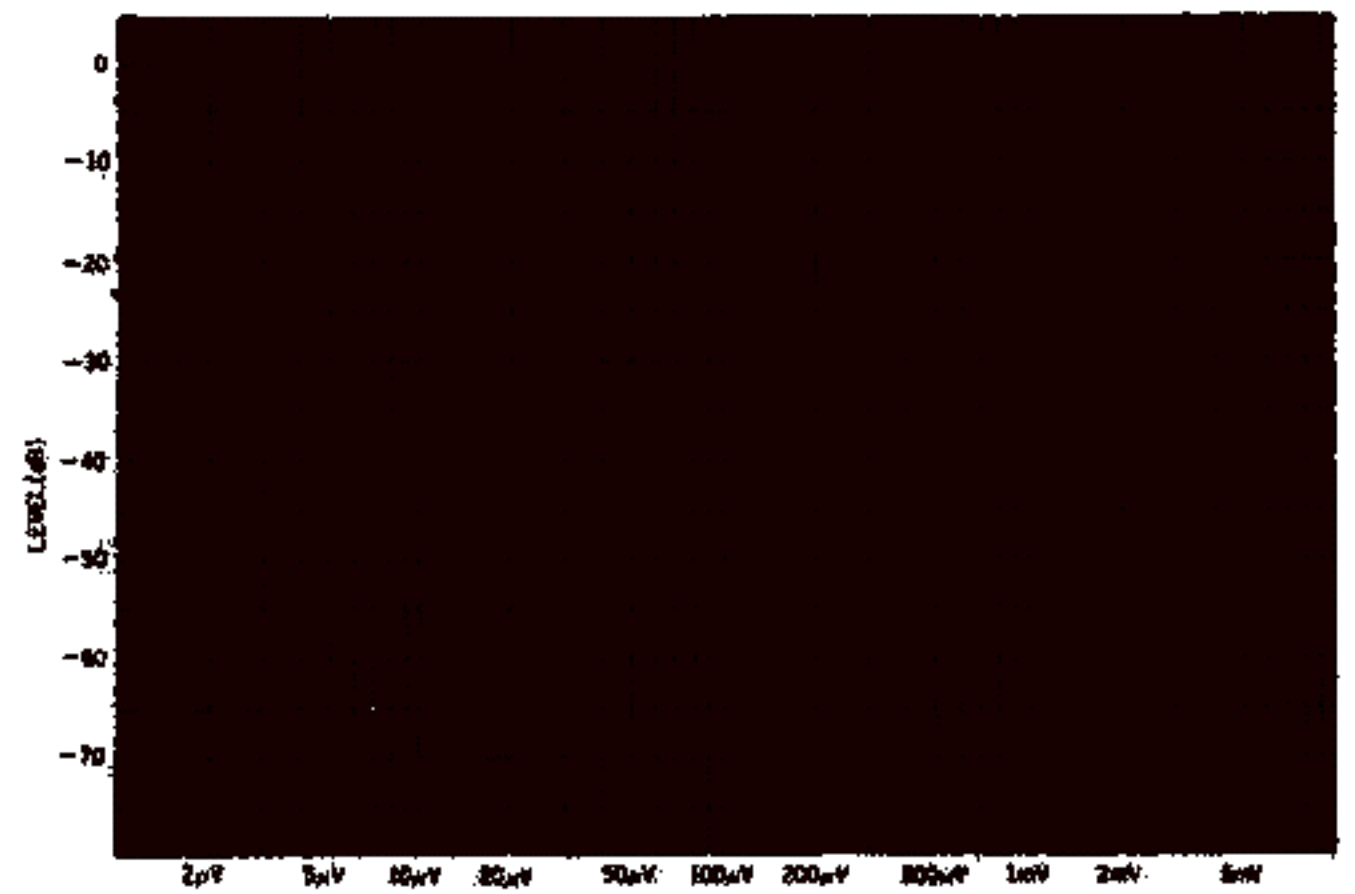
Signal Selectivity



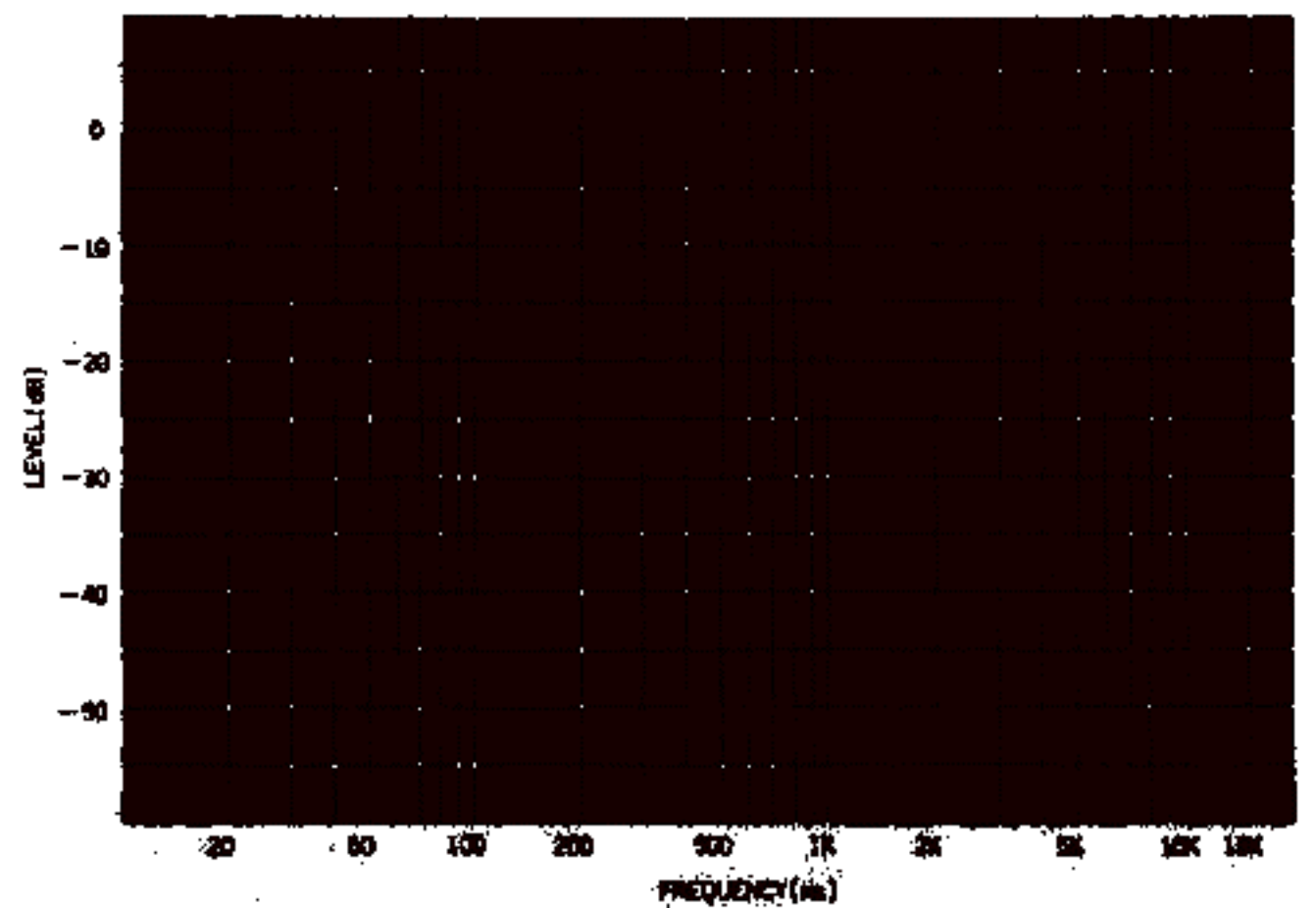
