



LUXMAN

At Home in The 90's



Home Entertainment in the 90's. . .

Several trends have emerged from the 80's:

- *The overall cost of owning a home in the United States has continued to soar.*
- *The admission price of concerts, movies and sporting events has continued to escalate.*
- *And, the performance quality and operating convenience of home audio and video components has dramatically improved.*

Entering the 90's these three factors will combine to fuel an increasing enthusiasm to entertain "at home." Simply stated, it has become more practical and more desirable to invest in high quality audio/video systems that deliver a whole new dimension in "home entertainment." With the proper combination of audio and video components, you can:

- *Enjoy music as if you were attending a "live" concert.*
- *Experience films like you do in a movie theatre.*
- *Observe sporting events as if you were at the stadium.*

Virtually every type of "live" entertainment can be faithfully reproduced in the home of the 90's, providing you design a system tailored to your individual needs.

Luxman Home Audio Components. . .

There are two basic elements of a home entertainment system:

Picture - Several manufacturers concentrate on improving picture quality with advanced technology in the area of large-screen televisions, Laserdisc video players, V.C.R.'s, and soon, high-definition picture screens.

Sound - Luxman audio components satisfy the "sonic requirements of each system and deliver the emotional impact of the original performance.

Every component is carefully designed to meet three performance criteria:

Sonic Realism - All efforts are made to reproduce music with all of the warmth and transparency of the original source.

Ease of Operation - Each component is designed for optimum convenience, both on the control panel and on the remote handpiece.

Long-Term Reliability - Every model incorporates proven circuit designs and exhaustive quality evaluations to provide uncompromising durability.

The trend towards high-quality home entertainment systems is a focal point in the 90's, and the audio components are the heart of each system. That's why Luxman is *at home* in the 90's.

Luxman at home in the 90's

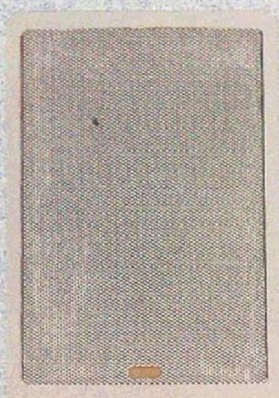
... in every room

The Luxman remote controlled receivers (R-114, R-115, R-117) and preamplifiers (TP-114 and TP-117) include a handpiece that operates all Luxman CD players and cassette decks, eliminating the need for multiple remotes. And these system control centers are equipped to feed information to any part of the house, enabling multiple-room enjoyment of both audio and video sources.

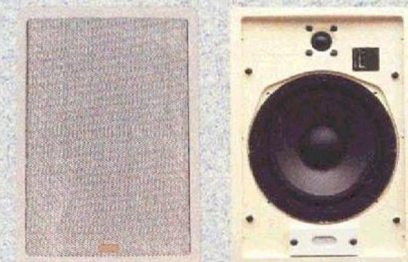
For example, a remote sensor eye (RC-501) can be installed in another part of the house, allowing you to add an extra pair of speakers and operate the entire system in that room. This eliminates the need for another complete audio system in that listening area. And with a procedure for running cable through the house, you can ultimately carry your handpiece into any room and turn the main system on and off, adjust volume, change radio stations, fast forward a compact disc, and more.

... in every wall

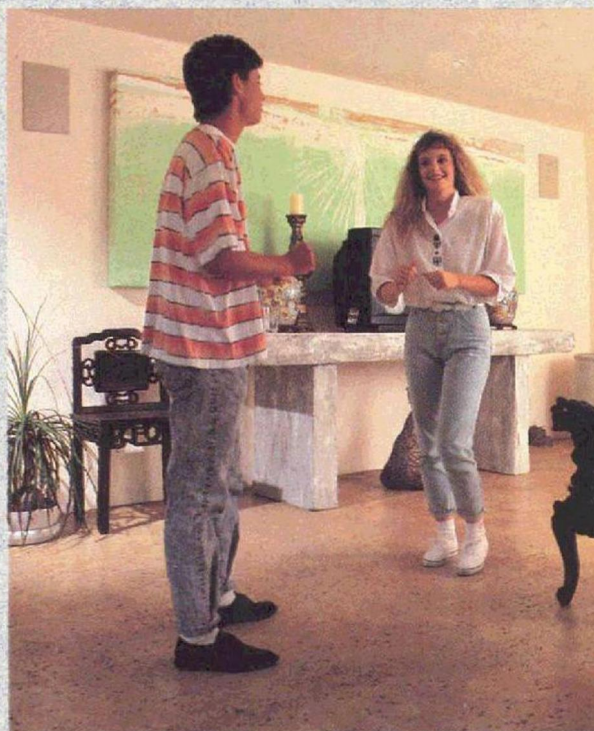
The **S-505** and **S-503** loudspeakers bring true high fidelity sound to any wall or ceiling installation. Designed primarily for home entertainment rooms, S-505 and S-503 loudspeakers are also moisture resistant and work well in the higher humidity of a kitchen, bathroom ... anyplace where in-wall speakers are desired. The speakers accommodate the RC-501 sensor eye for easy "hidden" installation and can be painted to match any environment.



