

LABORATORY REFERENCE SERIES

5E24

PEAK LEVEL INDICATOR

A major breakthrough amplifier technology a new series of amplifiers incorporating total DC design ensuring the most faithful sound reproduction with lowest phase and transient distortion.

■ CONTENTS ■

- SWITCHES & CONTROLS 2
- CONNECTION PROCEDURE 4
- SPECIFICATIONS 7

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

Thank you for your Selection of the 5E24

The 5E24 is a purely electronic peak indicator which allows you to monitor not only the instantaneous peak output of a power amp but also that of a pre amp. The peak output is displayed by 12 LED's per channel in the range from +3dB - -30dB by 3dB increment.

Unlike the mechanical peak meter, this system offers an accurate indication without time delay. On the other hand instantaneous indication is rather too quick in movement to read exact power output. Therefore this 5E24 is so designed that a certain retain time is provided to make it easy to monitor the peak output, and to visually monitor the music signals the indication is turned out downward from right to left starting from the very LED showing the peak output at any instant.

The 5E24 is provided with a peak-holding function, which makes it possible to retain the maximum peak level of the entire program source while showing an instantaneously changing peak output. Such function is absolutely impossible with a conventional mechanical meter with pointer needle. In addition a selector switch is provided between power amp and pre amp as well as a function switch to change the sensitivity of the peak indicator.

We recommend that you use this 5E24 in combination with the 5C50 pre amp, the 5M20 and 5M21 power amps, the 5L15 integrated amp, etc. in our "Laboratory Reference Series." Your listening pleasure will be greatly enhanced. Please go through this Owner's Manual before operating the 5E24.



SWITCHES & CONTROLS

1. LED for Peak Indication

The LED's (Light Emitting Diodes) with 12 pcs. per channel accurately display the instantaneous peak value of output power in the signals. The right indicator is for the right channel, while the left one is for the left. The indication range of the peak value is $-30\text{dB} \sim +3\text{dB}$ in increments of 3dB .

2. Peak-Holding Switch

This switch is provided to retain the peak value of the signals. When the push-button is kept unpressed this circuit does not function. When it is pressed in, the circuit is turned on and the instantaneous maximum indicated peak level in the power output of the program source is retained indefinitely. Incidentally, even when the peak-holding circuit is in function the peak level is continuously displayed in accordance with the signal level of the program source. When a signal occurs which exceeds the maximum peak level shown by a stationary LED, the indication moves towards the right LED of higher peak level. The maximum peak level can be retained within the range of $+3\text{dB} \sim -18\text{dB}$.

3. Input Selector

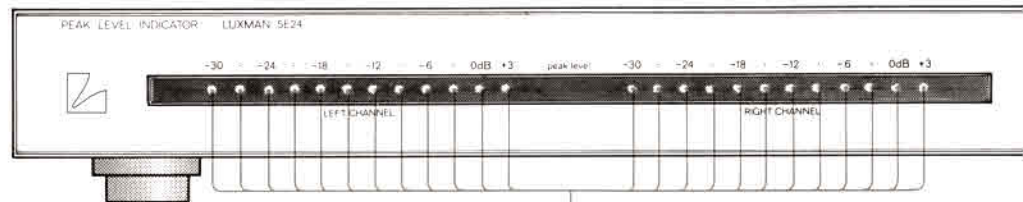
This switch is to select display of the peak output between power amp and pre amp as well as its sensitivity.

The selector has 5 positions. The center is the "off" position, and at this position both HIGH LEVEL INPUT terminal (8) and LOW LEVEL INPUT terminal (7) are isolated inside the unit and the indicator does not function at all.

The right 2 points are for display of the peak output level of power amp. When set at the "0dB (200W)" position the 0dB position of LED (1) corresponds to 200W. Similarly, at the "-10dB (20W)" position 0dB at LED means 20W.