FM Distortion



Distortion, Noise Response

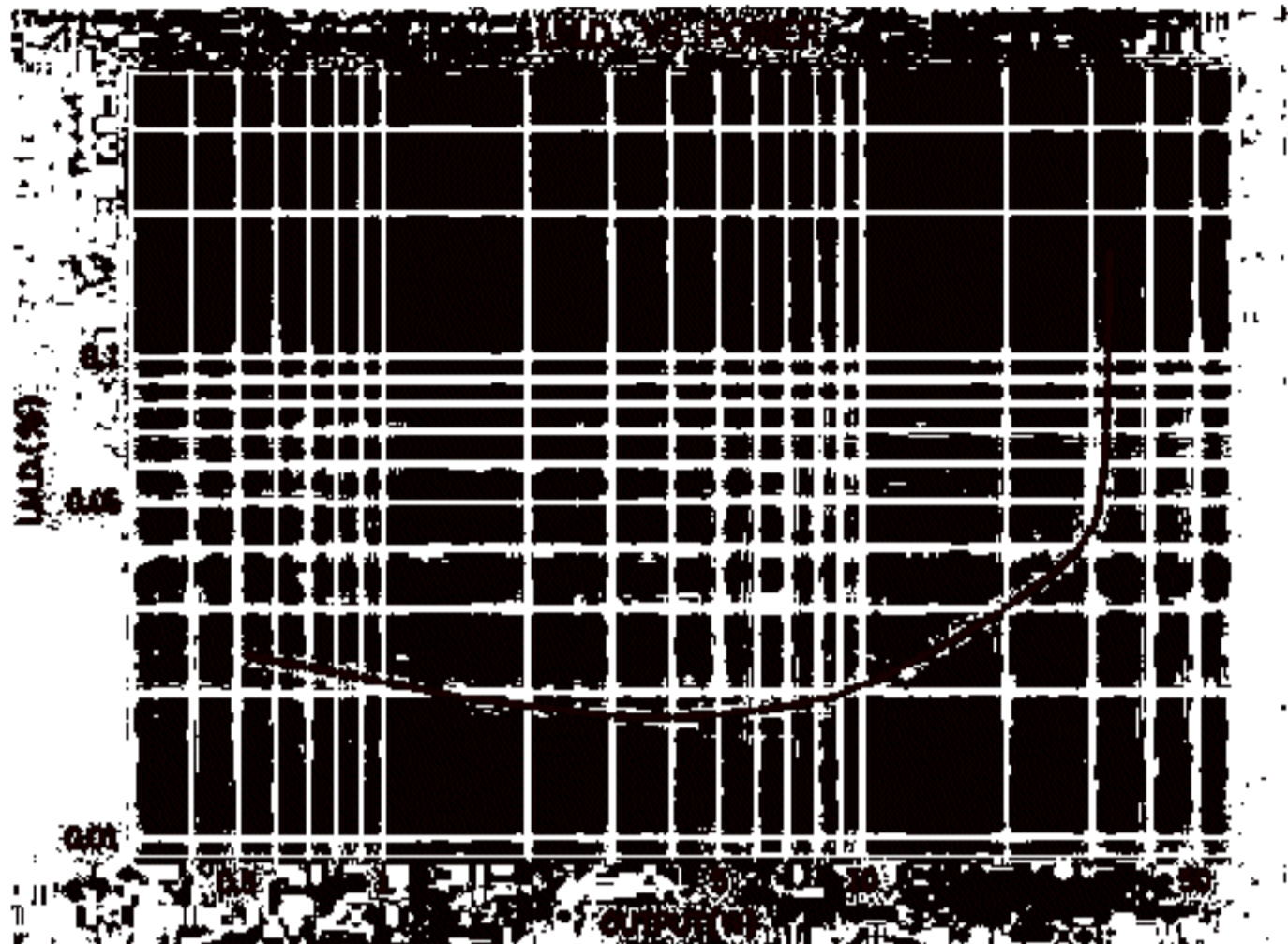