S-505 Wall Mount Loudspeakers w/hidden sensor eye (8" Woofer)



S-503 Wall Mount Loudspeakers w/hidden sensor eye (6½" Woofer)



Each room in your home can connect to the main system with S-505 or S-503 speakers, eliminating the need for another audio system in that room.

... introducing "multi-zone" remote

For the ultimate installation, the TP-117 "multi-zone" preamplifier adds the extra convenience of independent source select.

Most multiple room combinations have a limitation: The source selected in one room must be fed to all rooms simultaneously. "Independent source select" means that you can listen to a compact disc in the bedroom, while someone else plays the radio in the living room, at the same moment, independent of each other.

With the proper connections, the video signal coming from the main system can also travel down the same cables

used for the "multi-room" installation. This enables remote televisions to receive the video signals from the main V.C.R. or Laserdisc player.

Custom Installation

Your Luxman Dealer has custom installation experts available to coordinate and set up your Luxman equipment. The specialists that install Luxman products have been carefully trained to ensure proper installation of all components. They will answer any questions you might have before the work begins and they will be there to service your needs after the work is finished. For the installation specialist in your area, please call, 1-800 4-LUXMAN.

To assist you in choosing the right products customized for your needs, Luxman has developed the Home Installation Planner. If you are beginning a home installation project, this Planner will help you save time and money. To receive your free copy, call 1-800 4-LUXMAN and ask for "The Planner".

Compact Disc Technology

For 65 years, Luxman components have earned the highest accolades for their musical warmth and transparency. Maintaining this reputation in the compact disc category requires total understanding of this digital storage medium. Unlike previous analog sources, the compact disc contains a computerized representation of musical waveforms that require complex new technologies. The engineers at Luxman fine tune every aspect of this total conversion process to ensure the "musicality" of the original source. Several innovative technologies are utilized in all models.

- **Precision-molded Laser Housings** never warp and increase the light-output of the laser pick-up. This improved readability provides a more accurate tracking of the compact disc.
- **Error Concealment** "interpolates" missing data when the laser cannot read the CD correctly due to scratches or dirt. This eliminates digital mistakes and creates a more accurate reconstruction of the analog waveforms.
- **STAR Circuit Topology** provides independent circuit paths to all parts on the circuit board. This eliminates low-level distortion and improves low-level resolution.



D-105u Compact Disc Player ("Brid" Tube Circuitry)



DZ-122 Compact Disc Player



DZ-121 Compact Disc Player



DZ-111 Compact Disc Player (16 Bit-4X Oversampling)



DZ-92 Compact Disc Player

All Luxman Compact Disc Players and Changers include a remote control.

The **D-105u** utilizes Luxman's "Brid" circuit design. A unique combination of tubes and FET's that epitomizes the musicality of live performances. The D-105u uses two 18 bit, 8 times oversampling D/A converters to achieve the most accurate processing of all digital information. With remote volume control, programming and edit features, this model is easy to operate and enjoy. (17-1/4"W x 5-7/16"H x 13-1/2"D; 18.7 Lbs)

The **DZ-122** re-creates musicality to satisfy even the most demanding audiophiles. Luxman's exclusive circuit designs including STAR Circuit Topology and factory trimmed dual D/A converters combine to achieve a sonic purity only found in Luxman equipment. The DZ-122 also offers edit and fade functions for creating professional quality tape recordings. (17-1/4"W x 3-3/8"H x 12-1/4"D; 9.3 Lbs)

The **DZ-121** offers true fidelity with only the most essential features. Dual D/A converters and STAR Circuit Topology contribute to the warmth and musicality of this model. A high rigid lock mechanism stabilizes the disc for more accurate laser pick-up. A full function remote control is included for easy operation. (17-1/4"W x 3-3/8"H x 12-1/4"D; 9.3 Lbs)

The **DZ-111** offers quality performance with easy to use features. Dual D/A converters are used for improved phase accuracy. A high rigid lock mechanism prevents external vibrations from reaching the pickup through the chassis. Also, the DZ-111 offers 16-track random memory play and repeat play functions. (17-1/4"W x 3-3/8"H x 12-1/4"D; 9.3 Lbs)

The **DZ-92** is Luxman's entry level CD player. This model offers four times over sampling, dual D/A converters, random play and repeat functions. (17-1/4"W x 3-5/8"H x 9-1/8"D; 6.8 Lbs)

Compact Disc Changers

By combining musicality with the convenience of a multi-disc format, the Luxman engineers have created two very special CD changers.