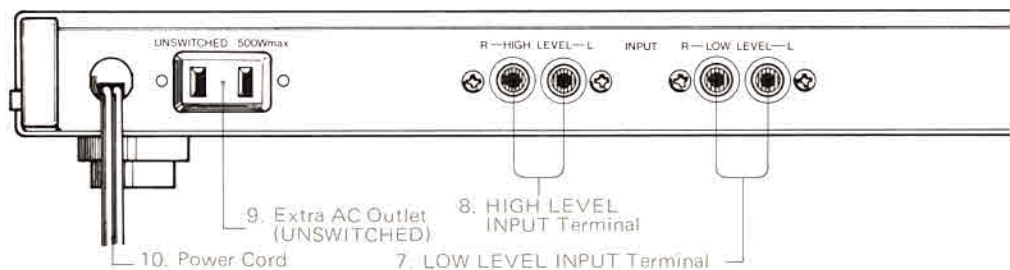
The left 2 positions are for pre amp. At the "0dBV" position 0dB LED lights up when the output of pre amp comes up to 1V. Likewise at the "-10dBV" position 0dB is displayed when the output voltage is 0.316V.

The peak-holding circuit is provided after this selector. In other words, if the selector is used to change the display sensitivity (e.g., $-10\text{dB} \rightarrow 0\text{dB}$ or $0\text{dB} \rightarrow -10\text{dB}$) while the peak-holding switch is kept pressed in,



1. LED for Peak Indication

2. Peak-Holding Switch



the peak-holding circuit remains unchanged from the previous retaining state. Therefore in this case the peak-holding switch has to be released once except in such case as switching between power amp and pre amp when the selector passes through the center "off" position.

4. Pilot Lamp

When the power switch (5) is pressed in to the "on" position, this lamp lights up showing that the electric current is on.

5. Power Switch

Press in this switch and the electrical power is fed into the unit. The next press turns off the electric current.

6. Ground Terminal

This terminal can be used to earth the unit. Grounding is effective in the event of lightning, but usually it is not necessary.

7. LOW LEVEL INPUT Terminal

This is used when the peak output is monitored from a pre amp. Connect

the output of your pre amp to this terminal. Incidentally, this terminal is coupled when the INPUT selector is set at either 0dBV or -10dBV position.

8. HIGH LEVEL INPUT Terminal

Use this terminal to read the peak output level of a power amp. This terminal should be connected to the output of power amp. Use the peak indicator connection terminal provided with the power amps in our "Laboratory Reference Series." This terminal is coupled when the 0dB or -10dB position is selected by the INPUT selector.

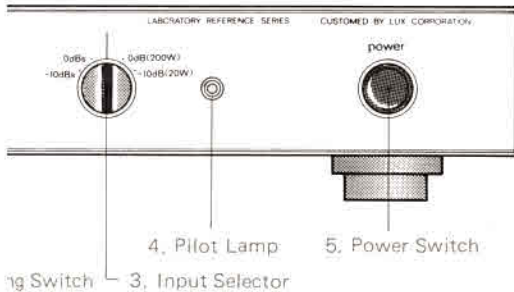
9. Extra AC Outlet (UNSWITCHED)

The AC power can be supplied from this outlet to other audio equipment to be used together. This terminal is not coupled with the power switch (5) and the electric power is always available. The maximum capacity is 500W.

