L-55A

DUO-BETA CIRCUIT 80W+80W DC INTEGRATED AMPLIFIER

Owner's Manual

LUX CORPORATION, JAPAN

CONTENTS

- SWITCHES & TERMINALS 2– 5
- CONNECTION & OPERATION OF RECORD PLAYER & TUNER 6– 7
- CONNECTION & OPERATION OF TAPE DECK 8– 9
- OPERATION OF CONTROLS 10–12
- BEFORE CONSULTING A SERVICE SHOP 13
- BLOCK DIAGRAM 14
- STANDARD CURVES 15
- SPECIFICATIONS 16

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

Thank you for purchasing one of our quality products, the LUXMAN L-55A. With natural care, it will give you many years of outstanding performance and personal delight. Please read this Owner's Manual carefully before operating the unit. The first section diagrams the various controls, connections and summarizes their operation. Keep it handy for quick and convenient reference. The second section gives detailed descriptions and operating procedures for the electronic and mechanical components of the L-55A. Again, thank you for your selection, and may "good listening" be your daily pleasure.

Switches & Controls

(1) AC Power Switch

Press alternately to switch on and off. First, the Pilot Lamp (2) lights up when the switch is depressed, and then the time delay muting circuit is turned on in about 8 seconds, putting the amplifier into perfect operational condition.

(2) Pilot Lamp

Press in the AC Power Switch (1), and this lamp lights up, which shows that the electric current is on.

(3) Input Selector Switch

This switch allows you to select desired program source: you may select either of 4 positions (tuner, phon, aux-1, and aux-2). The "tuner" position corresponds to the "TUNER" Terminal (23), the "aux-1" to the "AUX-1" Terminal (24), the "aux-2" to the "AUX-2" Terminal (25) on the rear panel. The "phono" position is coupled with the Phono Selector Switch (4) and corresponds to the "PHONO(MM, MC-1)" Terminal (21) and the "PHONO(MC-2)" Terminal (22).

(4) Phono Selector Switch

This switch is made to function when the Input Selector Switch (3) is set to the "phono" position. In the "MM" position, reproduction of the MM-type cartridge connected to the terminal (21) is feasible. At this time, the input sensitivity is 1.5mV and the input impedance is 50k ohms. In the "MC-1(direct)" position, reproduction of high output type MC cartridge connected to the terminal (21) is possible. While, in the "MC-2" position, low output MC cartridge connected to the "PHONO(MC-2)" Terminal (22) can be reproduced. In this case, the buit-in MC head amplifier operates to provide automatically an optimum gain for the cartridge according to its impedance. In case the impedance of a cartridge is 40 ohms, the input sensitivity is 0.15 mV, while it becomes 0.05mV when the impedance is 2 ohms.

For details, refer to the "Operation of Phono Selector Switch".

(5) Volume Control

A clockwise turn of the knob increases volume, while counter-clockwise rotation decreases and finally cuts it off. Note that a time-delay muting circuit is incorporated in the output stage to eliminate shock noises or thumps at the time of on/off operation of the AC Power Switch.

Therefore if the volume control is left increased, loud sound may suddenly comes out when power is turned on, and it is recommended that you set the volume control to the counter-clockwise position before operating this unit.

For details refer to the "Operation of Volume Control".

(6) Balance Control

The colume balance between right and left channels can be adjusted by this control. Turn it clockwise from the center click stop position, and the volume level of the left channel is reduced. Conversely, a counter-clockwise turn causes decrease of volume at the right channel.

For details refer to the "Operation of Balance Control".

(7) Tape Monitor Switch

In the "tape-1" position reproduction of a tape deck is feasible from TAPE-1 MONITOR Terminal (27). Likewise the "tape-2" position permits reproduction from the TAPE-2 MONITOR Terminal (29).

Note that when the Tape Monitor Switch is set either at the "tape-1" or the "tape-2" position, playback is not possible from other sources than tape deck. Therefore, set it to the "source" position for all other playback modes.

(8) TAPE-1 Dubbing & REC. OFF Switch

This switch selects recording mode of the tape deck connected to the TAPE-1 REC. OUT Terminal (28). When the lever is in the "source" position, signals applied to the input terminals PHONO, TUNER, AUX are always available at the TAPE-1 REC. OUT Terminal (28).

In the "from-2" position, the TAPE-1 REC. OUT Terminal (28) is connected to the TAPE-2 MONITOR Terminal (29), and the program source reproduced by the tapedeck-2 can be recorded on tapedeck-1. In other words, tape dubbing (reprinting) is possible from tapedeck-2 to tapedeck-1.

When it is set to the "rec. off" position the TAPE-1 REC. OUT Terminal (28) is completely isolated from the amplifier.

NOTE: When the switch is set to the "from-2" position, and the TAPE-2 Dubbing Switch (9) is set to the "from-1" position at the same time, there may be possible oscillation due to the loop made through tapedeck. Therefore, in this case, the unit is so designed as to activate the TAPE-1 Dubbing & REC. OFF Switch.

(9) TAPE-2 Dubbing & REC. OFF Switch

This switch selects recording mode of the tape deck connected to the TAPE-2 REC. OUT Terminal (30). Functionwise, this is the same as that of the Switch (8).

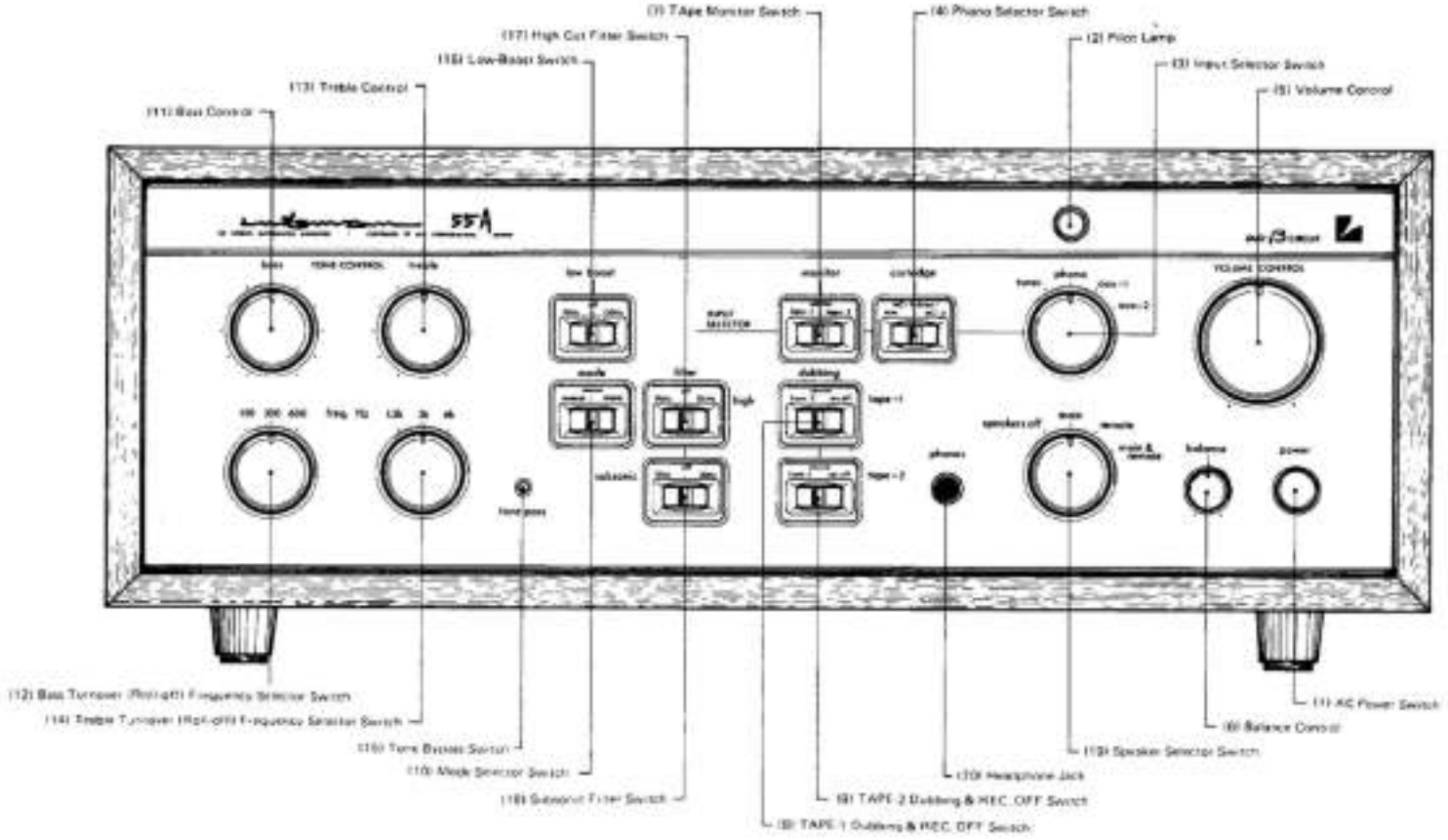
In the "source" position, signals applied to each input terminal can be recorded on tapedeck-2. In the "from-1" position, tape dubbing is possible from tapedeck-1 to tapedeck-2.

