

ULTIMATE HIGH FIDELITY STEREO COMPONENT



**L-505V**

▶ **OWNER'S MANUAL** ◀  
SOLID STATE POWER AMPLIFIER

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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 L-505V Integrated Amplifier is unique in the annals of high fidelity equipment. Though built with extremely sophisticated engineering, its concept is quite simple: to produce an amplifier with performance comparable to that available in the finest players, tuners and speaker systems.

The L-505V represents the finest standards of design and craftsmanship, but the proof is in the handling - - and in the listening. As you proceed to connect the amplifier, 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 question, please do not hesitate to consult your dealer. Pleasurable performance!



# SWITCHES & CONTROLS

## 1. Bass Level Control (BASS)

A clockwise turn of the control boosts the bass response, and a counter-clockwise turn decreases the bass. This control has 11 click-stops. It yields a flat response when set at the centre of rotation. You can choose a turn-over (roll-off) frequency of 150Hz, 300Hz or 600Hz with the Selector Switch (2).

The Bass Level Control is of dual concentric construction and permits separate control of either right or left channel; the outer axis is for the right channel, and the inner axis is for the left channel.

This usually controls both channels simultaneously, but you may adjust either channel by holding one axis while turning the other. The click-stops are only for the outer axis, i.e., the right channel.

## 2. Bass Frequency Selector Switch

Bass turn-over (roll-off) frequency can be selected by this switch. When the desired frequency (150Hz, 300Hz, or 600Hz) is set by this switch, tone control starts to function at the selected frequency. At the "defeat" position a flat frequency response is obtained irrespective of the position of the Bass Level Control (1).

## 3. Treble Level Control (TREBLE)

A clockwise turn of the control boosts the treble response, and a counter-clockwise turn decreases it. This control is of the same structure as that of the Bass Level Control (1), and its operation corresponds to what is described in (1).

## 4. Treble Frequency Selector Switch

Function-wise it is the same as the Bass Frequency Selector Switch described in (2). This switch permits selection of turn-over (roll-off) frequency among 1.5KHz, 3KHz and 6KHz.

## 5. Input Selector Switch

This switch permits selection of desired programme source (phono-1, phono-2, tuner, aux-1, aux-2).

## 6. Pilot Lamp

Switch on the power switch, and this lamp lights on, which shows that the electric current is on.

## 7. Volume Control (VOLUME)

A clockwise turn of the control increases volume, while a counter-clockwise turn decreases and finally cuts off volume. Enjoy playback sound at an appropriate level set by this control.

## 8. Balance Control (BALANCE)

The volume balance between right and left channels can be adjusted by this control. Turn it clockwise, and the volume of the left channel will decrease: a counter-clockwise turn causes to decrease the volume of the right channel. When the volume level of both channels is balanced, monaural playback sound comes from the centre of both right and left speakers. This point is usually obtained at the centre click-point of the control knob.

## 9. Power Switch

Press alternately to switch on and off.

## 10. Headphone Jack (phones)

Connection of a stereophonic headphone to this jack allows private listening. Output signal is always available, and for private listening by headphone set both Speaker Switches "main" (11) and "remote" (12) at the "off" position.

## 11. 12. Speaker Switches

This amplifier offers convenient use of 2 pairs of speaker systems. You can choose independent or simultaneous driving of 1 or 2 speaker systems. Lift up the "main" switch (11) and the main speaker terminals (34) is put on operation, while it ceases to function when pressed down to the "off" position. Likewise the "remote" lever switch (12) is coupled with the remote speaker terminal (35).

At the "off" position both speakers are disconnected from the amplifier, and you can enjoy private listening by headphone.

## 13. Low Boost Switch

When this lever switch is set at the "low boost" position, bass frequencies below 70Hz are boosted up to +7dB at 20Hz. For further details refer to the Operation of Low Booster.

## 14. Low Cut Filter (low cut)

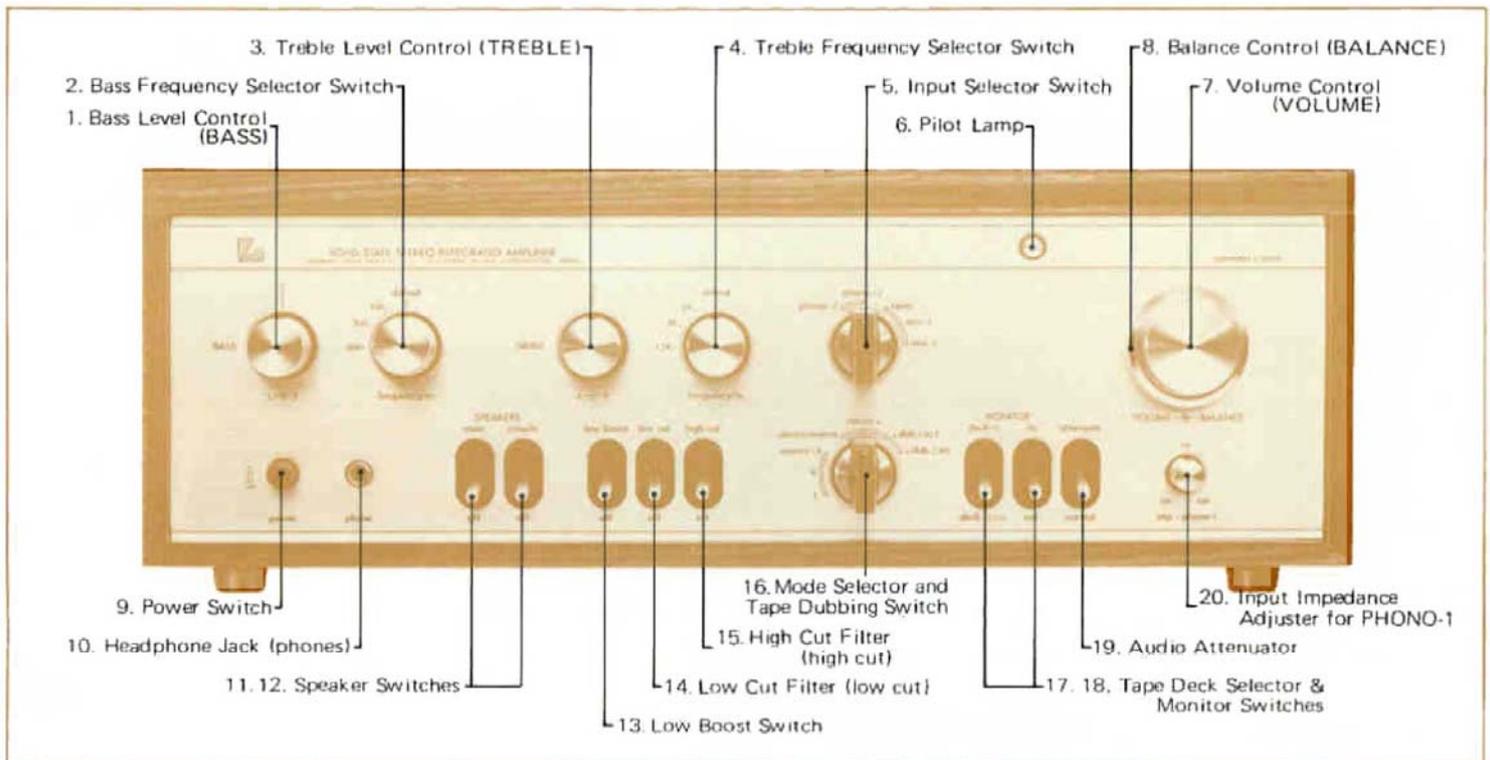
At the "low cut" position this filter functions so that the amount of bass frequencies below 30Hz is reduced at the rate of -6dB/oct. For further details refer to the Operation of Low Cut Filter.

## 15. High Cut Filter (high cut)

When this switch is lifted up, a treble roll-off at 8KHz occurs at the rate of -6dB/oct. For further details refer to the Operation of High Cut Filter.

## 16. Mode Selector and Tape Dubbing Switch

This switch plays 2 roles, i. e., to select correct playback mode and to dub (reprint) from one tape to the other. For further details refer to the Operation of Mode Selector and Tape Dubbing Switch.



### 17. 18. Tape Deck Selector & Monitor Switches

Tape monitoring is possible with these two switches. When the Monitor Switch (18) is lifted up to the "in" position, tape playback is possible from the DECK-1 MONITOR terminal (29), DECK-2 MONITOR terminal (31) or Tape Connector (27). When set at the "out" position playback is possible from other sources such as PHONO, TUNER or AUX Terminals.

The Tape Deck Selector Switch is provided to select either of the DECK-1 MONITOR Terminal or DECK-2 MONITOR Terminal when the Monitor Switch is set at the "in" position. The "deck-1" and "deck-2" positions correspond to the DECK-1 and DECK-2 Terminals respectively.

When a tape-recorder is connected to the DECK-1 MONITOR Terminal, set the Monitor Switch at the "in" position and the Tape Deck Selector Switch at the "Deck-1" position. Now you can enjoy playback from the DECK-1 MONITOR Terminal. The same process can be applied to the DECK-2 MONITOR Terminal. The Tape Connector (27) functions only when the Selector Switch (17) is set at the "deck-1" position, as this connector is coupled with the DECK-1 MONITOR Terminal in the inside circuit.

In case a 3-head tape-recorder is used, simultaneous playback monitoring is possible while recording. In this case the amplifier receives the playback signals either from the DECK-1/DECK-2 MONITOR Terminals (29) (31) or the Tape Connector (27), while at the same time feeding the recording signals to the DECK-1/DECK-2 REC. OUT Terminals or the Tape Connector.