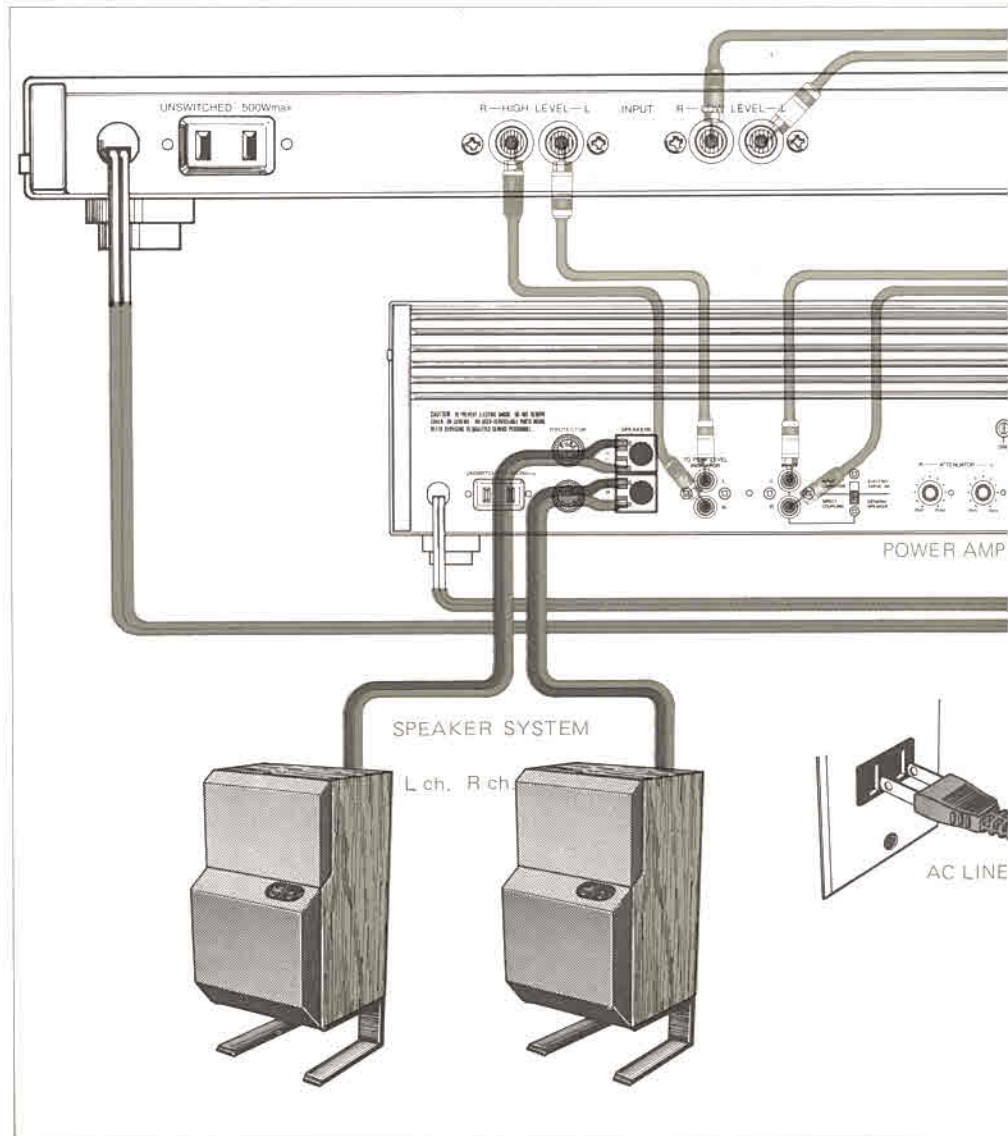
Note that in some countries this is not provided because the law prohibits its use.

10. Power Cord

The AC plug attached to this cord should be connected either to the AC outlet of other audio components or to the AC power socket in your listening room.



CONNECTION PROCEDURE



Connection to Input Terminals

This unit is equipped with 2 input terminals; one for High Level and the other for Low Level. The High Level Input Terminal (8) is used to monitor the peak output level (wattage) of power amp, while the Low Level Input Terminal (7) is used to read the peak output level (voltage) of pre amp.