DC-114 6-Disc CD Changer (Single Play Capability)



DC-113 6-Disc CD Changer (Single Play Capability)

The **DC-114** achieves single play performance in a multi-disc format by utilizing sophisticated circuit designs such as Duo-Beta and Voltage Driven Amplification. In addition, the DC-114 "CD Shuttle" is the only changer compatible to the Alpine 5952 "CD Shuttle" for the car. A single "magazine", holding 6 discs can be played in either the 5952 or the DC-114 "CD Shuttle". Now moving your CD's from the car to your home (and back again) is simple! (17-1/4"W x 4-7/8"H x 13-1/2"D; 15.1 Lbs)

The **DC-113** offers most of the same sophisticated circuitry found in the DC-114, but without the compatibility to Alpine. The DC-113 also has a single play drawer plus 32 selection programmed play for easy operation. (17-1/4"W x 4-1/2"H x 13"D; 13.4 Lbs)

All Luxman CD players/changers come with an exclusive 5 year parts and labor warranty.

Receiver Technology

Luxman receivers are carefully designed to deliver the purity and warmth of the original source, plus the high dynamic power necessary to drive any speaker load.

- **Purity and Musical Warmth** – Conventional receivers measure well in standard laboratory tests, but tend to alter the overall harmonic structure of the original musical instruments. Luxman receivers incorporate a voltage-driven amplification configuration that faithfully reproduces the harmonics of the original source.
- **High Dynamic Power** – Luxman receivers also incorporate massive power supplies with high energy reserves to ensure distortion-free transients into a variety of speaker loads.
- **Long-Term Reliability** – High-speed, high-current Darlington output transistors, large heat sink assemblies, and over-sized power transformers combine to ensure long-term reliability.



R-117 AM/FM Stereo Receiver (160 Watts/Ch.)

The **R-117** is Luxman's most powerful receiver, combining a high-current high-speed power amplifier with a dual-gate MOSFET FM design. In addition, STAR circuit topology, Voltage Driven Amplification and Duo-Beta circuitry are included to achieve a level of sonic performance previously found in more expensive separate components. A variety of features such as full remote control are included for convenient operation and versatility in many different applications. (17-1/4"W x 5-1/2"H x 16-11/16"D; 35.2 Lbs)



R-115 AM/FM Stereo Receiver (70 Watts/Ch.)

For the **R-115**, Luxman has combined their design talents and manufacturing skills to achieve their goal — a receiver that sounds better. A simple goal, perhaps, but few manufacturers have attained it. Increased dynamic range and expanded headroom are among the more important factors contributing to the sonic superiority of the R-115. Includes remote control. (17-1/4"W x 5-1/2"H x 16-11/16"D; 25.5 Lbs)



R-114 AM/FM Stereo Receiver (50 Watts/Ch.)

The **R-114** is Luxman's newest receiver. This model offers Luxman performance, with all of the circuit designs found in the R-115. The R-114 is ideal when used in systems where a limited amount of power is needed and remote control is desired. For the future, Main-in, Pre-outs are also included to allow the addition of larger power amplifiers if needed. Multi-room remote control, record out selectors and tape dubbing are available for improved system flexibility. Includes remote control. (17-1/4"W x 4-3/4"H x 14-3/4"D; 17.2 Lbs)

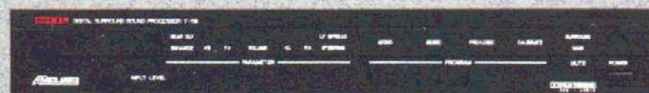


R-113 AM/FM Stereo Receiver (35 Watts/Ch.)