In the "rec. off" position, the TAPE-2 REC. OUT Terminal (30) is disconnected from the amplifier.

For details, refer to the "About REC. OFF position".

(10) Mode Selector Switch

Reproduction mode can be selected by this switch. Three positions are provided: stereo, mono and reverse.



For details, refer to the "Selection of Mode".

(11) Bass Control

A clockwise turn of the control boosts the bass response, and a counter-clockwise turn decreases it. The turnover frequency can be selected by the Bass Turnover Frequency Selector Switch (12) among 150Hz, 300Hz and 600Hz.

For details, refer to the "Operation of Tone Control".

(12) Bass Turnover (Roll-off) Frequency Selector Switch

Bass turnover frequencies are selected with this switch. When the desired frequency (150Hz, 300Hz or 600Hz) is selected, lower frequencies than the selected one can be controlled by the Bass Control (11).

(13) Treble Control

A clockwise turn of this knob boosts the treble response, while a counter-clockwise turn decreases the treble. The turnover frequency can be selected by the Treble Turnover Frequency Selector Switch (14) among 1.5kHz, 3kHz and 6kHz.

(14) Treble Turnover (Roll-off) Frequency Selector Switch

Treble turnover frequencies are selected with this switch. When the desired frequency (1.5kHz, 3kHz or 6kHz) is set by this switch, higher frequencies than the selected are can be controlled by the Treble Control (13).

(15) Tone Bypass Switch

This switch is provided to cut off the tone control functions (11)(12) (13) and (14) when they are not necessary. The tone control function operates when the knob is in the "protruded" position. It is bypassed to provide flat frequency response when the button is depressed.

(16) Low-Boost Switch

The low-boost circuit operates in conjunction with the Volume Control (5) to compensate for low frequency range according to the sound level. In the "70Hz" or "150Hz" position, lower frequencies than the selected one are boosted according to the sound level set by the Volume Control (5). The maximum boost level is +4dB. When the switch is set to the "off"

position, the low-boost circuit does not operate.

(17) High Cut Filter Switch

This switch removes high frequency noises. When it is set to the "9kHz" or "15kHz" position, such noises in higher frequencies than the selected one can be effectively eliminated. In the "off" position, the high cut filter circuit does not operate.

For details, refer to the "Operation of High Cut Filter".

(18) Subsonic Filter Switch

This filter removes ultra low frequency noises. When the lever is set to the "15Hz" or "30Hz", noises in lower frequencies than the selected one can be effectively removed. In the "off" position, the subsonic filter circuit does not operate.

For details, refer to the "Operation of Subsonic Filter".

(19) Speaker Selector Switch

Two pairs of speaker systems can be connected to the L55A. This switch selects the speaker systems connected to the two speaker terminals on the rear panel. In the "main" position, the MAIN SPEAKERS Terminal (34) operates, while in the "remote" position, the REMOTE SPEAKERS Terminal (35) operates. When the switch is set to the "main & remote" position, the Terminal (34) and (35) operate at the same time. Note that when you drive both of the speaker systems at the same time, the impedance of each system should exceed 8 ohms. In the "speakers off" position, both of the terminals do not operate.

(20) Headphone Jack

You can enjoy private listening when the plug of stereo headphone is inserted to this jack. In this case, reproduction from speaker system is still feasible. Therefore, when you want reproduction from headphone only, set the Speaker Selector (19) to the "speaker off" position.

(21) PHONO (MM, MC-1) Terminal

An MM type cartridge or a high output type MC cartridge can be connected to this terminal. The input sensitivity is 1.5mV, and the input impedance is 50k ohms when the Phono Selector Switch (4) is set to the "MM" position. It is 100 ohms when the selector is in the "MC-1" position.

(22) PHONO (MC-2) Terminal

A low output type MC cartridge can be connected to this terminal. The L55A is provided with built-in MC head amplifier which automatically controls the gain according to the impedance of the cartridge connected. In case the impedance of the cartridge is 40 ohms, the input sensitivity is 0.15mV, while it becomes 0.05mV when the impedance is 2 ohms.

(23) TUNER Terminal

This terminal is for playback of a tuner (AM/FM/LW/SW). Input sensitivity is 220mV, and the input impedance is 20k ohms.

(24) AUX-1 Terminal

This terminal is an auxiliary input terminal for playback of such program sources as AM/FM tuner, line output of tape recorder, or audio output of TV receiver. The input sensitivity is 220 mV and the input impedance is 20k ohms.

(25) AUX-2 Terminal

This terminal functions in the same way as the AUX-1 Terminal (24). The input sensitivity is 220mV, and the input impedance is 20k ohms.

(26) Earth Terminal (GND)

Connect the earth (ground) lead wire of a record player (from motor or pick-up arm) or graphic equalizer. Especially when A/B listening test is conducted with many amplifiers, common grounding is effective in removing shock noises at the time of switching. Further, in case it is possible to ground-(earth) this terminal, the signal to noise ratio can be improved.

(27) TAPE-1 MONITOR Terminal

The line output of a tape recorder is reproduced via this terminal. This is put into operation when the Tape Monitor Switch is set to the "tape-1" position. The input sensitivity is 220 mV, and the input impedance is 20k ohms.

(28) TAPE-1 REC. OUT Terminal

A recording output signal is taken from this terminal, which is always available when an input signal is applied to either of the input terminals. The output level is 220mV, and the output impedance is 220 ohms.

(29) TAPE-2 MONITOR Terminal

This terminal functions in the same way as the TAPE-1 Monitor Terminal (27). The input sensitivity is 220mV, and the input impedance is 20k ohms.