FM Frequency, Channel Separation



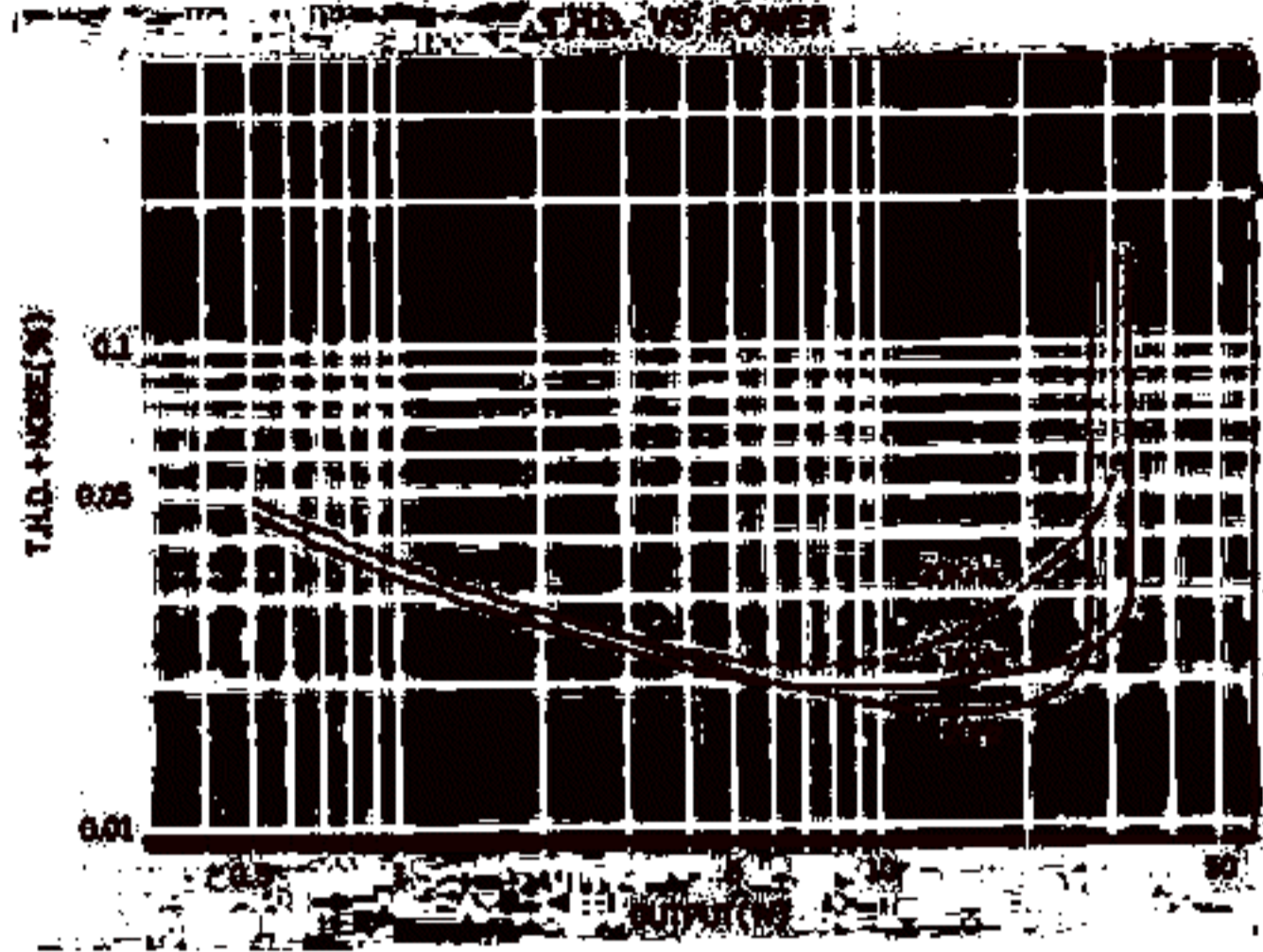
I.M. Distortion VS. Power

Input: Aux, Output: 8Ω Load Both CH Driven, Volume: Max,
Tone: Flat, Frequency 60Hz; 7kHz = 4 : 1