Bear in mind that when the Monitor Switch (18) is set at the "in" position playback is not possible from other sources than tape deck.

### 19. Audio Attenuator

The amplifier is usually used with this switch set at the "normal" position. At the "attenuate" position the gain is reduced by 18dB (about 1/8). Useful as momentary silencing switch at telephone call etc.

### 20. Input Impedance Adjuster for PHONO-1

You may set this Input Impedance Adjuster for PHONO-1 (22) at any impedance you desire between 30Kohms – 100K ohms. Click stops are provided at 30Kohms, 50Kohms and 100Kohms, and approximate impedance is known by the index on the knob. Adjustment to obtain the appropriate load resistance for cartridge is easily made by turning the adjuster.



# INPUT & OUTPUT TERMINALS

## 21. Earth Terminal (GND)

Connect the earth wire of the record player (from phono motor or tone arm) to ground this amplifier.

## 22. PHONO-1 Terminal

This is for playback through magnetic cartridge (MM, MI, MC type). Input sensitivity is 2.5mV. Input impedance is adjustable between 30K $\Omega$  and 100K $\Omega$ . Except very low output MC type cartridge (output voltage, 0.01mV – 0.1mV), almost all cartridges can be used. For such MC cartridges of low output level, it is necessary to boost output voltage up to the specified level by use of step-up transformers or head-amplifier.

## 23. PHONO-2 Terminal

Same as PHONO-1 Terminal except that the input impedance is fixed at 50K $\Omega$ .

## 24. TUNER Terminal

This is for reproduction of tuner (AM/FM/LW/SW). Rated input sensitivity 100mV, input impedance 50K $\Omega$ .

## 25 26. AUX-1, -2 Terminal

These are auxiliary input terminals for playback of flat frequency response such as AM/FM stereo tuner, line output of tape-recorder, and audio output of TV receiver. Input impedance, 50K $\Omega$ . Input sensitivity, 150mV.

## 27. Tape Connector (DECK-1 CONNECTOR)

This connector is of DIN standard. With both recording output and tape monitor terminals in it, connection for recording and playback is feasible with a single lead-wire with DIN plug, providing the tape-recorder to be used in combination has the same connector. For playback through this connector, the Tape Monitor Switch (18) must be at the "in" position and the Tape Deck Selector Switch (17) at the "deck-1" position. Recording output signals are always available from this connector, except when the Mode Selector and Tape Dubbing Switch (16) is at the "dub. 2 to 1" position.

## 28. DECK-1 REC. OUT Terminal (Recording Output Terminal)

Signals for recording are taken out from this terminal (always available as long as input signals are given to any of the input terminals).

In case the Mode Selector and Tape Dubbing Switch (16) is set at the "dub. 2 to 1" position, recording signals come from the DECK-2 Terminal.

## 29. DECK-1 MONITOR Terminal

Playback of line output of tape-recorder is possible from this terminal. It is put into operation when the Monitor Switch (18) is at the "in" position and the Tape Deck Selector Switch (17) at the "deck-1" position. A 3-head tape-recorder makes simultaneous playback monitoring possible.

## 30. DECK-2 REC. OUT Terminal (Recording Output Terminal)

This terminal offers the same function as the DECK-1 REC. OUT Terminal (28). If the Mode Selector and Tape Dubbing Switch (16) is set at the "dub. 1 to 2" position recording signals are given from the DECK-1 terminal.

Also at the other position than "dub. 1 to 2" and "dub. 2 to 1" recording signals are fed to both DECK-1 and DECK-2 MONITOR Terminals for simultaneous recording on 2 tape-recorders.

In case a matrix 4-CH demodulator is used this terminal has to be connected with the input terminal of the demodulator with a pin jack cord.

## 31. DECK-2 MONITOR Terminal

This functions in the same way as the DECK-1 MONITOR Terminal (29). Tape playback is possible if the Monitor Switch (18) is set at the "in" position and the Tape Deck Selector Switch (17) at the "deck-2".

In case this amplifier is used as a 2-CH amplifier for the Matrix 4-CH system, 2 of 4 channels at the output side of the demodulator should be connected to this terminal, and the Monitor Switch should be set at the "in" position and the Tape Deck Selector Switch at the "deck-2/4 ch." position.

## 32. Pre Amplifier Section Output Terminal (PRE OUT)

The whole output in the pre amplifier section including the tone controls can be taken out from this terminal. Output voltage is 550mV against the standard input. No attenuation occurs in the treble range even when a shield wire is used because this terminal has sufficiently low impedance of about 300 $\Omega$ .

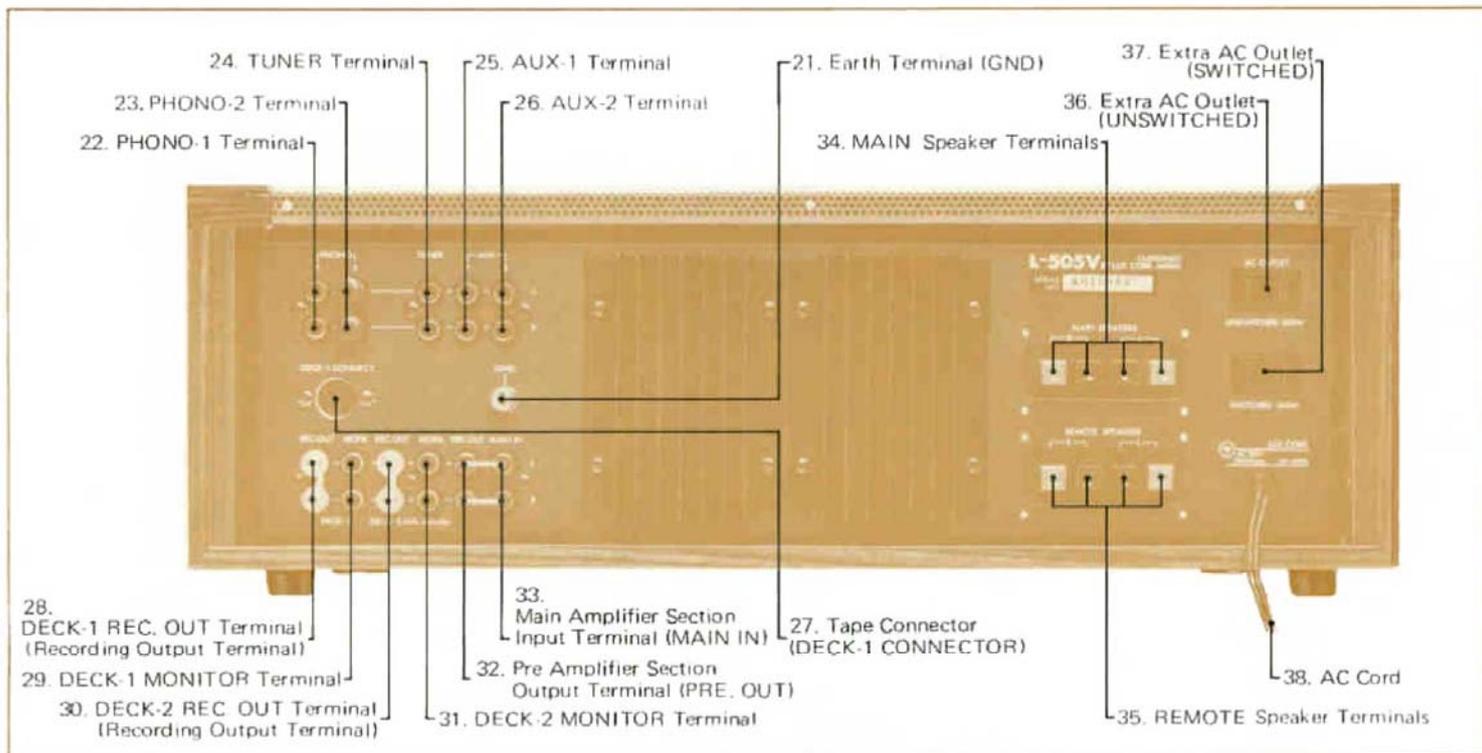
This terminal is for independent use of the pre amplifier as well as for a multi-amplifier system using a channel divider. Usually this terminal and the Main Amplifier Input Terminal (33) are coupled with jumper pins.

## 33. Main Amplifier Section Input Terminal (MAIN IN)

Independent use of the main amplifier section is possible when the jumper cord is removed and the input signal is given to this terminal. The input sensitivity is 550mV with the impedance 50K $\Omega$ .

## 34 35. Speaker Terminals (MAIN & REMOTE)

The speaker systems should be connected to these terminals. Press the cap of the terminal and insert the bare speaker cord into the terminal hole, then release it. Firm connection is now made. These terminals are coupled with the speaker switches, and the speaker switch must be at the position corresponding to the terminal to which the speaker systems are connected. (34) is for the main speaker and (35) for the remote one. The red terminal is for (+) and the black for (-). Be careful about phase matching. For further details, refer to Connection of Speakers.



### 36. 37. Extra AC Outlets

Convenient for supply of AC power to other audio equipments such as AM/FM tuner, record player etc. The terminal (36 UNSWITCHED) is independent of the power switch of the amplifier, while the other (37 SWITCHED) is coupled with the power switch (supply for the AC power depends on the power switch). The rated capacity for (36) is 200W, while that for (37) is 100W.

Note that in some countries in Europe, e.g., Scandinavian countries, it is prohibited to make use of the extra AC outlet. Therefore the cover should not be removed when at use.

In other countries, it is possible to use the extra AC outlet by removing the screws affixed to the cover.