The **R-113** receiver, ideal for smaller or "starter" systems, continues the Luxman tradition of sonic excellence. A high-efficiency toroidal power transformer is used to supply the dynamic power reserves necessary for the most demanding music transients. Video sound inputs are also available to enhance the enjoyment of watching a movie, concert or sporting event. (17-1/4"W x 4-5/16"H x 13-1/2"D; 13.4 Lbs)

Surround Sound

Luxman's commitment to sonic excellence continues into the category of Surround Sound. Offering the most sophisticated digital technology available and backed by Luxman's exclusive 5 year parts and labor warranty, surround sound by Luxman not only sounds great but is easy to use. Plus, operation with Luxman receivers and tuner preamplifiers is quick and simple, making a total Luxman system available for every application possible.



F-116 Dolby Pro-Logic® Surround Sound Processor

The **F-116** is a fully digital Dolby Pro-Logic® surround sound processor, using the highest quality parts to achieve a level of sonic realism previously available only in movie theaters. By digitally "steering" the information to each speaker, discrete localization is achieved so that the excitement of concerts, movies and sporting events are re-created in your own home. The F-116 creates Concert Hall and Stadium Sound to help you duplicate the same live sound as in the environment where the event took place. Time delay is also available for additional versatility. Includes remote control. (17"W x 2-1/2"H x 12-1/2"D; 11 Lbs)

Separate Components

For 65 years, Luxman "Separate" components have won numerous awards for their innovative circuit designs and sonic superiority. The latest generation of Luxman Separates further advance the "state-of-the-art" in terms of performance and flexibility.



TP-117 Multi-"Zone" Remote Tuner/Preamplifier



TP-114 Multi-"Room" Remote Tuner/Preamplifier



M-117 Voltage-Driven Power Amplifier (200 Watts/Ch.)



M-113 Voltage-Driven Power Amplifier (50 Watts/Ch.)

The **TP-117** is a tuner/preamplifier in a class of its own. As a single, stand alone audio component the sonic quality rivals the finest tuners and preamplifiers in the world. As a master control center, it accommodates the most sophisticated audio/video applications. With two separate, high-quality preamplifiers combined into one chassis, the TP-117 allows multiple-room remote operation, independent from the main system. This unique design enables separate control over source, volume, and power in each connected zone with five external sensor inputs for "two-zone" operation in up to fifteen rooms. *Two remote controls are included.* (17-1/4"W x 4-3/8"H x 13"D; 11.4 Lbs)

The **TP-114** is the little brother to the TP-117. Offering single-zone, multi-room operation, the TP-114 delivers the versatility of a tuner pre-amplifier without the sophisticated two-zone switching of the TP-117. This model is ideal when used in an application where there are a limited number of rooms involved and where video is located only in the main entertainment room. *Includes remote control.* (17-1/4"W x 4-3/4"H x 14-3/4"D; 11.2 Lbs)

The **M-117** power amplifier is a "no-frills" black box with enormous power and minimal distortion. Designed for the most difficult speaker loads, the M-117 measures an incredible 820 watts per channel (dynamic power - 2 ohms) and yields a memorable, seductive sound that surpasses all competitive models. (17-1/4"W x 6-1/2"H x 17-1/2"D; 52.0 Lbs)

The **M-113** is a smaller version of the reference model M-117. Rated at 180 watts per channel (dynamic power - 2 ohms), this power amplifier is perfect for speakers in a main system and is often recommended in multi-room combinations for each remote pair of speakers. (17-1/4"W x 5-3/8"H x 14-7/16"D; 18.7 Lbs)

Cassette Decks

In the tradition of Luxman "Ultimate Fidelity" components, all cassette recorders incorporate sophisticated technologies like Duo-Beta, STAR Circuitry, Hexalam Heads and HX-PRO for optimum sonic accuracy. Each model is designed for a specific application.



K-110W "Dual Well" Auto-Reverse Cassette Deck (HX-PRO)



K-110 Auto-Rev., Bi-Directional Record Cassette (HX-PRO)



K-112 3 Head, Double Dolby Cassette Deck (HX-PRO)



K-111 2 Head, Full Logic Cassette Deck (HX-PRO)

The **K-110W** offers the ultimate record/playback convenience while maintaining excellent sonic reproduction. This "double" auto-reverse transport allows high-speed duplication, simultaneous playback of two tapes, and dual deck programmability. (17-1/4"W x 4-5/16"H x 10-11/16"D; 10.6 Lbs)

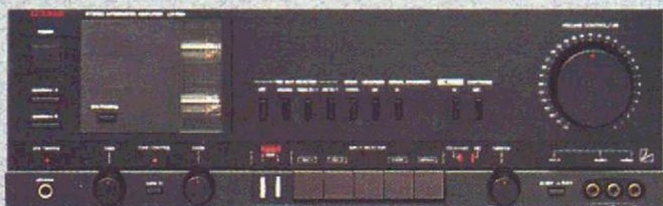
The **K-110** features a single auto-reverse transport with bi-directional record capability. This cassette deck is a simplified version of the K-110W with no compromise in recording quality. The K-110 also includes stereo microphone inputs for convenient "live" recording. (17-1/4"W x 4-5/16"H x 10-11/16"D; 8.6 Lbs)