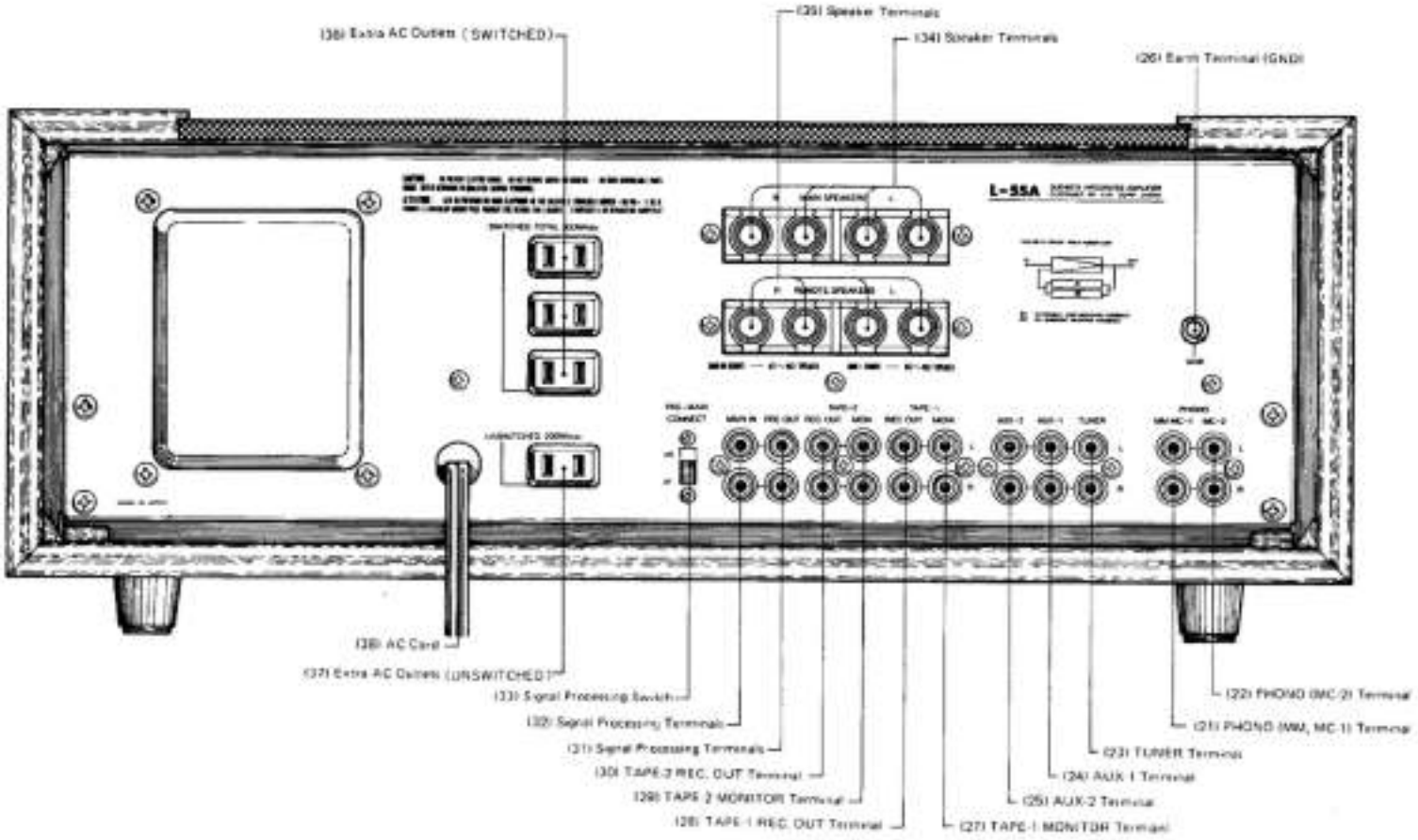
(30) TAPE-2 REC. OUT Terminal

This terminal offers the same function as the TAPE-1 REC. OUT terminal. The output level is 220mV, and the output impedance is 220 ohms.

(31) (32) Signal Processing Terminals

The output of the preamplifier section can be taken from the terminal (31). This terminal is useful for connecting such audio peripheral equipments as Noise Reduction System, Graphic Frequency Equalizer, Electronic Crossover Network for multi-channel system etc., not to mention of another power amplifier. The output level is 220mV, and the output impedance is 220 ohms.

In case you want to adopt 3-Dimensional System, you can take out pre-amplifier output with the



PRE. OUT terminal kept connected with the MAIN-IN terminal.

The output of the audio equipments described above can be connected to the MAIN-IN Terminal (32). Or when you want to use only the power amplifier section of the L55A, outputs of another control amplifier can be connected. The input sensitivity of this Terminal (32) is 220mV, and the input impedance is 820k ohms.

(33) Signal Processing Switch

This switch isolates the preamplifier from power amplifier when it is set to the "off" position. While, in the "on" position the preamp section is connected to the power amp section to be an integrated amplifier.

Normally, this switch is fixed by a crescent-shaped stopper to prevent unexpected movement. Therefore, when you use the preamp section and power amp section separately, loosen the fixing screw of the stopper and slide the switch to the "off" position.

(34)(35) Speaker Terminals

Connect speaker systems to these two terminals (34)(35). These are coupled with the Speaker Selector Switch (16), which has to be set at the very position corresponding to the terminals to which the speaker systems are connected. The Terminal (34) is for Main Speaker system and the Terminal (35) is for Remote Speaker system. Red terminal is for (+), while black for (–).

(36)(37) Extra AC Outlets

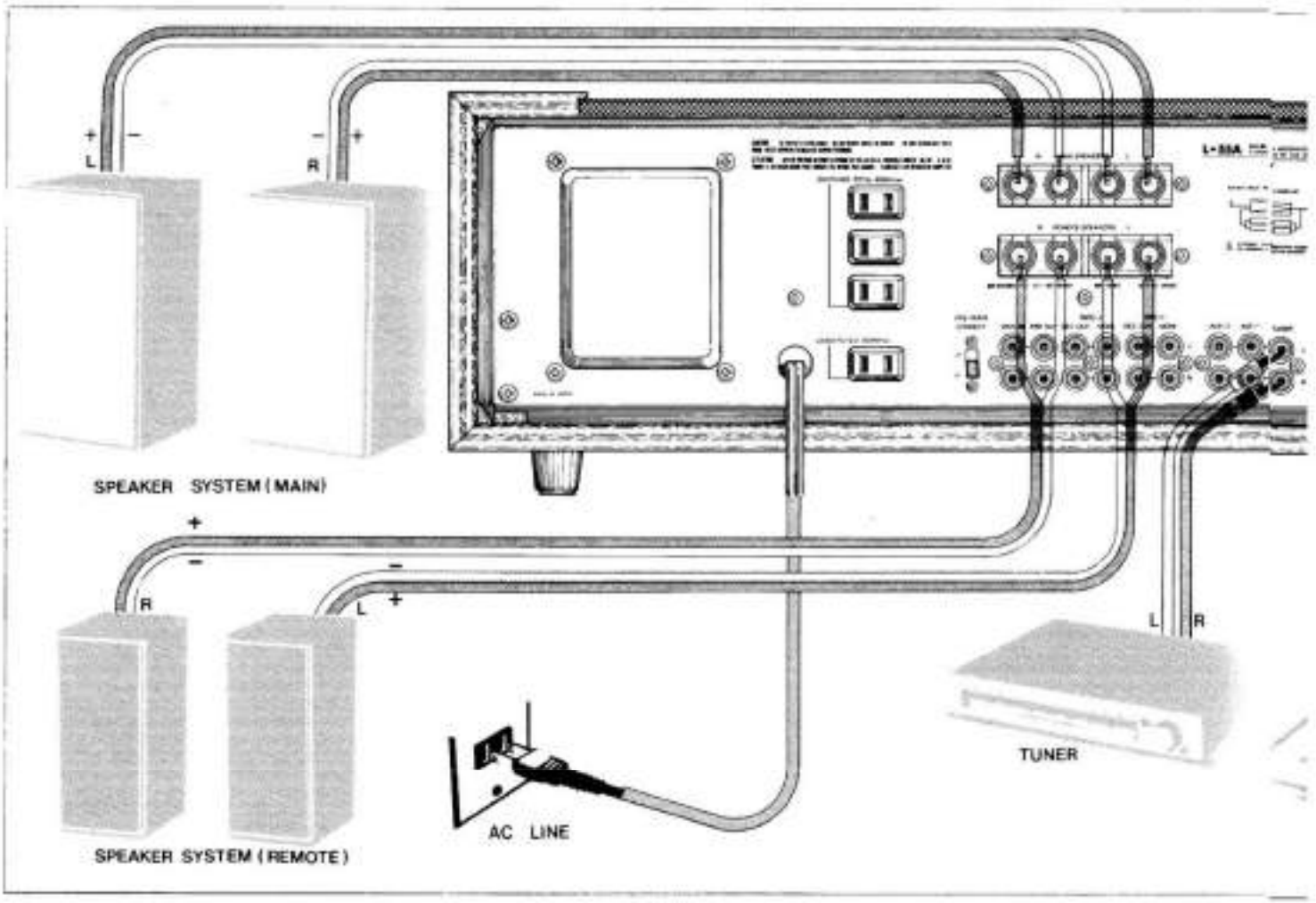
These outlets are convenient for supply of the AC power to other annexed audio components such as record player or tape recorder.