### 38. AC Cord

Plug in the end of this cord with the plug should be connected to the AC power supply source in your listening room.



# CONNECTION PROCEDURE

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## Basic Connection:

This amplifier is composed of a pre-amplifier section, which controls playback equipment, and a power amplifier section, which amplifies the signal to the extent that it drives the speaker systems. It functions as the stereophonic reproduction system when the player, tuner, etc. are connected to the input terminals and the speakers or headphone to the output terminals. Thus it is basically necessary to connect this amplifier with the input source, output loads and, naturally, the AC power source.

## Connection to Input Terminal:

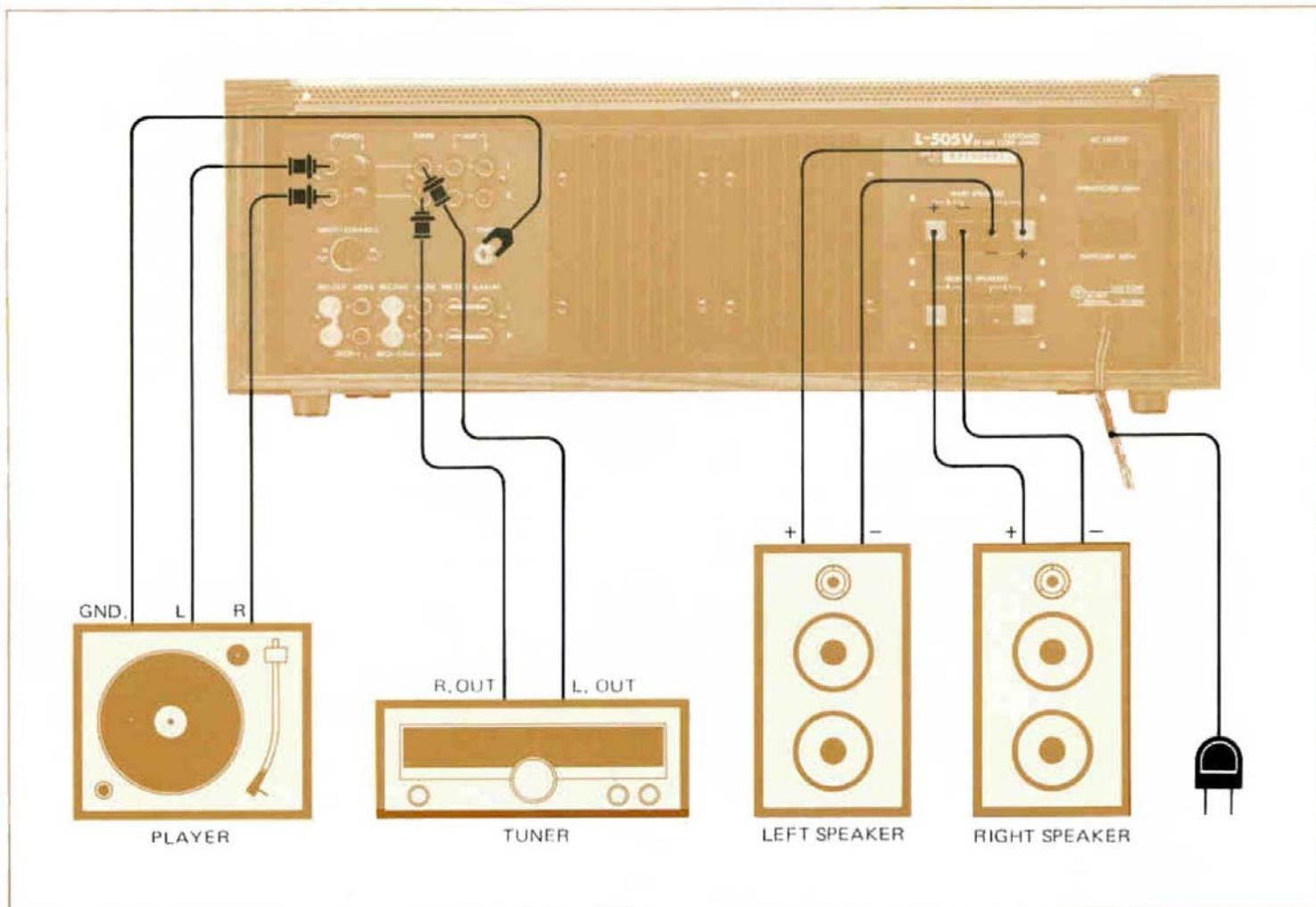
Connect the outputs of player, tuner, or tape-recorder to the relevant input terminals of this amplifier. As to the details, see the sections on Playback of Disc, Tuner and Tape-Recorder.

## Connection Cable

For connection of record players, tuners and tape recorders, shielded wires are used to avoid possible influence from external noise or inductance noise. Usually, the shielded wire has capacitance of approximately 200pF per metre (3.3 feet) or has 100pF capacitance per metre at low level.

Adoption of a connection cord gives the same effect as that of insertion of a capacitor in parallel with input sources or output load equipment, which composes a kind of high cut filter circuit and causes an unnecessary attenuation of high frequency range.

Of late output impedance for tuner/tape recorder has been so designed as to be sufficiently low, and there is almost no problem as in this case parallel composite impedance becomes lower and cut-off frequency will be shifted out of audible range. In the case of record player, however, output impedance value of popular MM type cartridge is approx. 10K ohms at 10KHz in general. Therefore, choose a shield wire of good quality and use it as short as possible for connection of the amplifier.



### Connection of Speakers:

Stereophonic playback is made with a pair of speaker systems for right and left channels. This amplifier is provided with 2-channel terminals for main and remote speakers. Connection can be made in the same manner. The right speaker system should be connected to the Right speaker terminals, and the left speaker system to the Left terminals.

Note that perfect sound reproduction cannot be expected if the phase is not matched between both channels. To match the phase is to connect the (+) terminal of the right speaker to the (+) terminal (red cap) in the right channel of this amplifier, and the (-) terminal to the (-) one (black cap). Do the same with the left speaker. If mismatched for some reason (e.g., mis-connection of speakers), the low frequency range is subdued and stable playback cannot be realized.

To firmly connect the speaker terminals, trip off the end of the shield wire by 10mm (3/8") and insert it into the terminal hole by pressing the terminal head, and then releasing it.

After connection of the speakers, set the speaker selector switch so that 2 pairs (main and remote) of speaker systems can be simultaneously or independently driven.

### Connection of AC Power Source

As the final step of reproduction, connect the amplifier to the AC power source. The AC connection cord should be plugged into the power supply outlet. Press the power switch, then the pilot lamp lights up and the amplifier will function in about 5 to 10 seconds.

The power for other audio equipment used in combination with this amplifier can be obtained from the extra AC outlet (SWITCHED) of the amplifier. On/off switching of the amplifier is common to other annexed audio equipment.

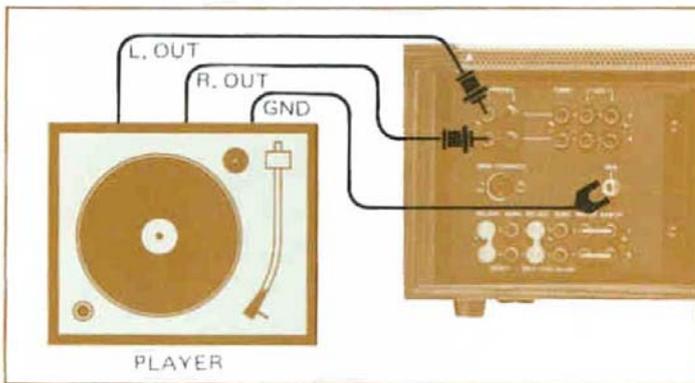


# PLAYBACK FROM RECORD DISC

## Connections:

The player has 2 cords with pin plugs at their ends for both right and left channels. Connect the pin plugs to the input terminals of this amplifier (PHONO-1 (22), PHONO-2 (23)). The player's earth lead can be connected to the GND terminal (21). The player's power flex can be connected to the extra AC outlet (36) of the amplifier.

This amplifier is provided with 2 input terminals (PHONO-1 & PHONO-2) to be selected by the input selector switch. This is useful for comparison or using two record players. For use of one player, either of the two input terminals can be selected. But in case MM-type cartridge (Moving Magnet) is used, it is advisable to use PHONO-1, since its impedance can be adjusted to give a proper load to the cartridge.



## Signal Paths:

Put the disc on the turn-table, switch on the phono motor, and set the stylus on the groove of the disc. Then recorded signals begin to be fed to the amplifier. First, the signals fed to the amplifier through PHONO terminals are brought to the equalizer section, where recorded signals are 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 "phono" position, the signals are blocked here and no amplification is possible.

After equalization, the signals are divided into two channels at sufficiently low impedance (about 100 ohms to prevent possible high frequency attenuation caused by long cables or floating capacitance) by the emitter-follower stage annexed at the last portion of the equalizer section. From here, one line goes to the REC. OUT terminal, and the other to the tape monitor switch. If the Monitor Switch (18) is set at the "out" position, the signals are sent to the mode selector switch, balance and volume controls, but if at the "in" position, the signals are stopped at the tape monitor terminals. Except during tape playback, the tape monitor switch must be kept at the "out" position. But when the input signals are fed to PHONO or AUX terminals, recording output is always obtainable regardless of the position of the tape monitor switch. Then the signals are sent to the volume control through the mode selector and balance control.

Such controls as Low-cut filter, High-cut filter, Attenuator, Low booster, and Tone controls are for flexible and diversified adjustment of playback sound and do not block the signals completely.