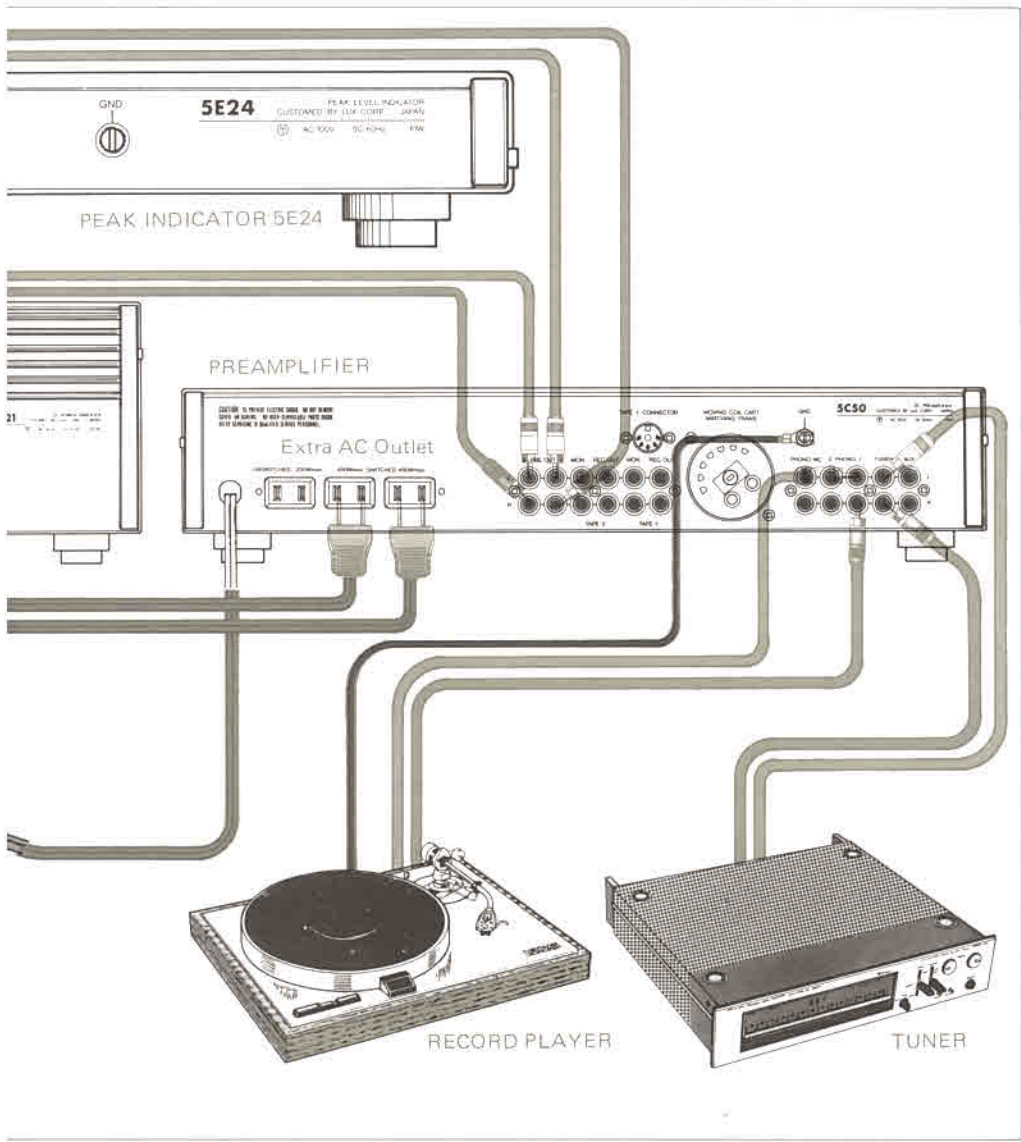
To Monitor the peak output of a power amp, connection must be made between the speaker terminal of power amp and the High Level Input Terminal (8). With the 5M21 and 5M20 power amplifiers and the 5L15 integrated amplifier in our Laboratory Reference Series, the special terminal is provided for connection with the peak indicator, and connection can be easily made with a pin-plug cord.

In case another power amp is used with this unit, one end of the pin-plug cord can be used as it is with this unit, but the other end has to be

treated for connection to the speaker terminal of the power amp. In this case cut off the pin-plug, and connect the core wire to the (+) side of speaker terminal and the shield wire to the (-) side.