The UNSWITCHED terminal is independent of the AC Power Switch of the L55A where the AC power is always available, while the SWITCHED one is coupled with the AC Power Switch and supply of the AC power depends on the AC Power Switch. The maximum capacity of the SWITCHED outlets are 300W in total, and that of the UNSWITCHED one is 200W.

(38) AC Cord

For operation of the L55A, the AC plug attached to this cord should be connected to the AC power supply point in your listening room.

Connection Procedure



Connection of Record Player

A record player is provided wtih two pin plug cords for L-ch and R-ch. Connect the pin-plugs to the PHONO (MM, MC-1) Terminal (21) or to the PHONO(MC-2) Terminal (22) according to the type of your cartridge. [MM-type or high output MC cartridge is connected to the Terminal (21), Low output MC cartridge to the Terminal (22).] Most of record players have earth leads from phono-motor or tonearm, and connect it to the GND Terminal (26) of the L55A. The AC cord of the player can be connected to the Extra AC Outlet (UNSWITCHED) (37) or to the AC power supply point in your listening room.

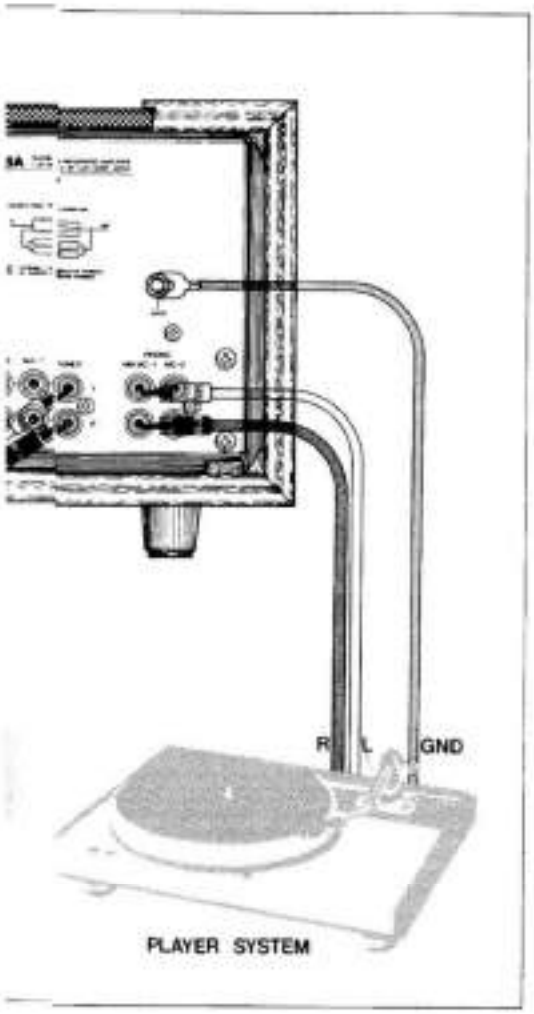
Connection of Tuner

Connect the output jack of a stereo tuner to the TUNER Terminal (23) by use of two pin-plug cords for both left and right channels correctly. Reproduction of a tuner can also be possible from the AUX Terminals (24)(25).

The AC Cord can be connected to the Extra AC Outlet (SWITCHED) (36). Turn on the power switch of the tuner, and on/off operation of the AC Power Switch of the L55A is common to that of the tuner.

Connection of Speaker Systems

Stereophonic sound playback is made by a pair of speaker systems for the right and left channels. The left-hand side speaker viewed from the listening side must be connected to the left channel output terminal and the right-hand side speaker to the right channel output terminal. If correct phase matching in the speaker connection is not established, phase of sound waves coming from the two speakers are deviated and normal stereo playback is not possible. The "correct" phase matching of the right and left channel speakers means connection of the (+) output terminals with the (+) speaker terminals and the (–) output terminals with the (–) speaker terminals. When the connection is reversely made between the two



PLAYER SYSTEM

speakers, phases of sound waves or the two speakers are reversed resulting in abnormal sound waves from the two speakers (such as subdued bass frequency range, unstable sound, etc.)

To connect the speaker cables to these terminals, observe the following procedure so that the leads may not be short-circuited: Strip off the PVC shield at the end of the cable for approximately 10mm (1/3") to expose the core leads. Twist the leads. Caution is necessary not to break the leads during this practice. Then turn the knobs on the output terminals counter-clockwise to loosen the terminal holes. Insert the (+) and the (–) leads into the corresponding terminal holes. Then turn the knobs clockwise to clamp the leads.

Speaker cord is not supplied with the L55A. It is advisable to use stout speaker cords of good quality and use them as short as possible even in case you use other speaker cords.

Connection of AC Power Supply Source

First, check that the AC Power Switch (1) is in the "protruded" (off) position. Plug the AC Cord of the L55A into the power supply source in your listening room.

Operation Procedure

1) Press in the AC Power Switch and the Pilot Lamp lights up. Approximately 8 seconds later, the time-delay muting circuit is turned on and the entire circuitry is put into operational condition.
2) Set the Input Selector Switch (3) to the position corresponding to the terminal to which the desired program source is connected. In the case of playback of record disc, set the selector to the "phono" position, and then select the Phono Selector Switch (4) to the position corresponding to the cartridge you use. For reproduction of a tuner, set the Input Selector Switch (3) to the "tuner" position.
3) Set the Speaker Selector Switch (19) to the position corresponding to the terminals to which the desired speaker system is connected. If the speaker system is connected to the terminal (34), set the selector to the "main" position, while when it is connected to the terminal (35), set the selector to the "remote" position.
4) This completes the preparation. Now, gradually turn the Volume Control (5) clockwise from the extreme counter-clockwise position, and playback from the speaker system is feasible. When there is no sound playback, check if the Input Selector (3), Phono Selector (4) or the Speaker Selector is correctly positioned. Also check if the Tape Monitor Switch is in the "source" position. Then, check if the volume levels on both right and left speakers are identical. If different, adjust them with the Balance Control (6). For stereo playback, set the Mode Selector Switch (10) to the "stereo" position.

Connection & Operation of Tape Deck

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 a Tape Monitor terminal (27) or (29). Set the Tape Monitor Switch to the position to which the required tape deck is connected.

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

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 terminal of this amplifier by use of a pin-jack lead, and the Input Selector Button "aux" is depressed. All operations in this case are the same as those for the playback from tuner.

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 feedback of signals.

Recording on Tape:

In the case of playback of various program sources through input terminals of this amplifier, the same signals are always available at the REC. OUT terminals.

Note that when the Dubbing & REC. OFF Siwtch (8)(9) is set to the "rec. off" or "from 1" position, program source is not available at the corresponding REC. OUT Terminals (28)(29).

By connecting these terminals to the input terminals (AUX or LINE IN) of the tape deck, you can enjoy simultaneous recording and playback. These recording signals are taken before the tape monitoring stage, and there is no influence of the Filters, Volume control, etc. as far as the quality of the recorded signal is concerned.

Simultaneous Recording:

This amplifier is provided with 2 sets of Recording Output terminals (28, 30)., enabling to record simultaneously on 2 tape recorders. Take the same connection procedures as that of "Recoding on Tape".

When each Dubbing & REC. OFF Switch (8)(9) is set to the "rec. off" position, the corresponding REC. OUT terminals (28)(29) are completely isolated from the amplifier circuitry.

Note that when recording of program source is required, set the switches (8)(9) to the "source" position.

Tape Dubbing (REPRINTING)

With this amplifier, it is possible to reprint from one tape-recorder to another. Connect the line output terminals and the line input (or AUX) terminals of one tape-recorder to the TAPE-1 Monitor and REC. OUT terminals of the amplifier respectively. Likewise, coonect the line input and output of another tape-recorders to the TAPE-1 and TAPE-2 Terminals.

Dubbing is now possible by use of the Tape Dubbing & REC. OFF Switch. In the "from-1" position of the TAPE-2 Dubbing & REC. OFF Switch (9), the signals of TAPE-1 can be reprinted on the tape of the TAPE-2 terminals. In the "from-2" position of the TAPE-1 Dubbing & REC. OFF Switch (8), the signals of TAPE-2 can be reprinted on the TAPE-1.