As long as the pre-main jumper pins are hooked, the signals reach the speaker terminals amplified by the main amplifier. Sound reproduction from speaker systems is thus realized if you switch on the Speaker switch corresponding to the speaker terminals to which the speakers are connected.

You can easily understand it from the attached block diagram. For your pleasant command of this amplifier, we recommend you to bear the block diagram in your mind.

## Playback:

Put a disc on the turn-table for playback. As the volume control is turned clockwise, playback sound comes from the speakers. As explained above, playback is possible regardless of the position of the Mode Selector, etc., Input Selector Switch (5), Monitor Switch (18), Pre-Main Amplifier Connection Jumper, Speaker Switches (11) (12) and Volume Control (7) should be set at the correct positions.

After all preparations are completed, check if the volume levels on both right and left speakers are identical. If different, adjust them with the Balance Control. For Stereophonic playback, set the Mode Selector Switch to the "stereo" position.



# PLAYBACK FROM TAPE

## Playback from Tape Monitor Terminals:

Almost all tape-recorders and tape-decks currently marketed include an audio amplifier in their circuitry, and some tape-players are made exclusively for playback.

Connect the output terminal (LINE OUT) to the Tape Monitor terminals (29) & (31). Then set the Tape Monitor Switch (18) at the "in" position and the Tape Deck Selector Switch (17) at the corresponding position to which the tape-recorder is connected. If two tape-recorders are connected to the terminals (29) and (31), selection between either unit is possible by the Tape Deck Selector Switch (17).

This amplifier can be divided into two sections: one before the Recording Output terminals (REC. OUT) and the other after the Tape Monitor Switch. A 3-head tape-recorder makes it feasible to make recordings with the former section and simultaneously make playback with the latter section.

Note that a normal function cannot be expected if 2 sets of tape-recorders for playback are connected to the DECK-1 Monitor terminal (29) and Tape Connector (27) at the same time, since these two are coupled in the inside circuit and affect each other. Therefore, if the Tape Monitor terminals and the Tape Connector are used, the tape-recorders should be connected to the DECK-2 Monitor terminal (with the Tape Deck Selector Switch at the "deck-2" position) and to the Tape Connector.

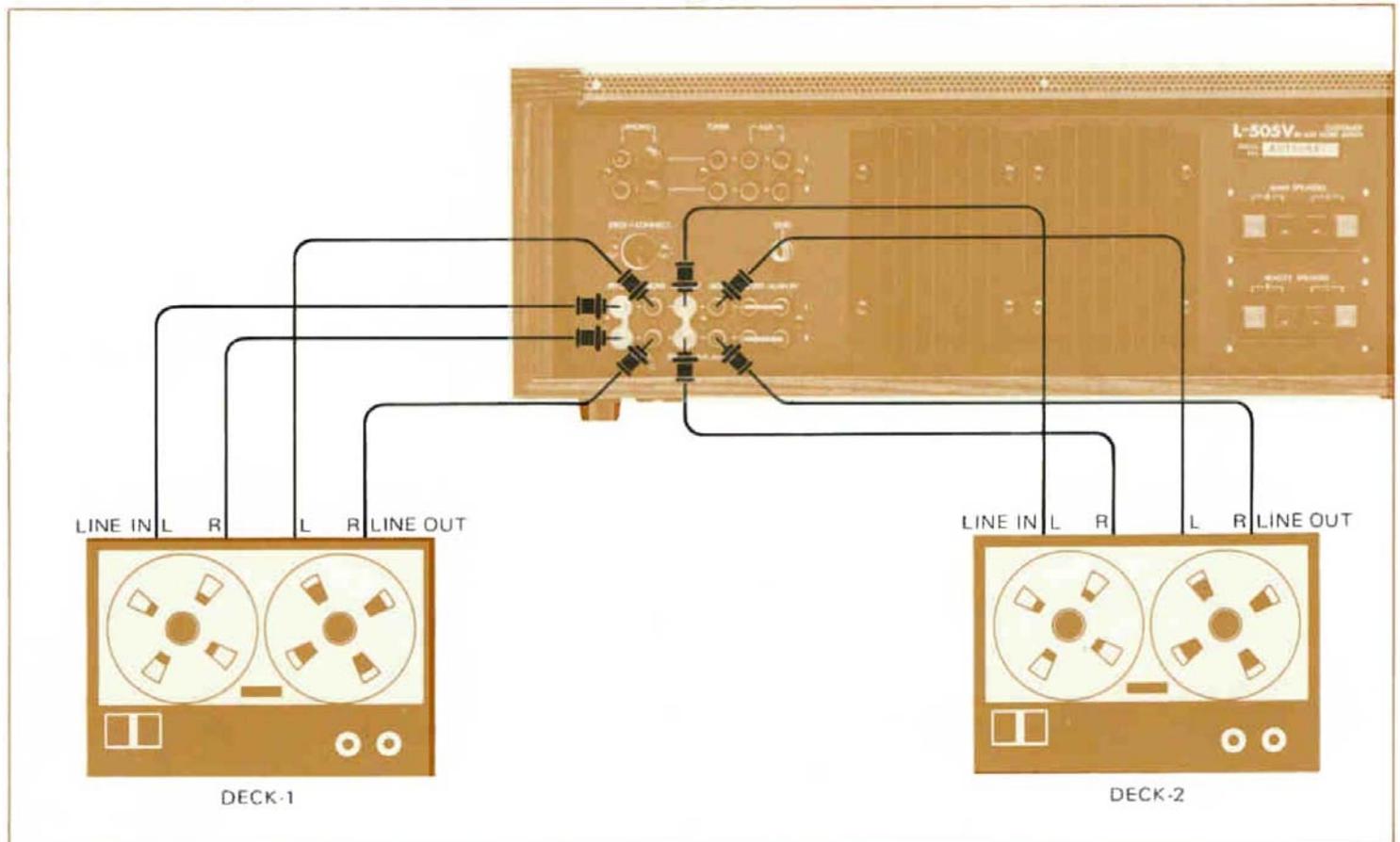
## Playback from AUX Terminals:

Playback of tape is possible if the line output of the tape-recorder or tape-deck is connected to the AUX terminals of this amplifier by use of a pin-jack lead, and the Input Selector Switch is set at the position corresponding to the AUX terminals. All operations in this case are the same as those for the playback from tuner (Page 11).

Note that when tape playback is made through the AUX terminals, the line input or AUX input terminals of the tape should be kept free. If connected to the Recording Output terminals (REC. OUT) of the amplifier, there will be possible oscillation by feed-back of signals. The same can be applied in case the AUX terminals are used for tape dubbing.

## Playback from Tape Connector

This is a DIN connector and is convenient for simple connection with a patch cord between the tape-recorder and recording/playback connectors of this amplifier. Playback from the Tape Connector is possible if the Tape Deck Selector Switch is set at the "deck-1" position. (Make certain to use DIN cord only, since the output impedance at the DECK-1 Connector terminal is kept at  $80K\ \text{ohm} \pm 20K\ \text{ohm}$  according to the DIN standard.)





# RECORDING ON TAPE

## Recording through PHONO, TUNER and AUX Terminals

In the case of playback of various program sources through input terminals of this amplifier, the same signals as those reproduced in the speakers are always available at the REC. OUT terminals (28), (30) and the Tape Connector (27) except when the Mode Selector and Tape Dubbing Switch is set at the "dub.1 to 2" or "dub.2 to 1" position. By connecting these terminals to the input terminals (AUX or LINE IN) of the tape recorder, you can enjoy simultaneous recording and playback.

At this time, if you set the Mode Selector and Tape Dubbing Switch at the "dub.1 to 2" or "dub.2 to 1" position, the signals are not fed at one of REC. OUT terminals. For example, if the Mode Selector and Tape Dubbing Switch is set at the "1 to 2" position, the signals are not fed at the REC. OUT terminal of DECK-2.

These recording signals are taken out before the tape monitoring stage, and there is no influence on Filters, Volume Control or Tone Controls, etc.

## Tape Dubbing (Reprint)

With this amplifier, tape-to-tape reprinting is possible with the Mode Selector and Tape Dubbing Switch (16). Connect the line output (LINE OUT) terminals and the line input (LINE IN, AUX) terminals of one tape recorder to the DECK-1 MONITOR and REC. OUT terminals of the amplifier. Likewise, connect the line input and output of another tape recorder to the DECK-2 terminals. Dubbing is now possible by use of the Mode Selector and Tape Dubbing Switch.

At the "1 to 2" position, the tape of DECK-1 terminals can be reprinted on the tape of the DECK-2 terminals, and vice versa at the "2 to 1" position. In this way, repetition of switching between "deck-1" or "deck-2" of the Tape Deck Selector Switch (17) allows comparison of the master tape and the reprinted tape.

When the Tape Monitor Switch (18) is set at the "out" position, you can enjoy simultaneous playback from record disc or tuner while dubbing, since the Tape Dubbing Circuit is independent of the signal paths.

## Simultaneous Playback Monitoring:

A 3-head tape-recorder ensures simultaneous playback monitoring and recording. In this case, recording on tape and playback of the recorded sound is done at the same time, and connections must be made for both functions. It is necessary to connect the REC. OUT terminals (28 or 30) to the line input terminals (AUX Input) of the tape-recorder, and the Tape Monitor terminals (29 or 31) to the output terminals (LINE OUT) of the tape-recorder.