For display of the peak output of pre amp, the Low Level Input Terminal (7) has to be connected to the output terminal of pre amp with a pin plug cord. Most pre amps available in the market have 2 pairs of output terminals, and one pair should be connected to the input terminal of power amp and the other to the input terminal of this unit. In case only one output terminal is provided, another pin plug cord has to be coupled in parallel with the pin plug cord for connection of pre amp and power amp.

Be careful not to mis-connect between right and left channels, which would cause display of the right output on the left channel.



Connection to AC Power Supply Source

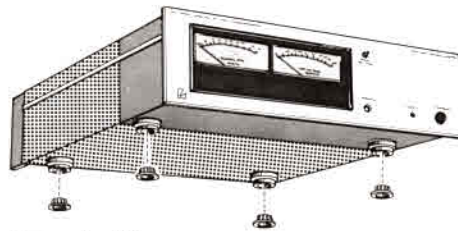
Connect the AC plug at the end of the AC cord to the AC supply point in your listening room.

Now press in the AC power switch (5), and the electric power is fed to this unit and the pilot lamp (4) on the front panel lights up. The unit is in the operational condition. The instant the power switch is turned on, all the LED's light up at the same time, but this does not mean a defect on the unit.

Cross-Reference between dB indication and power output

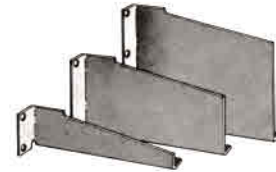
INPUT-SELECTOR		dB INDICATION												
		-30	-27	-24	-21	-18	-15	-12	-9	-6	-3	0	+3	
POWER	0dB (200W)	8Ω	200mW	400mW	800mW	1.6W	3.2W	6.3W	12.5W	25W	50W	100W	200W	400W
		4Ω	400mW	800mW	1.6W	3.2W	6.3W	12.5W	25W	50W	100W	200W	400W	800W
	-10dB (20W)	8Ω	20mW	40mW	80mW	160mW	320mW	630mW	1.25W	2.5W	5W	10W	20W	40W
		4Ω	40mW	80mW	160mW	320mW	630mW	1.25W	2.5W	5W	10W	20W	40W	80W
VOLTAGE	0dBV		32mV	45mV	63mV	89mV	126mV	178mV	251mV	355mV	501mV	708mV	1V	1.41V
	-10dBV		10mV	14mV	20mV	28mV	40mV	56mV	79mV	112mV	158mV	224mV	316mV	447mV

The actual peak output power of power amplifier or that of pre-amplifier is easily understood.



Attached leg caps

The illustration is the 5L15 power amplifier, but all the models of Laboratory Reference Series adopt the same construction to install them.



Rack-Mount Adapters.

About Legs

All the components in our Laboratory Reference Series are provided with the legs at the bottom and the metallic receptacles on the top, and metallic support is placed between the leg and its receptacle. Thus you need not worry about breakage caused by an accumulated weight even when they are stacked one by one, as the total weight is given to the legs of the very unit placed at the bottom of such stack. Perfect fit between the legs and receptacles prevents each component unit from falling or sliding.

However if the unit is placed on the furniture to other kind of

wooden cases, with these legs as they are, it is possible to cause a slip or scratch. To prevent this, 4 leg caps of synthetic resin are provided as accessories. When some of the components in our Laboratory Reference Series are stacked, the leg caps should be attached to the legs of the last unit placed at the bottom of such stack. To fix them refer to the drawing.