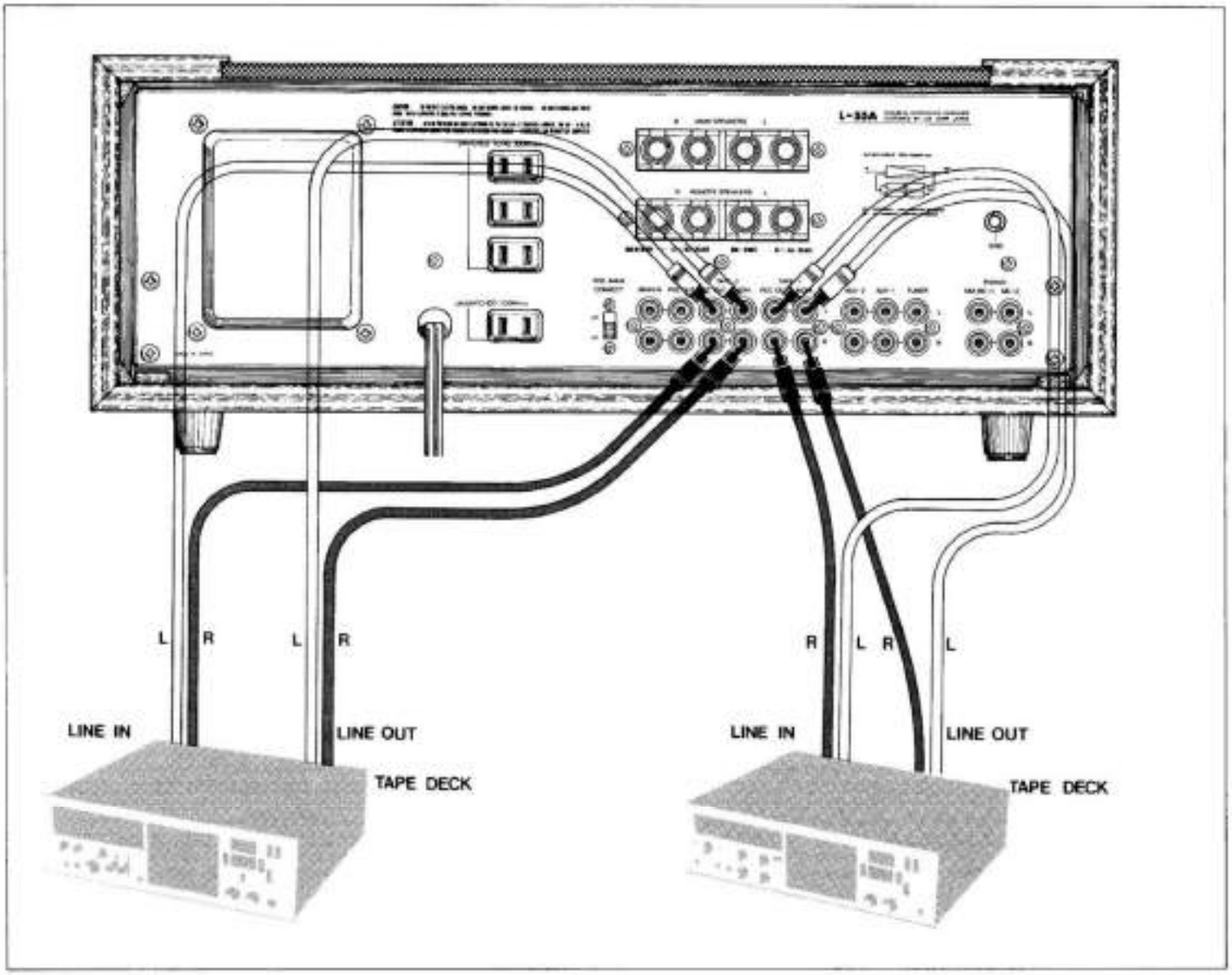
Thus, tape reprinting is easy without changing connection of pin-plug cords. At this time, when Tape Monitor Switch (7) is selected between tape-1 ↔ tape-2 comparison of the reprinted tape to the master tape is possible.

The dubbing circuit is independent of the main signal paths, and disc or tuner reproduction is feasible in the course of tape dubbing operation when the Tape Monitor Siwtch is in the "source" position.

Simultaneous Playback Monitoring and Recording:

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

When the Tape Monitor Switch (7) is set to the position corresponding to the terminals to which the tape-recorder is connected, repetition of switching between "tape-1" and "tape-2" allows 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 the original sound since there is a gap between the recording head and the playback head.



About REC. OFF Position

When tapedecks are kept connected to the REC. OUT terminals during playback of normal program sources, the reproduced sound may sometimes be deteriorated. To prevent this, the amplifier circuit and tapedecks should be isolated.

When the TAPE-1/TAPE-2 Dubbing & REC. OFF Switches (8)(9) are set to the "rec. off" position, both of the REC. OUT terminals for TAPE-1 and TAPE-2 are completely disconnected from the amplifier circuit, and deterioration of playback sonic quality can be prevented.

Note that in case the switches (8)(9) are set to the "rec. off" position, recording of the program source connected to the L55A is impossible. Therefore, if recording of the program source is required, set both of the switches (8)(9) to the "source" position.

Operation of Controls

Operation of Phono Selector Switch

Various types are available among cartridges which reproduces record disc, e.g., as moving magnet (MM), moving iron (MI), induced magnet (IM) or moving coil (MC) type etc. And even among the same types of cartridges, output voltage or load impedance etc. are different. To make the unit compatible with every type of cartridge, the L55A is provided with an MC head amplifier whose gain is automatically controlled according to the impedance of the cartridge connected, to apply the optimum load impedance.

The Phono Selector Switch (4) is effective only when the Input Selector Switch (3) is set to the "phono" position. When you use such cartridge whose output voltage ranges from 2mV to 10mV as represented by moving magnet (MM) cartridge, connect the pin-plug cord to the PHONO (MM, MC-1) Terminal (21) and set the Phono Selector Switch (4) to the "MM" position. The input sensitivity is 1.5mV, and the input impedance is 50k ohms. In the case of high output MC type cartridge, connect the pin-plug cord to the PHONO(MM, MC-1) Terminal (21) and set the Phono Selector (4) to the "MC-1 (direct)" position. The input sensitivity is 1.5mV, and the input impedance is 100 ohms.

When a low-output moving coil cartridge is used, connect the pin-plug cord to the PHONO(MC-2) Terminal (22) and set the Phono Selector (4) to the "MC-2" position. In this case, the MC head amplifier circuit operates to obtain the optimum gain for the MC cartridte according to its impedanpe. Refer to the reference chart between the impedance of MC cartridge and the gain of the head amplifier.

Imp. of MC Cartridge	Head Amp Gain	Input Sensitivity
2 Ω	29dB(×30)	0.05mV
3 Ω	28dB(×25)	0.06mV
5 Ω	27dB(×22)	0.07mV
20 Ω	22dB(×13)	0.12mV
40 Ω	20dB(×10)	0.15mV

Volume Control

Obtain an adequate volume level with this control. A clockwise turn increases the volume level, while a counter-clockwise turn decreases and finally cuts it completely.