The Tape Monitor Switch (18) is set at the "in" position and the Tape Deck Selector Switch (17) at the position corresponding to the terminals to which the tape-recorder is connected, and repetition of switching between "in" and "out" allows a comparison between the original and the recorded sound. Possible recording errors can thus be prevented. Incidentally, note that reproduction of recorded sound becomes a little delayed as compared with that of original sound since there is a gap between the recording head and the playback head.

Simultaneous playback monitoring can be made through the Tape Connector (27) as well. A single piece of DIN cord ensures connection for recording and playback on the Tape Connector. When the Tape Deck Selector Switch (17) is set at the "deck-1" position simple operation of the Tape Monitor Switch (18) between "in" and "out" is sufficient.

## Simultaneous Recording

This amplifier is provided with 2 sets of Recording Output terminals (28 or 30), enabling to record simultaneously on 2 tape recorders. When the same connection as that of "TAPE DUBBING" is done and the Mode Selector and Dubbing Switch is set at the "stereo" position, repetition of switching of the Monitor Switch (18) and Tape Deck Selector Switch (17), allows to compare the original sound with 2 recorded ones during simultaneous recording.

Note: In this case, if the Mode Selector and Dubbing Switch (11) is set at the "1 to 2" or "2 to 1" position, the signals are not obtainable at either of REC. OUT terminals.

If desired, combination recording on open-reel recorders and/or cassette recorders can be enjoyed. Moreover, if the Tape Connector (27) is used, recording on 3 tape recorders or combination is possible. This facility is useful for safe printing or effective recording, etc. As the impedance at the Recording Output Terminal is kept sufficiently low (about 300 ohms), mutual interference will be almost nil among the recorders under simultaneous recording.



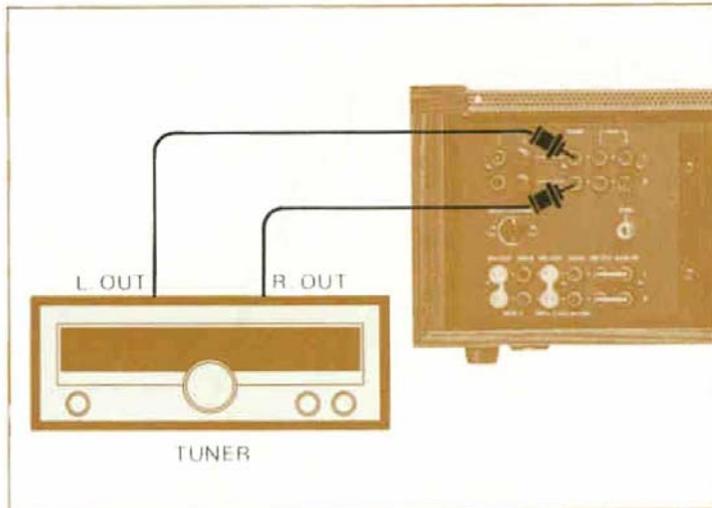
## PLAYBACK FROM TUNER

### Connection

Connect the tuner's output terminals (left and right) to either of the amplifier's AUX terminals (25) or (26) or to the Tuner terminals (24).

The Input Selector Switch (5) must be set at the corresponding position. As shown in the block diagram, the input signals from the tuner are fed directly to the input selector circuit. Afterwards, the signals trace the same blocks as are explained in the PLAYBACK FROM RECORD DISC section and are reproduced from the speaker systems.

Both for FM stereophonic and monaural broadcasting, the Mode Selector Switch should be set at the "stereo" position, for such accommodation to the input source can be made in the tuner. Modulation hum in the AM program can be eliminated by varying the distance and angle of these components,



## PLAYBACK FROM OTHER SOURCES

### Other Playback Way

The signals of flat frequency response from such sources as TV receivers do not need an equalizer stage. For playback of such audio equipments, either of the AUX terminals or the TUNER terminal can be used. Connection and operation are the same as those of AM/FM broadcasting program.

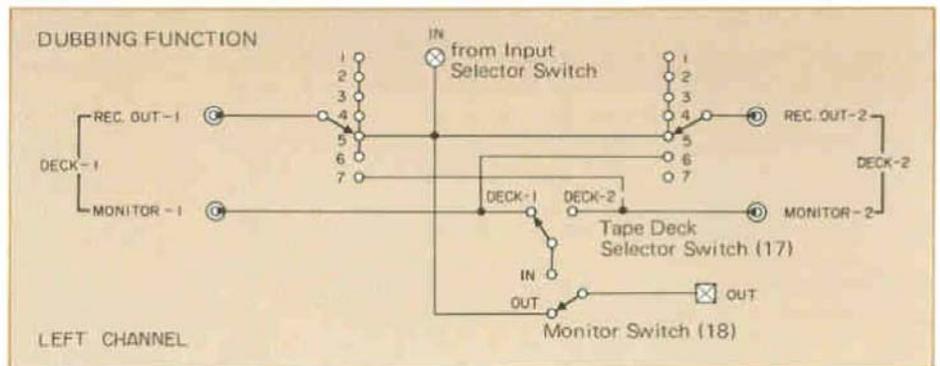
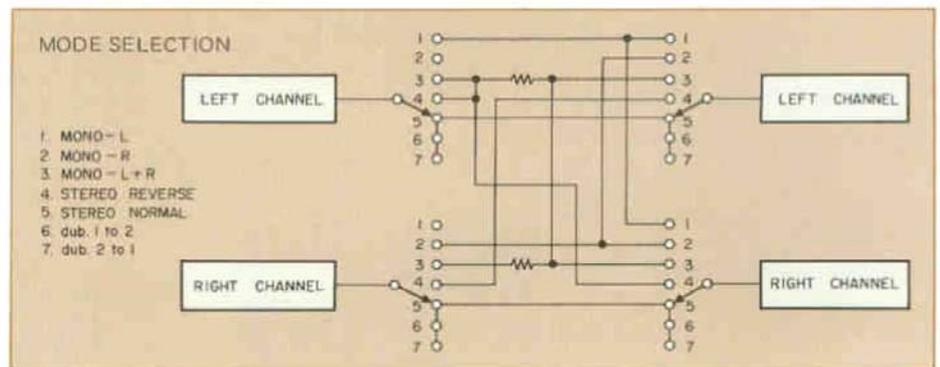


# OPERATION OF CONTROLS

## Mode Selector and Tape Dubbing Switch

This amplifier is for stereophonic reproduction and incorporates independent amplifiers for two channels (right and left). Without the Mode Selector, the signals fed to the right channel terminal are reproduced at the right channel speaker only. The Mode Selector is placed between the two amplifiers to change the mode of reproduction.

At the same time this amplifier offers tape dubbing facility with the same knob. This switch is provided with 7 positions, namely "mono L", "mono R", "Mono L + R", "stereo reverse", "stereo", "dub. 1 to 2" and "dub. 2 to 1".



## Selection of Mode

Desired reproduction mode can be selected by this switch in 5 ways; monaural or stereophonic reproduction. Note that at the "dub. 1 to 2" and "dub. 2 to 1" positions the mode is "stereo".

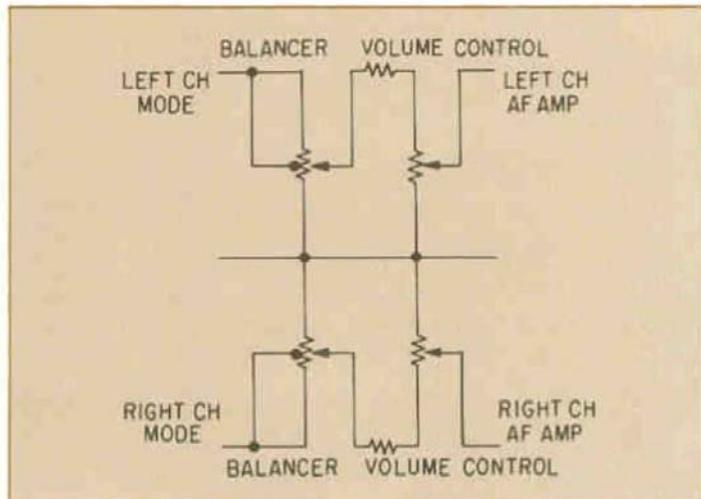
Position of Selector	Signal Path	Usage
stereo	L → L R → R	Normal stereophonic reproduction
stereo reverse	L → R R → L	To reverse right and left signal sources
mono L + R	L → L R → R	For reproduction of monaural disc with stereophonic cartridge
mono R	L → L R → R	For reproduction of monaural source
mono L	L → L R → R	For reproduction of monaural source

## Selection of Dubbing

As explained in "Tape Dubbing", tape reprinting is possible with this switch when 2 tape-recorders are connected to this amplifiers. At the "dub. 1 to 2" position the DECK-1 Monitor Terminal (29) and the DECK-2 REC. OUT Terminal (30) are connected in the inside circuit, while at the "dub. 2 to 1" the DECK-2 Monitor Terminal (31) is coupled with the DECK-1 REC. OUT Terminal (28). Thus it is made possible to reprint one tape from the other.

Note that when this switch is set at other positions than "dub. 1 to 2" and "dub. 2 to 1", the DECK-1 REC. OUT and DECK-2 REC. OUT Terminals are coupled in parallel in the inside circuit and they are disconnected from the Monitor Terminal (29) (31).

Position of Selector	Signal Path	Usage
dub. 1 to 2	dubbing MONI. 1 → REC. OUT-2	Reprint from DECK-1 to DECK-2
	Mode L → L R → R	Normal stereophonic reproduction
dub. 2 to 1	dubbing MONI. 2 → REC. OUT-1	Reprint from DECK-2 to DECK-1
	Mode L → L R → R	Normal stereophonic reproduction



## Volume Control:

The variable resistor of this control has a logarithmic curve. In the attenuation characteristics of A type, the turning angle is proportionate to the attenuation degree (dB), and the dB value and the volume audible to human ears are in the proportionate relation. In other words, the rotation of the control is in proportion to the sound volume felt by human ears. The increasing degree of volume is felt quite naturally as the control is turned in the clockwise direction.