About Rack-Mounting

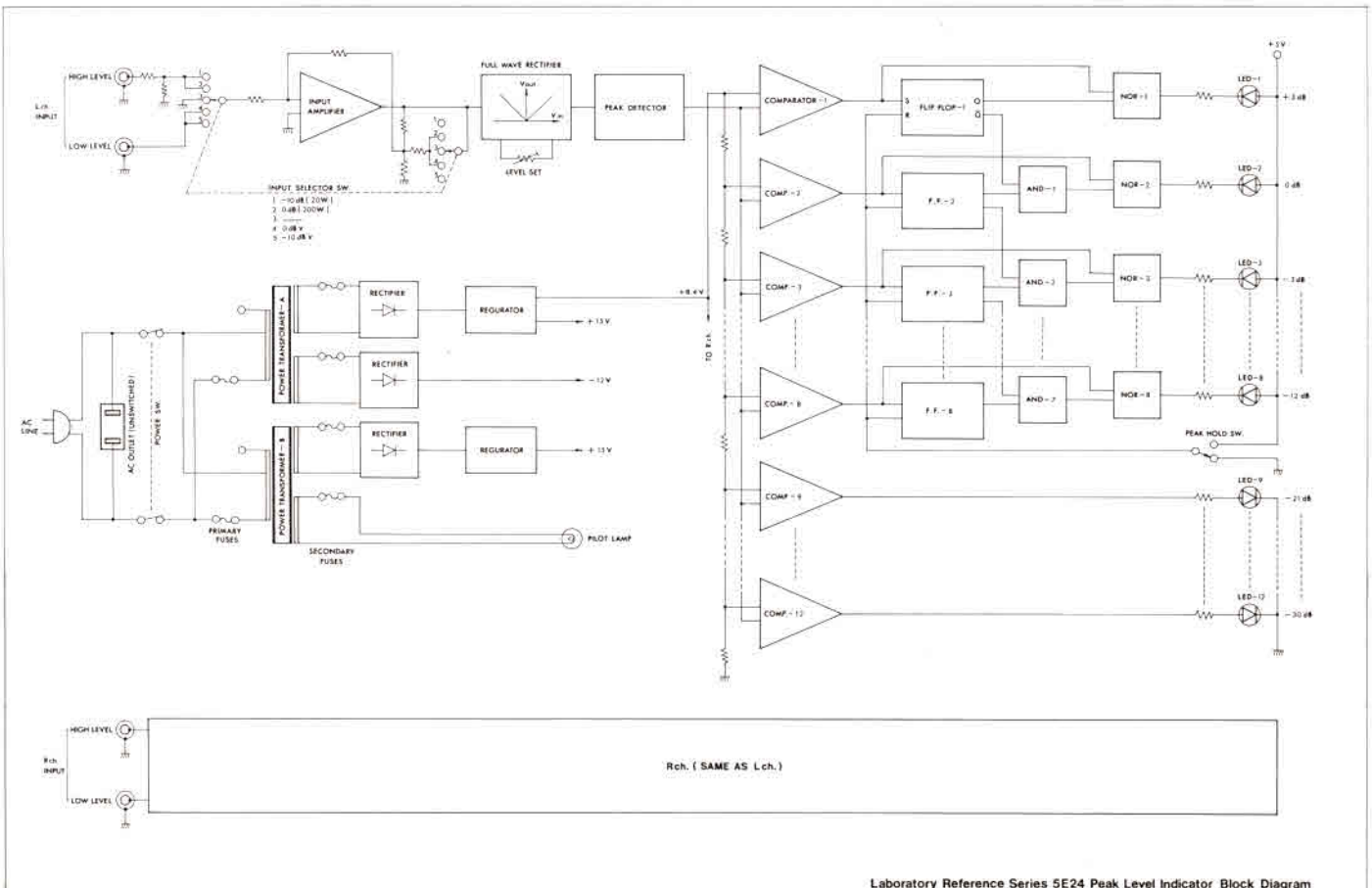
In order to mount the 5L15 to the rack of EIA standard, adapters are available on request. Note that the size of the adapter differs from product to product in our LRS family.