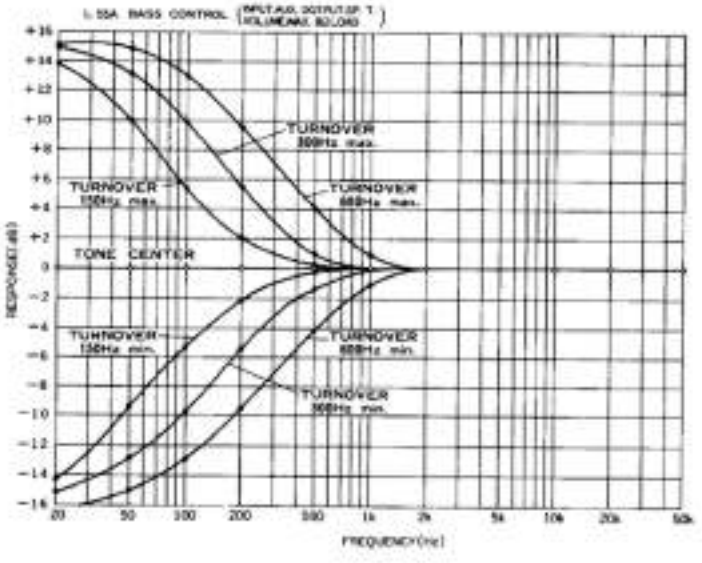
The variable resistor of this control has a logarithmic curve. In the attenuation characteristics of so called "A" type, the turning angle is proportionate to the attenuation degree (dB), and the dB value and the volume audible to human ears are in the proportional relation. In other words, the rotation of the control is in proportion to the sound volume sensed by human ears. Thus, the increase of volume seems quite natural as the control is turned in the clockwise direction.

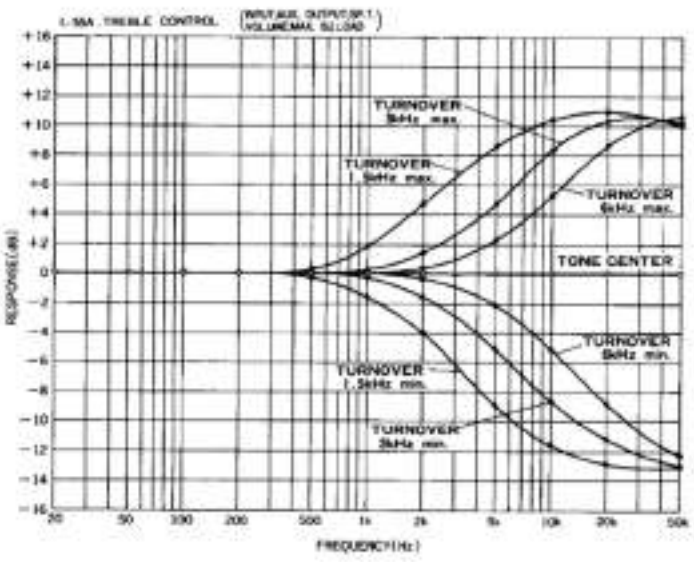
Balance Control

In case a difference is detected between the volume levels of right and left channels, adjust the unbalanced volume level with this Control (6). A complete turn of the Control to either the clockwise or counter-clockwise direction causes a cut-off of the volume of the other channel. The volume balance of both channels can be adjusted so that monaural reproudction, by selecting the Mode Selector (7) to the "mono" position seems to come from the center between right and left channels. At the mid position (center click) the volume of both channels can be adjusted at the same level. If a program source established throughout all playback stages is unbalanced for some reasons (or the speakers are placed in an oblique position), establish the correct balance with this control.

Operation of Tone Control

The ultimate purpose of an audio system is to make high fidelity reproduction of program sources. The reproduction and acoustic condition 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 control for creation of the best sound. The L55A is equipped with the LUX original NF type tone controls with turnover (roll-off) frequency selector for subtle and minute control of the reproduced sound.

Tone Controls include Bass Control (11), Bass Turnover Frequency Selector (12), Treble Control (13) and Treble Turnover Frequency Selector (14). Note that if the Tone Bypass Switch (15) is depressed, the tone control circuitry is thoroughly bypassed, that is, regardless of the position of the level control or turnover frequency selector, flat freqwuency response is obrained. To operate the tone control circuitry, it is necessary to leave the Tone Bypass Switch in the "protruded" position.

3 frequency points are available at the Bass Turnover Frequency Selector; 150Hz, 300Hz, 600Hz. Increase or decrease of the frequency response below the selected frequency point can be made by the Bass Control. The controllable range becomes wider as the bass turnover frequency point gets higher (closer to 1kHz), and its effect is strengthened. The Bass Control, which functions in conjunction with the Selector (12), is a tone control of the lower range of the frequency response. It is designed so that response may be flat in the mid-position. A clockwise turn intensifies the low frequency range, while a counter-clockwise turn yields attenuation.

The same descriptions are applicable to the Treble Turnover Frequency Selector (14) Treble Control (13). The Treble Turnover Frequency Selector has 3 positions; 1.5kHz, 3kHz and 6kHz. Its controllable range is wider as the treble turnover frequency point gets lower (closer to 1kHz). The Treble Control begins to function from the position that is selected. A clockwise turn of this knob boosts the high frequency range.

Both for the Bass Control (11) and Treble Control (13), switch-type control is employed to realize quite accurate adjustment. In the center position (0dB), frequency response is flat.

Mode Selector

This amplifier is for stereophonic reproduction and incorporates independent amplifiers for 2 channels (right & left). The Mode Selector is placed between the two amplifier channels to change the playback mode. This switch has 3 positions, namely, stereo, reverse, and mono. Select an appropriate position.

< Stereophonic Playback >

When this switch is set to the "stereo" position the two amplifier channels function independently to ensure normal stereophonic reproduction, i.e., the signals fed to the right input terminal are reproduced at the right channel speaker and the input into the left channel is realized for reproduction at the left channel speaker.

< Monaural Playbak >

With the switch in the "mono" position the signals of the 2 amplifier channels are mixed together to effect monaural reproduction. This position is useful when monaural signals are fed to both right and left channels, or when stereophonic signals are to be reproduced in the monaural mode (e.g. to check the volume balance between the right and left channels).

< Stereophonic Reverse Playback >

In the "reverse" position the output channels are reversed in relation to the input, that is to say, the input into the right channel is reproduced from the left channel speaker, and vice versa. This position can be used to correct a reversed input of program source.

Operation of Subsonic Filter

Ultra low frequency noises (5–50 Hz) caused by record warps, tonearm's resonance, phono-motor's rumble and acoustic feedback etc., are harmful in reproduction even if they are out of audible range (below 20Hz) as they produce inter-modulation distortion by vibrating the cones of loudspeakers. To remove such harmful ultra low frequency noises with the least effect on the audible frequency range, this unit is provided with the Subsonic Filter.

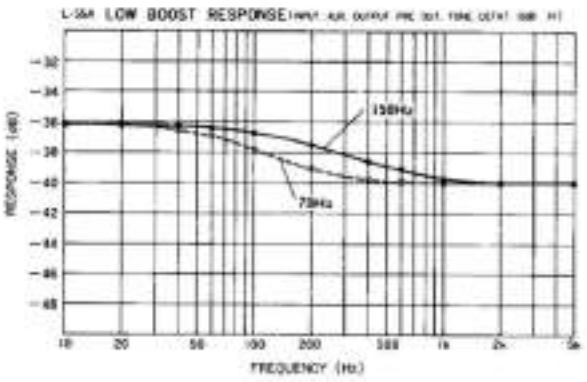
With the switch (18), frequency response is attenuated below the selected frequency point (15Hz or 30Hz).

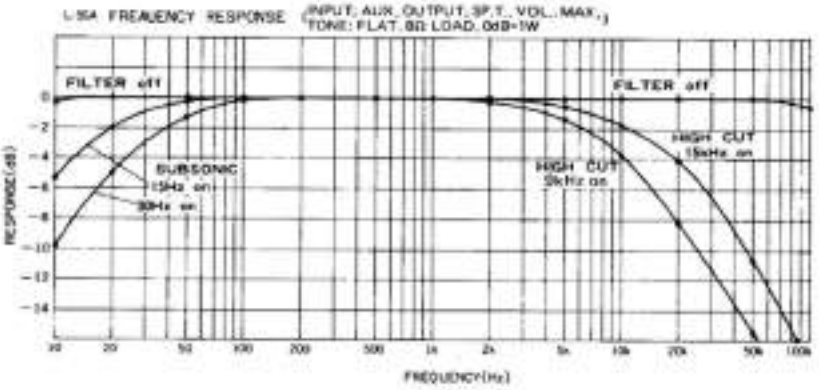
Operation of Low-boost Switch

The Low-boost Switch (16) has three positions; "70Hz", "off" and "150Hz". When this switch is set to either of the "70Hz" or "150Hz" position, bass range can be intensified in accordance with the sound level obtained by the Volume Control (5).