## Audio Attenuator

This switch should normally be kept at the "normal" position. When turned to the "attenuate" position, the volume is reduced by 18dB (about 1/8 power). Useful for momentary silencing purpose at the time of answering the phone etc.,

Note that this switch should be turned at the "normal" position after use, as turning this switch from the "attenuate" to the "normal" position under high volume causes such an abrupt rise of output power as may destroy the loudspeakers.

## Balance Control:

In case deviation is felt between the volume levels of right and left channels, adjust the unbalanced volume level with this control (8). A complete turn of the control to either the clockwise or counter-clockwise direction causes a cut off of the volume of the other speaker. 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 speakers. Usually at the mid position with a click stop, the volume of both channels is adjusted to the same level.

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 high fidelity reproduction of program sources. The reproduction and acoustic conditions do not always match with recording conditions, and it is impossible to reproduce the same sound as the original. Also, there is no objective standard to judge a good sound from an 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 a facility to permit flexible controls for creation of the best sound.

This amplifier is equipped with the LUX original NF type turn-over (roll-off) with frequency selector for subtle and minute control of the reproduced sound. Tone controls include Bass Level Control, Bass Frequency Selector, Treble Level Control and Treble Frequency Selector.

If the Frequency Selectors are set at the "defeat" position, flat frequency response is obtained regardless of the position of the level controls. After setting the Frequency Selectors at the appropriate position and controlling the levels as desired, you can again obtain flat frequency response by resetting the Frequency Selector Switch at the "defeat" position; controlled tone and flat tone can be easily recognized.

The Bass Frequency Selector has three positions: 150Hz, 300Hz and 600Hz. From the position selected, Bass Level Control begins to function. In other words, turn-over (roll-off) of a lower frequency range below the frequency which has been selected can be controlled by the Bass Level Control. The controllable range is wider by 150Hz, 300Hz and 600Hz respectively.

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The Bass Level Control, which functions in conjunction with the Bass Frequency Selector, is a tone control of the lower range of the frequency response. It is designed so that response is flat at the mid-position. A clockwise turn boosts the low frequency range, while a counter-clockwise turn yields attenuation. For easy adjustment, the control is equipped with 11 click-stops.

This control is of dual concentric construction, and usually both channels are controlled simultaneously. Separate control of either channel is possible if one axis is turned while the other is held by hand. The inner axis is for the left channel and the outer axis is for the right channel.

These same descriptions are applicable to the Treble Level Control and the Treble Frequency Selector. The Treble Frequency Selector has 3 positions: 6KHz, 3KHz and 1.5KHz (controllable range is wider in this respective order). Treble control begins to function from the position that is selected. This control also has 11 clickstops, and a clockwise turn boosts the high frequency range. It is of dual concentric construction like the Bass Level Control.

For details of these tone controls' characteristics, refer to the attached standard curves.

#### Low Cut Filter:

When this switch is moved up to the "low cut" position, the low frequencies you hear are cut off below 30Hz at the rate of  $-6\text{dB/Octave}$ . Thus, it is useful for removing low frequency noise such as rumbling of the phono motor. It can also be used as an auxiliary control for Bass Level Control.

#### High Cut Filter:

When this switch is moved up to the "high cut" position, the high frequency range over 8KHz is cut off at the attenuation rate of  $-6\text{dB/Octave}$ . Thus, it is useful for removing scratch or hissing noise and can also be used as an auxiliary control for Treble Level Control.

#### Operation of Low Booster:

When this switch is set at the "low boost" position, the low frequency range below 70Hz is boosted up to  $+70\text{dB}$  at 20Hz. This circuit, effective only on the extreme low frequency range, allows flexible and versatile tone adjustment in addition to other tone controls.

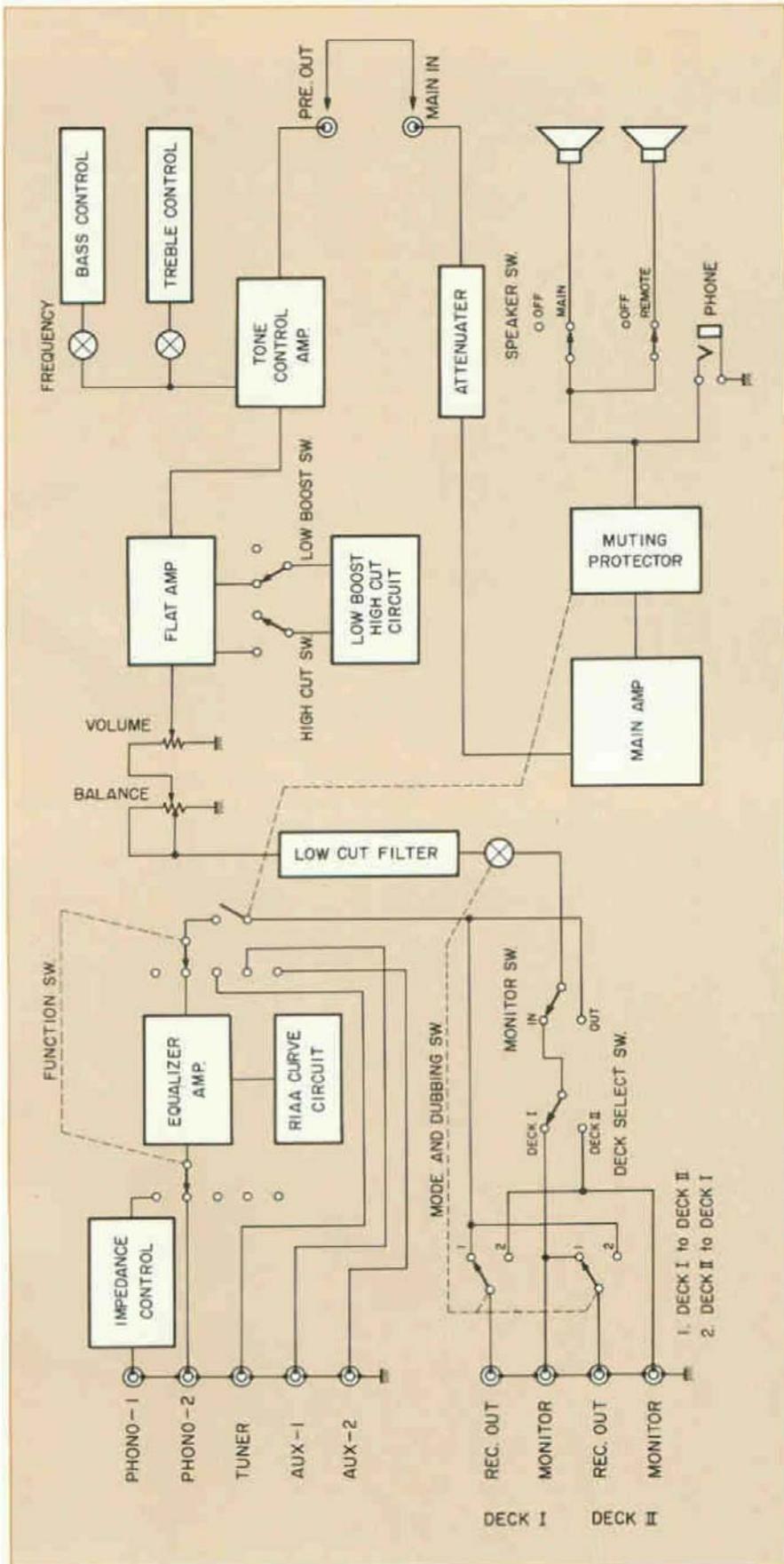
For instance, probable rise-up in a small room of approximately  $10\text{m}^2$  in the neighbourhood of 150 to 200Hz can be subdued with this control by lowering the bass level at the 300Hz position on the Bass Frequency Selector. This process can suppress such unnecessary rise-up without spoiling the response at the extreme low frequency range. Moreover, when the human voice sounds unnaturally stout, it can be adjusted to a clear, natural voice by switching on this booster and cutting the low frequency range a small extent with the Bass Level control.

#### Input Impedance Adjust:

The PHONO-1 input terminals are coupled with Impedance Adjuster. Except for a special low impedance type cartridge, almost all currently marketed cartridges of MM-type specify recommended load impedance of about 50Kohms. It is known that variation of the load impedance value affects the frequency response to a great extent. Note that a low load impedance cuts treble output, while a high load impedance causes a peak in the treble range. The degree of such effect is not the same with different cartridges, but generally a cartridge having a higher output impedance tends to be more delicately influenced. It is therefore necessary that selection of a proper input impedance is made with this adjustor. The adjustment of Input Sensitivity is done by a potentiometer, and free adjustment is feasible between 30Kohms and 100Kohms. Each position of the 30Kohms, 50Kohms and 100Kohms has click-stop for easy identification.