T.H. Distortion VS. Power

Input: Aux, Output: 8Ω Load Both CH. Driven, Volume: Max
Tone: Flat



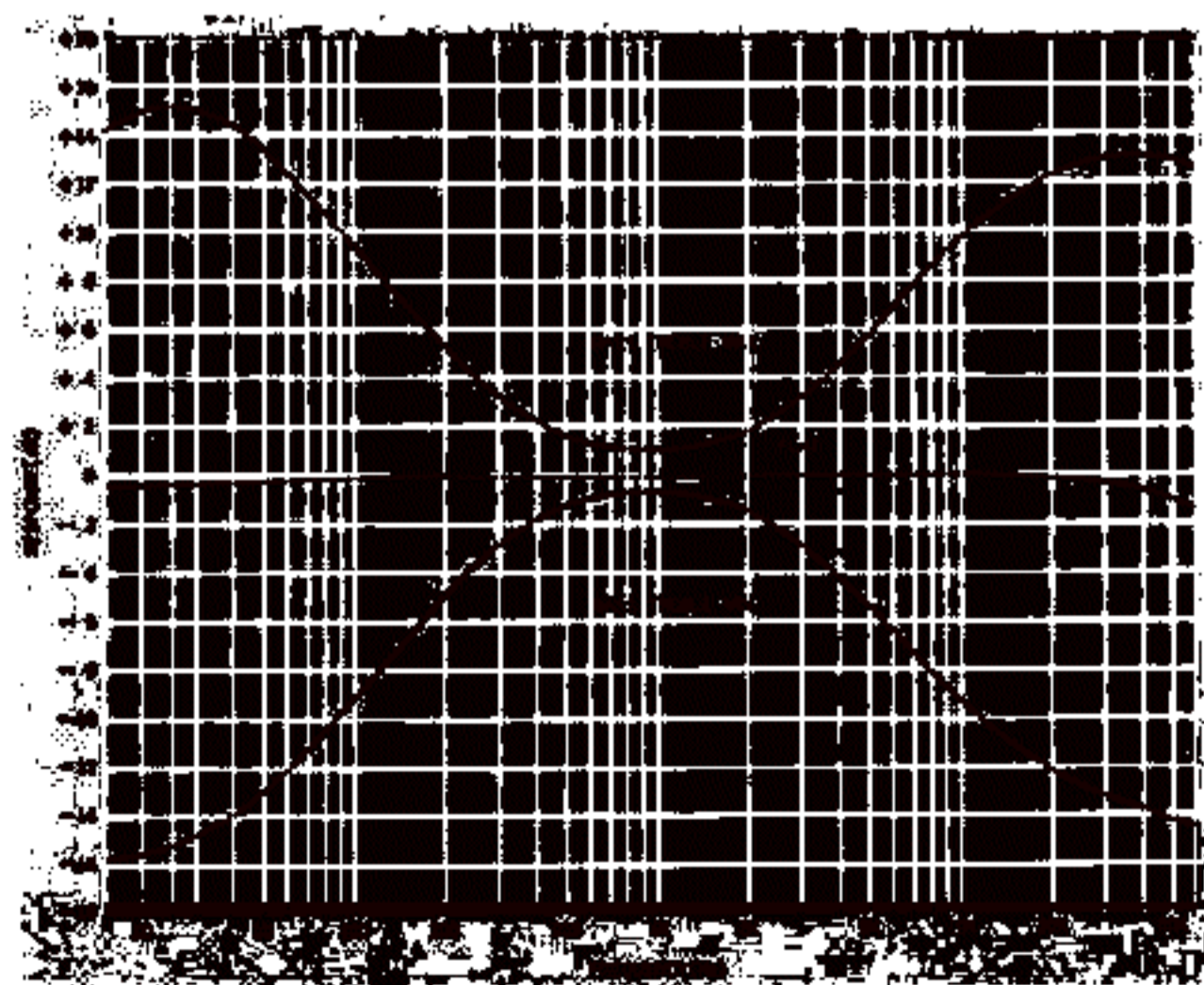
T.H. Distortion VS. Frequency

Input: Aux, Output: 8Ω Load, Both CH, Driven,
Volume : Max, Tone: Flat



Tone Control

Input: Aux-1, Output: 8Ω Load, Filter: Off





SPECIFICATIONS

Power Output:	30W/30W (8-ohm, both channels driven)
T.H.D.	No more than 0.05% (8-ohm, 30W)
Rated I.M.:	No more than 0.1% (8-ohm, both ch driven, 60Hz: 7KHz = 4 : 1)
Frequency Response:	10Hz - 40KHz (-1dB)
Input Sensitivity:	2.5mV (phono), 150mV (aux, monitor)
Phono Overload Voltage:	No less than 100mV (1KHz)
S/N Ratio:	Better than 66dB (phono) Better than 86dB (aux., monitor)
Residual Noise:	No more than 0.7mV
Damping Factor:	40 (8-ohm)
Tone Control:	Bass: ±10dB at 100Hz Treble: ±10dB at 10KHz
Filters:	High Cut . . . 7KHz (6dB/oct.) Low Cut . . . 70Hz (6dB/oct.)
Crosstalk at 1KHz:	-60dB (aux., monitor)

[FM SECTION] (IEEE/IHF Standard)

	[mono]	[stereo]
Usable Sensitivity:	11.2dBf (2 μ V)	19dBf (4.8 μ V)
46dB Quieting Sensitivity: 50 μ S:	18.2dBf (4.5 μ V)	41dBf (60 μ V)
50dB Quieting Sensitivity: 75 μ S:	18.2dBf (4.5 μ V)	39.8dBf (51 μ V)