When this switch is set to "70Hz" position, low frequency range below 70Hz is boosted up to +4dB at the rate of 6dB/oct. in addition to the tone controls. When it is set to the "150Hz" position below 150Hz is boosted in the same condition.

In case the low-boost circuitry is used with the tone control function, controllable range becomes wider. For instance, probable resonance in the neighbourhood of 100Hz to 200Hz can be subdued with this switch together with slight attenuation of Bass Control selecting the 300Hz position on the Bass Turnover Frequency Selector. This process can suppress such unnecessary resonance without spoiling the resonance at the extreme low frequency range.





Operation of High Cut Filter

Cut-off frequencies are selected to remove the ultra high frequency noises with the least effect on the audible frequency range.

With the switch (17), frequency response is attenuated above the selected frequency (9kHz or 15kHz). The "9kHz" position is useful to remove scratch noises of the record disc, while the "15kHz" position is effective to eliminate hiss noise of the tape.

Operation of Low-Boost Switch

The low-boost circuit operates to give effective compensation for lack of ultra low frequency range when playback is made by bookshelf type loudspeaker system. Select the switch to either of the "70Hz" or 150Hz" position, and low frequency range can be compensated for according to the sound level set by the Volume Control (5).

In the "70Hz" or "150Hz" position, lower frequencies than the selected one can be boosted up to +4dB (max.) at the rate of 6dB/octave. Combination use of this low-boost switch and the tone control functions will provde versatile tone control facilities.

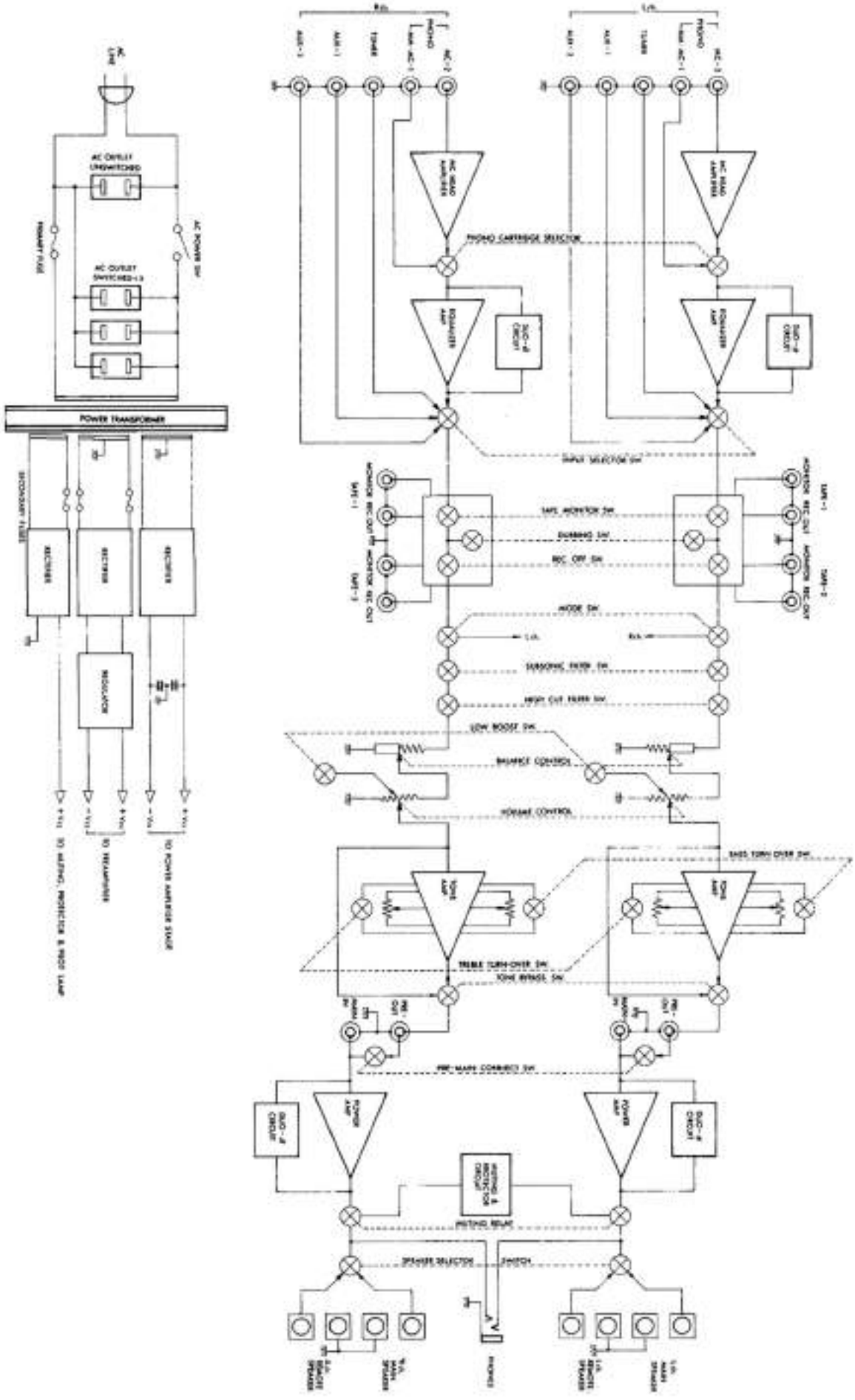
Before Consulting a Service Shop

It may be possible that some knobs or switches are accidentally operated, or some connections are detached. In some cases, these are liable to be taken as troubles. Therefore, it is advisable to make fundamental check by use of the "Trouble Shooting" listed below.
When you find the trouble is not cured by this procedure, contact your nearest service shop.

	CAUSE	MEASURES
Pilot lamp does not light up when AC Power Switch is turned on.	• AC plug is not connected to the AC socket, or may be loose at the socket.	• Connect firmly AC Power Cord to the AC power supply point.
Pilot lamp lights up, but both channels are silent.	• Speaker Selector is in the "OFF" position.	• Reset Speaker Selector. Of course speaker should be connected to the corresponding point.
	• Short-pins are inserted to the REC. OUT terminals.	• Remove the short-pins, and keep them.
	• Monitor Switch is in the "tape-1" or "tape-2" position.	• Set the Monitor Switch at the "source" position.
	• Output level volume at tuner or deck are set in the "min." position.	• Set the Output Level Control to an appropriate level.
	• Input Selector is miselected.	• Reset the Input Selector Button.
	• Firm connection of speaker cord, input or output pin-plugs etc. is not obtained.	• Check all the connections among audio equipments, and make it firm.
	• Volume Control is set in the "min." position.	• Rotate the Volume Control until the desired level is obtained.
One channel is silent.	• Balance Control is set either in the extreme clockwise or counterclockwise position.	• Set the Balance Control in the center click-stop position.
	• One channel of the speaker cord is detached, or short-circuited.	• Make a firm connection of the speaker cord at the mute channel.
	• One channel of the connection cord of input equipment is detached.	• Connect the pin-plug firmly.
Once channel is silent at the time of TUNER reproduction.	• Pin-plug cord is connected to the Multipath detection terminal.	• Connect the pin-plug to the output terminal of the tuner.
Hum noises are notable.	• Ground-side of the pin-plug does not firmly contact the terminal.	• Check connection among cartridge, shell and tonearm, and instal firmly.
	• Shielded wire is not used for the connection cable among equipments.	• Use the pin-plug cord of shielded wire.
	• Ground lead from the recrod player is not connected to the Ground Terminal of the L-55A.	• Connect the earth lead wire of the record player firmly to the GND terminal.
	• Installation of the cartridge to the shell, or that of the shell to the tonearm is insufficient.	• Check connection among cartridge, shell, and tonearm, and install firmly.
Program source in stereo mode is reproduced in mono.	• Mode Switch is in the "mono position.	• Set the Mode Switch to the "stereo" position.