# BLOCK DIAGRAM

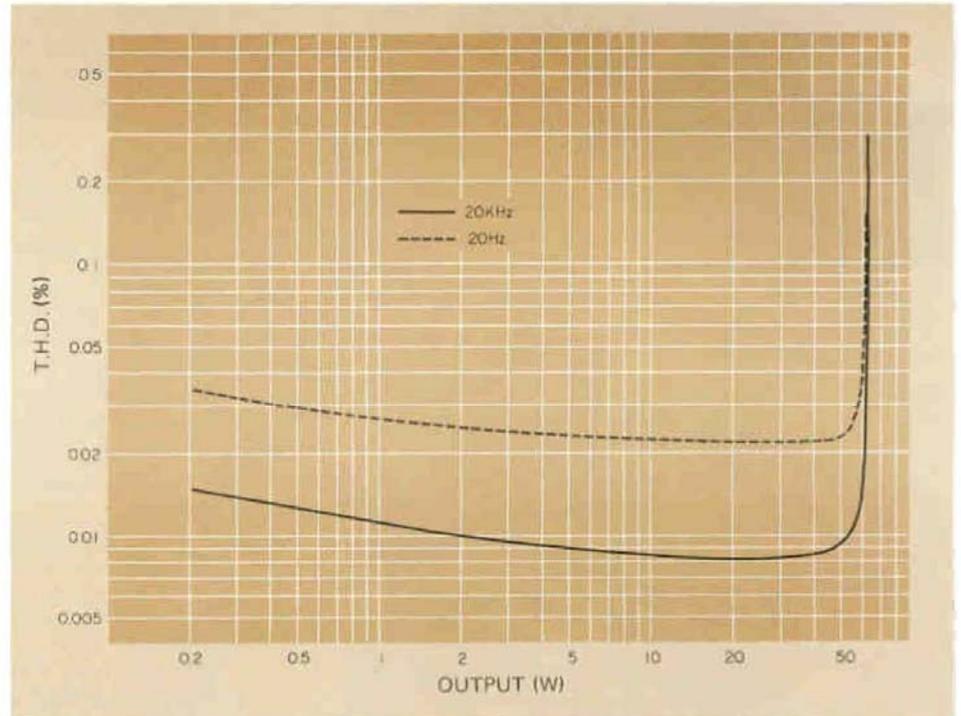




# STANDARD CURVES

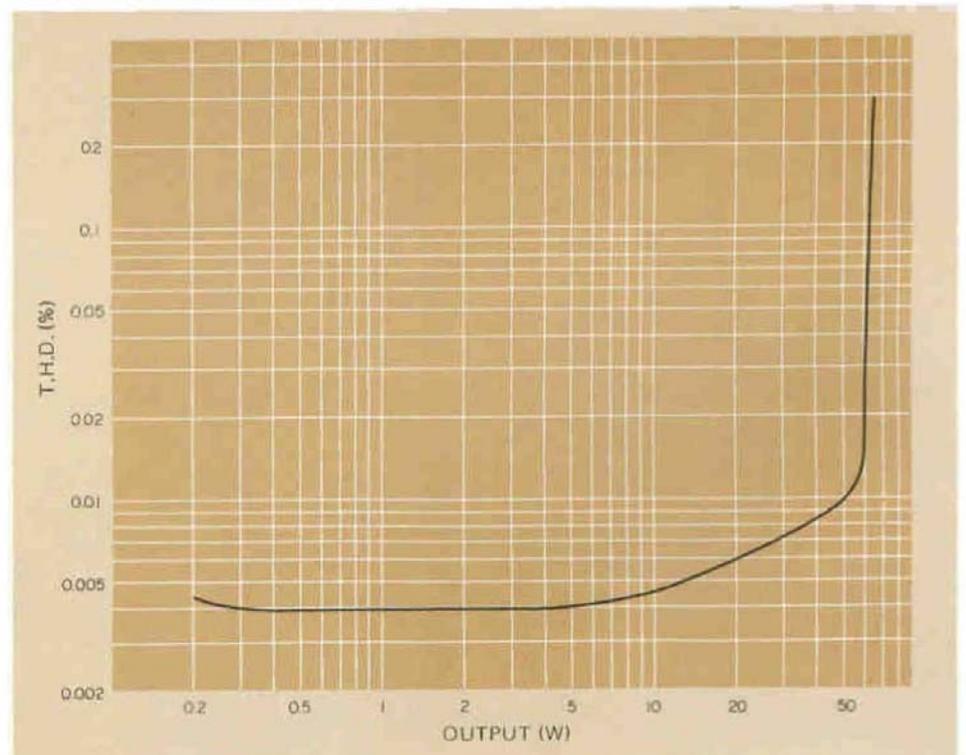
## T.H.D. Vs POWER

(input : MAIN IN, 8-ohm, both-ch driven)



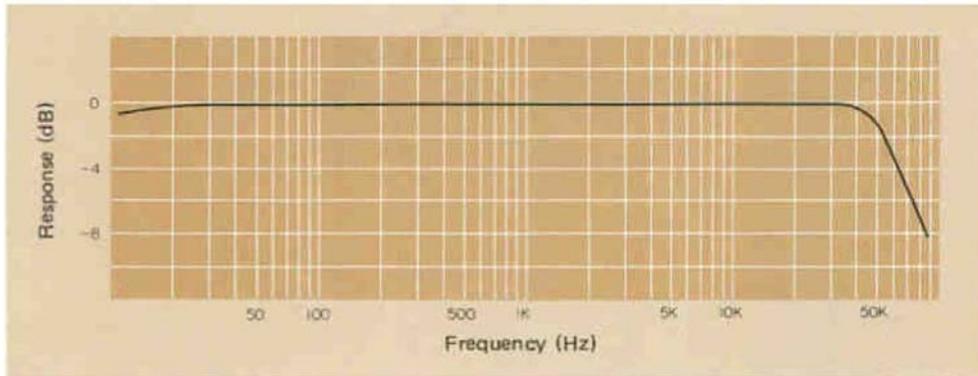
## I.M.D. Vs POWER

(input , MAIN IN, 60Hz : 7KHz = 4 : 1)



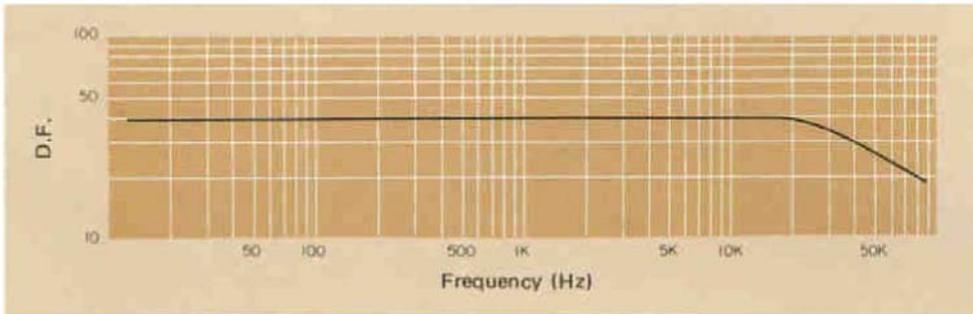
### POWER BANDWIDTH

(8 ohm, 0dB, 55W)



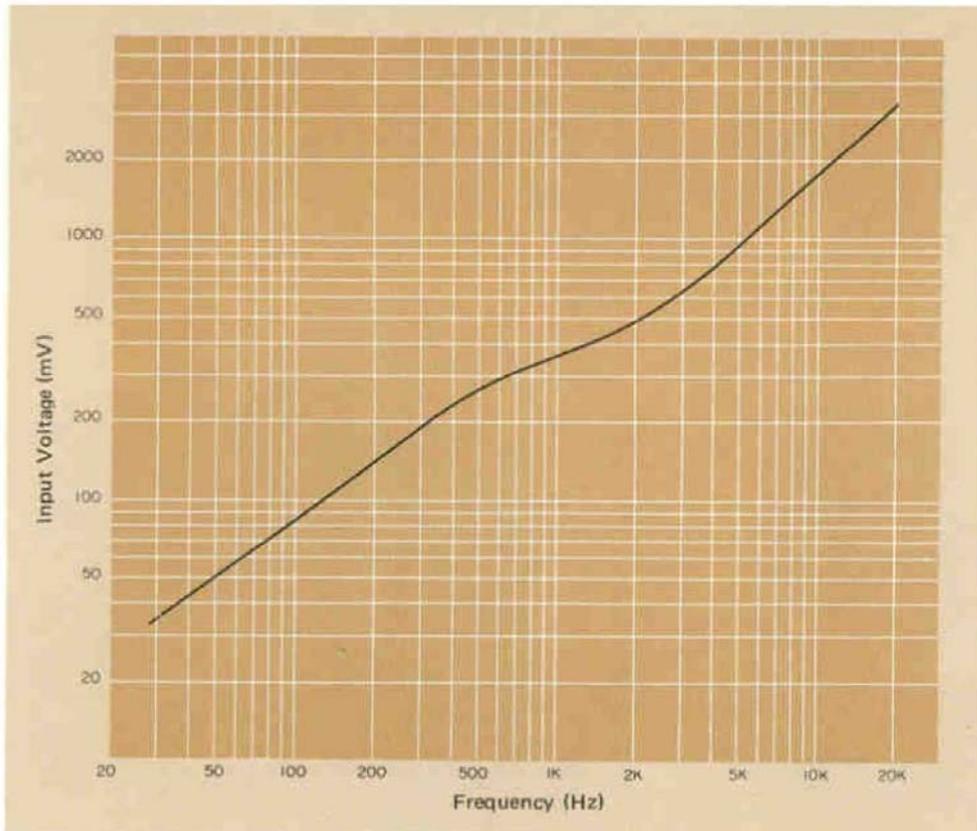
### DAMPING FACTOR

(8-ohm, 1W)