Signal-to-noise Ratio at 65dBf:	72dB	68dB
Muting Threshold:	12.2dBf (2.3 μ V)	12.2dBf (2.3 μ V)
Frequency Response 30Hz to 15KHz:	+0, -1.5dB	+0, -1.5dB
Distortion at 65dBf:		
100Hz;	0.2%	0.3%
1KHz;	0.2%	0.3%
6KHz;	0.3%	0.5%
Intermodulation Distortion:	0.2%	0.3%
Capture Ratio at 65dBf:	1.5dB	-
Alternate Channel Selectivity:	45dB	-
Spurious Response Ratio:	70dB	-
IF Response Ratio:	70dB	-
Image Response Ratio:	55dB	-
AM Suppression Ratio:	50dB	-
Stereo Separation:		
100Hz;	-	45dB
1KHz;	-	45dB
10KHz;	-	40dB
SCA Rejection Ratio:	-	60dB

[AM SECTION]

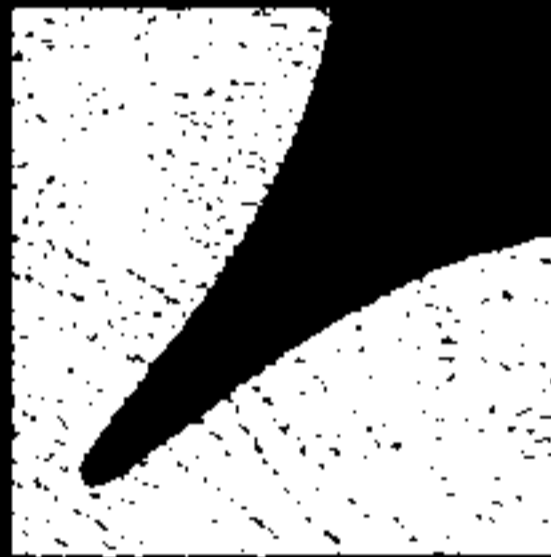
Usable Sensitivity at 1MHz, 400Hz, 30% mod.:	15 μ V (EXT. ANT.)
Signal-to-noise Ratio at 1MHz 10mV, 400Hz, 30% mod.:	45dB
Image Response Ratio at 1MHz:	45dB
IF Response Ratio at 1MHz:	40dB

[GENERAL]

Power Consumption:	150W (at full power, 8-ohm) 150W (CSA rated)
Dimensions:	500(W) x 315(D) x 165(H) mm (19-11/16 x 12-13/32 x 6-1/2")
Weight:	Net 9.4 kgs. (20.7 lbs.) Gross 11 kgs. (24.2 lbs.)

Specifications and appearance design subject to possible change without notice.

PEIMMK



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