[CAUTION]
* The L55A is provided with built-in MC head amplifier whose gain is automatically controlled according to the impedance of the MC cartridge connected. The signal-to-noise ratio will be deteriorated when short-pins are inserted to the PHONO (MC-2) Terminal. Never use short-pins on the terminal.
* No short-pin is provided to the L-55A.

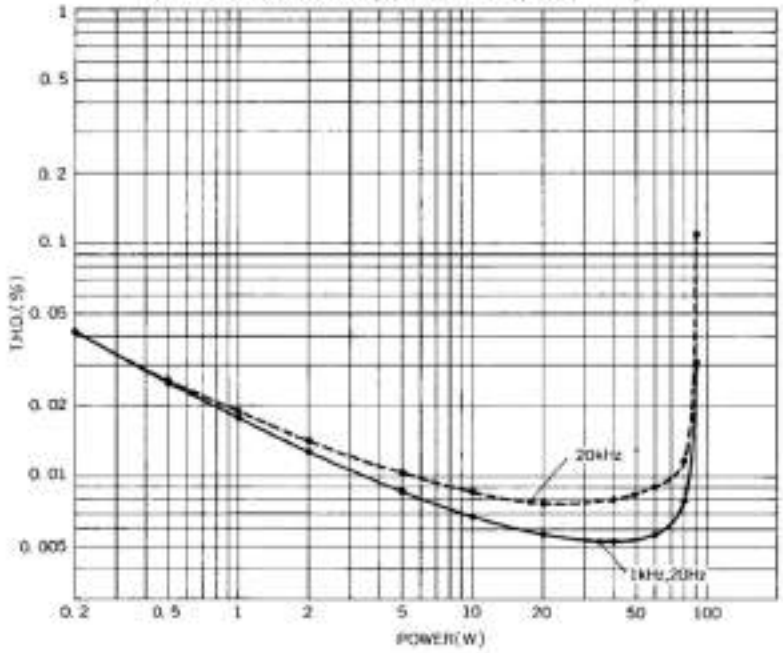
Block Diagram



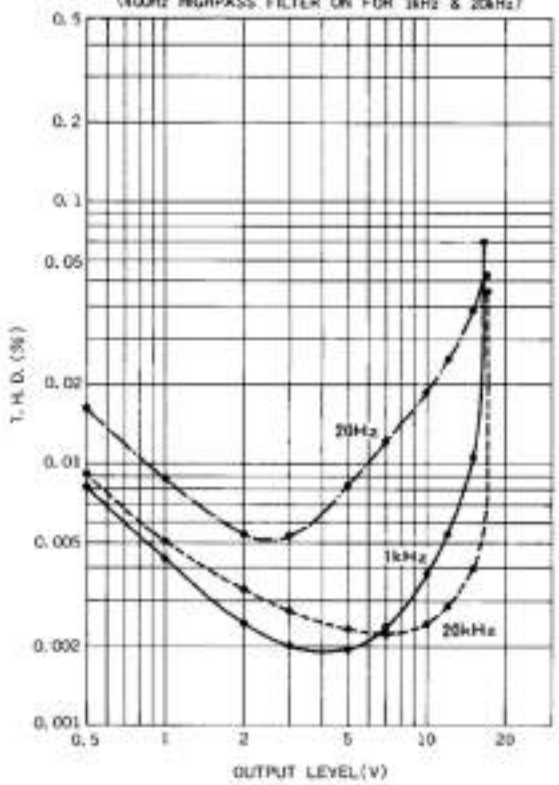
L-55A Integrated Amp Block Diagram

Standard Curves

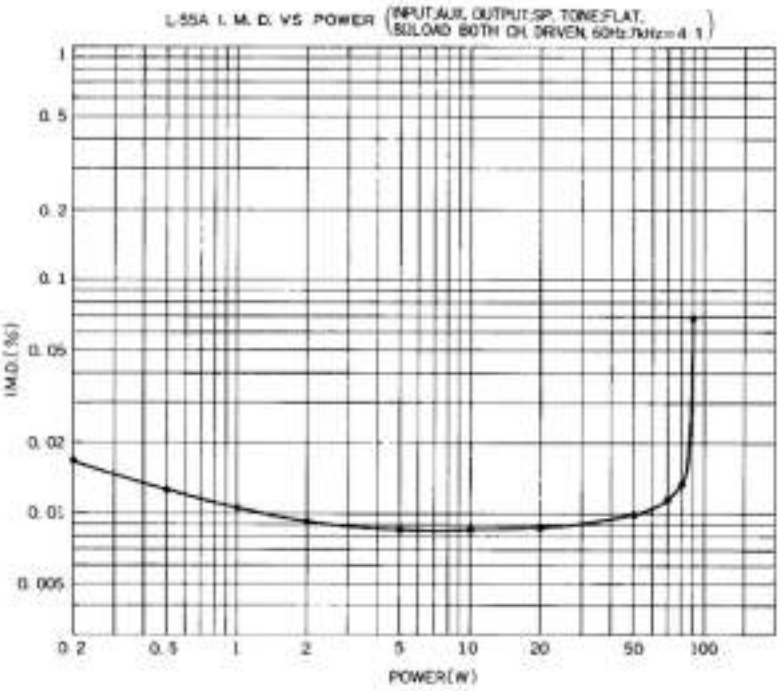
L-55A T. H. D. VS POWER (INPUT:AUX, OUTPUT:SP, TONE:FLAT, 8Ω LOAD BOTH CH. DRIVEN)



L-55A EQ. AMP OUTPUT LEVEL VS T.H.D. (INPUT:PHONO-1, OUTPUT:REC. OUT, 400Hz HIGHPASS FILTER ON FOR 1kHz & 20kHz)



L-55A I. M. D. VS POWER (INPUT:AUX, OUTPUT:SP, TONE:FLAT, 8Ω LOAD BOTH CH. DRIVEN, 60Hz:7kHz=4:1)



Specifications

* Power Output:	80 watts minimum continuous per channel both channels driven into 8 ohms load, at any frequency from 20Hz to 20,000Hz with no more than 0.02% total harmonic distortion.
* Rated I.M.:	no more than 0.02% (8 ohms, 80W/ch, 60Hz : 7kHz = 4 : 1)
* Input Sensitivity:	phono(MM); 1.5mV phono(MC-1); 1.5mV [direct to EQ stage] phono(MC-1); 0.05mV (2 ohms) ~ 0.15mV (40 ohms) tuner; 220mV aux-1, -2; 220mV main in; 220mV
* Input Impedance:	phono(MM); 50k ohms phono(MC-1); 100 ohms tuner; 20k ohms aux-1, -2; 20k ohms main in; 820k ohms
* Signal-to-Noise Ratio: (IHF-A wtd, input short-circuited)	phono(MM); better than 80dB phono(MC-1); better than 80dB tuner; better than 100dB main in; better than 100dB
* Frequency Response:	phono(MM); 20Hz ~ 20,000Hz (±0.2dB) phono(MC-1); 20Hz ~ 20,000Hz (±0.2dB) tuner; 10Hz ~ 100,000Hz (−1dB) aux-1, -2; 10Hz ~ 100,000Hz (−1dB) main in; 10Hz ~ 100,000Hz (−1dB)
* Tone Control:	LUX NF type with turnover frequency selector Bass Turnover Frequency: 150Hz, 300Hz, 600Hz Treble Turnover Frequency: 1.5kHz, 3kHz, 6kHz
* Preamplifier Output:	220mV (impedance: 220 ohms)
* Additional Features:	Subsonic Filter (15Hz, off, 30Hz), High Cut Filter (9kHz, off, 15kHz), Low-boost Switch (70Hz, off, 150Hz), Tape Monitor Switch, Tape Dubbing & REC. OFF Switch, Speaker Selector Switch, Headphone Jack, Extra AC Outlet
* Dimensions:	466(W) x 378(D) x 181(H)mm (18-11/32" x 14-1/2" x 7-1/8") (including legs, front & rear protrusions)
* Weight:	Net 14.3 kgs (31.5 lbs.) Gross 16.0 kgs (35.2 lbs.)

Specifications and appearance design subject to change without notice.

pe1mmk

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