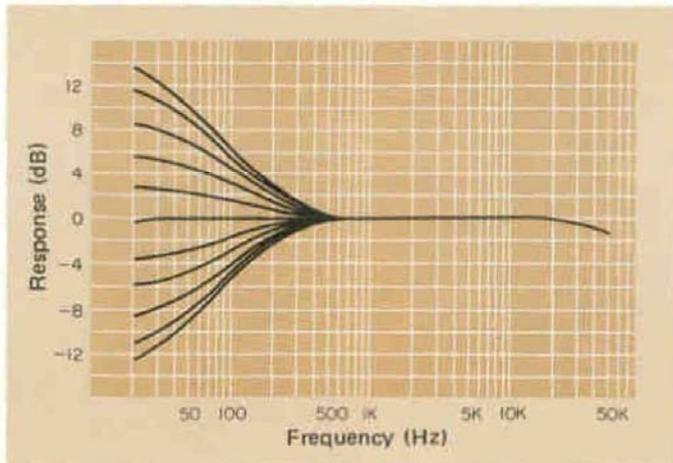
### PHONO INPUT VOLTAGE vs. FREQUENCY

(input : phono-1, output : rec. out)



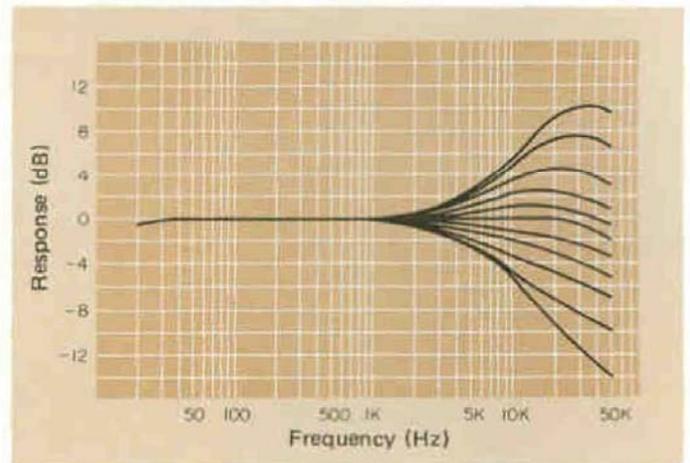
**BASS TONE CONTROL**

Turnover (Roll-off) Frequency: 150Hz



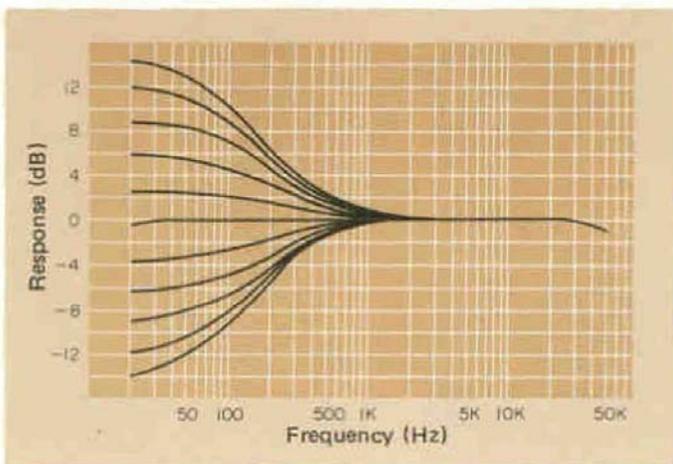
**TREBLE TONE CONTROL**

Turnover (Roll-off) Frequency: 6 KHz



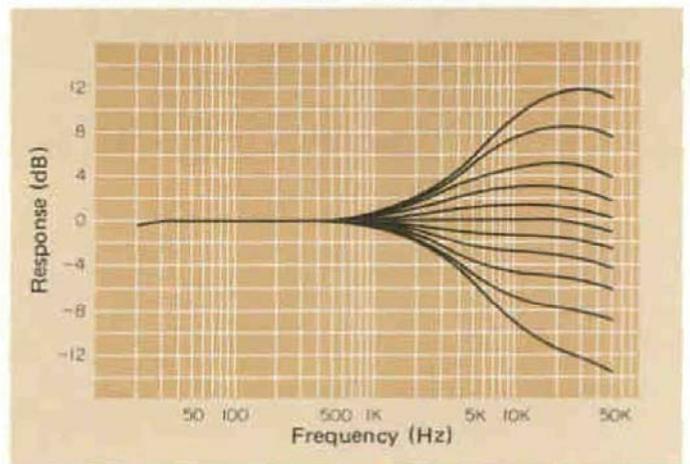
**BASS TONE CONTROL**

Turnover (Roll-off) Frequency: 300 Hz



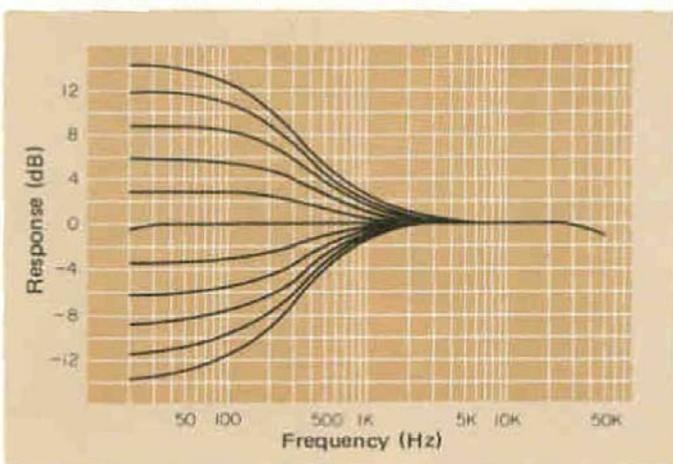
**TREBLE TONE CONTROL**

Turnover (Roll-off) Frequency: 3 KHz



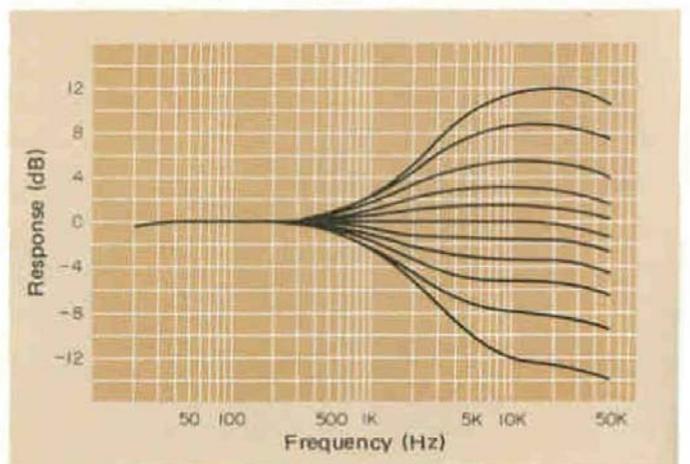
**BASS TONE CONTROL**

Turnover (Roll-off) Frequency: 600 Hz



**TREBLE TONE CONTROL**

Turnover (Roll-off) Frequency: 1.5KHz





# SPECIFICATION

## [ AUDIO SECTION ]

Power Output:	55 watts minimum continuous per channel, both channels driven into 8-ohm loads at any frequency from 20Hz to 20,000Hz with no more than 0.03% total harmonic distortion
Rated I.M.:	no more than 0.03% (8-ohm, 55W/ch, 60Hz : 7KHz = 4:1)
Frequency Response:	10Hz - 60,000Hz (-1 dB)
Input Sensitivity:	550 mV
Input Impedance:	50K ohms
Residual Hum and Noise:	no more than 0.5 mV
Damping Factor:	40 (8-ohm loads)
Additional Features:	Audio Attenuator (-18dB), Speaker Switches, Headphone Jack, Extra AC Outlets

## [ PRE AMP. SECTION ]

Output Voltage:	550mV (pre. out, rated), 150mV (rec. out)
Output Impedance:	300-ohm (pre. out), 300-ohm (rec. out)
T.H.D.:	no more than 0.03% (1KHz, 1V, input; aux-1)
Input Sensitivity:	2.5mV (phono-1 and 2) 150mV (tuner, aux-1 and 2, monitor-1 and 2)
Input Impedance:	30Kohms - 100Kohms (phono-1, variable) 50Kohms (phono-2, tuner, aux-1 and 2, monitor-1 and 2)
S/N Ratio:	better than 62dB (phono-1 and 2) better than 80dB (tuner, aux, monitor)
Crosstalk:	-60dB (phono-1 and 2) -65dB (tuner, aux-1 and 2)
Phono Overload Voltage:	300mV (phono, 1KHz, RMS)
Tone Control:	LUX NF type with turnover selector Bass turnover frequency: 600Hz, 300Hz, 150Hz, defeat Treble turnover frequency: 1.5KHz, 3KHz, 6KHz, defeat
Filters:	Low Cut; 30Hz (-6dB/oct.) High Cut; 8KHz (-6dB/oct.)
Low Boost:	70Hz (+6dB/oct.)
Additional Features:	Tape Monitor Circuit, Dubbing Circuit, Input Impedance Adjuster (phono-1), Tape Connector
Power Consumption:	200W (8-ohm, both channels driven, max. output)
Dimensions:	450(W) x 268(D) x 160(H) mm (17-3/4" x 10-9/16" x 6-5/16")
Weight:	Net 11.5Kgs (25.35 lbs.) Gross 13.5Kgs (29.70 lbs.)

Specification and appearance design subject to possible change without notice.

# LUX CORPORATION, JAPAN

1-8-31 NAGAHASHI, NISHINARI-KU, OSAKA

PHONE: 632-0031 CABLE: LUXELECT OSAKA TELEX: J63694