SPECIFICATIONS

Input Sensitivity:	input high; 200W (selector; 0dB) 20W (selector; -10dB) input low; 1V (selector; 0dBV) 0.316V (selector; -10dBV)
Input Impedance:	50 Kohms
Frequency Response:	10Hz - 40,000Hz (within -0.5dB)
Attack Time:	100µsec
Recovery Time:	300msec
Indication Range:	+3dB - -30dB (3dB step)
Indication Error:	Within ±0.5dB (+3dB - -12dB) Within ±1dB (-15dB - -30dB)
Accessories:	Peak-Holding Circuit (+3dB - -18dB) AC Outlet (UNSWITCHED, 500W max.)
Power Consumption:	10W
Dimensions:	442(W) x 400(L) x 57(H) mm (17-13/32 x 15-3/4 x 2-1/4")
Weight:	Net 5.5 kgs (12.1 lbs.) Gross 6.5 kgs (14.3 lbs.)

* Specifications and appearance design are subject to possible change without notice.

BLOCK DIAGRAM



Laboratory Reference Series 5E24 Peak Level Indicator Block Diagram

LUX CORPORATION, JAPAN

1-1, 1-CHOME, SHINSENRI-NISHIMACHI, TOYONAKA-SHI, OSAKA
PHONE: 06-834-2222 CABLE: LUXELECT OSAKA TELEX: J63694

LUX AUDIO OF AMERICA, LTD.

200 AERIAL WAY, SYOSSET, NEW YORK 11791 U.S.A.

IMPORTANT:

Fill out and mail this portion of Warranty Card for owner registration.

PRODUCT SAFETY REGISTRATION: In the remote event any safety hazard develops with this model, your Owner's Registration Card will facilitate our notifying you promptly.

Your name _____

Address _____

City _____ State _____ Zip _____

Model _____ Serial # _____

Date Purchased _____

Dealer _____

Dealer's Address _____

City _____ State _____ Zip _____

Marketing Information

We are pleased you have chosen a high quality LUX product. The following marketing information will be useful in our efforts to introduce LUX Audio equipment to other discerning individuals. We would greatly appreciate your spending the time required to complete this portion of the Owner's Registration Card.

I selected LUX because _____

I also considered

Brand _____ Model _____

I formerly owned or used a

Brand _____ Model _____

My other components are

Brand _____ Model _____

I listen to the following type of music:

	% of time
Classical	_____
Jazz	_____
Rock	_____
Country & Western	_____
Other _____	_____

My knowledge about components comes from these sources:

(1) Magazines (please list) _____

(2) Dealers (3) Friends

(4) I am a professional in the audio field

My occupation is: _____

My age group is:

under 21 21-25 26-30
 31-35 over 35

KEEP THIS PORTION OF CARD AND YOUR SALES SLIP FOR VERIFICATION OF PURCHASE

LUX Audio Full Three-Year Warranty

Warranty information to the owner

Your LUX Audio component was carefully inspected and tested before it left the LUX facilities in Syosset, New York, and will provide technical and actual listening performance of the highest caliber. This product is fully warranted against original factory defects for a period of three years from date of original purchase. If the product malfunctions during that time, it should be shipped to the address below, using the original shipping carton and its internal protective materials. LUX Audio will pay freight both ways. Please include a written description of the claimed defect and your original sales slip with your equipment.

This warranty does not cover damage resulting from misuse, accidents, alterations to the product, attempts to

service by unauthorized persons or use in violation of operating instructions. Claims for damage during transit to you should be placed immediately by you to the transportation company making delivery.

Barring any unusual circumstance or event beyond our control, LUX Audio will perform any warranty service within 30 days of receipt of a unit at its facilities.

Model No. _____ Serial No. _____

Date purchased _____ Dealer _____

Dealer address _____ City _____ State _____ Zip _____

LUX Audio of America, Ltd.

200 Aerial Way, Syosset, New York 11791

First Class
Permit
No. 333
Syosset, N.Y.

BUSINESS REPLY MAIL
No postage stamp necessary if mailed in the United States

Postage will be paid by:

LUX Audio of America, Ltd.

200 Aerial Way

Syosset, N.Y. 11791