The **K-112** is a three-head, double Dolby configuration that allows monitoring of the "just-recorded" signal, while the recording is being made. This cassette deck is specially designed with a superb "single-direction" transport to ensure professional-grade recording. (17-1/4"W x 4-5/16"H x 12-9/16"D; 9.5 Lbs)

The **K-111** is a 2-head version of the K-112 for excellent recording at a more affordable price. A high-quality, full logic transport and twin motor drive system maintains Luxman's reputation for sonic accuracy and durability. (17-1/4"W x 4-5/16"H x 10-1/2"D; 7.7 Lbs)

Integrated Amplifiers

Luxman Integrated Amplifiers all employ voltage-driven amplification for optimum dynamic performance with negligible transient inter-modulation or slew induced distortion. In addition all use High Energy power supplies with high filter capacitance to provide the steady state and dynamic power necessary for proper reproduction of even the most demanding musical transients.



LV-105u "Brid" Stereo Integrated Amplifier (80 Watts/Ch.)

The **LV-105u** is a hybrid of tubes and transistors with reproduction accuracy not previously attainable using either technology separately. The "BRID" concept, introduced by Luxman, combines J-FET's, twin-triode tubes and high-current MOSFET output devices to utilize the best features of both vacuum-tube and semiconductor technologies — for true musicality and sonic realism over the entire audio spectrum.

(17-1/4"W x 5-13/16"H x 13-7/8"D; 25.3 Lbs)



LV-117 Stereo Integrated Amplifier (110 Watts/Ch.)

The **LV-117** employs some of the most innovative and advanced technology available to achieve Luxman's constant goal of sonic purity. Using voltage-driven amplification, Digital Direct inputs with a built-in D/A converter, and high power output stages capable of driving speakers with low impedance ratings, the LV-117 re-creates the purity of the original music with impeccable precision.

(17-1/4"W x 6-1/2"H x 17-1/8"D; 34.5 Lbs)



LV-113 Stereo Integrated Amplifier (65 Watts/Ch.)

The **LV-113** retains many of the design features of the LV-117, including Coaxial/Optical Digital Direct inputs and video amplification for video switching capabilities. Plus a built-in Phono Preamplifier is included.

(17-1/4"W x 5-3/8"H x 15"D; 21.6 Lbs)



LV-112 Stereo Integrated Amplifier (55 Watts/Ch.)

The **LV-112** presents such Luxman features as a subsonic filter to remove very low frequency components resulting from warped records, tone arm resonances or other causes, and "Line Straight" which bypasses tone and other controls for the shortest direct path to the power amplifier ensuring the best possible fidelity, imaging, and sonic impact.

(17-1/4"W x 5-3/8"H x 14-3/8"D; 19.8 Lbs)



LV-111 Stereo Integrated Amplifier (40 Watts/Ch.)

The **LV-111**, although rated at a modest 40 watts per channel, sacrifices no quality. The LV-111 features voltage-driven amplification, high energy power supply, CD Straight and a subsonic filter.

(17-1/4"W x 4-3/8"H x 11"D; 14.3 Lbs)



LE-109 Stereo Phono Preamplifier

The **LE-109** is an uncompromised design, integrating dual differential full complementary amplifiers, adjustable gain and load impedance switches for compatibility with MC or MM cartridges, and independent dual power supplies for complete channel isolation.

(17-1/4"W x 2-1/2"H x 12-3/16"D; 9.9 Lbs)

Tuners

Luxman tuners offer Computer-Analyzed Tuning which continuously samples the incoming FM signal. The audio output is automatically switched to "high-blend" when the level is too low for noise-free stereo. In this way, audio quality is improved for most receivable stations.



T-117 AM/FM Stereo Tuner

The **T-117** utilizes twin FM detectors for unequaled performance. A calibration button improves the quality of recording from FM broadcasts.

(17-1/4"W x 2-1/2"H x 12-1/4"D; 9.9 Lbs)



T-111 AM/FM Stereo Tuner

The **T-111**, as the T-117, employs computer-analyzed tuning, and with an external timer both units allow automatic selection of up to 5 stations and/or programs to be sequentially recorded.

(17-1/4"W x 2-3/8"H x 8-5/8"D; 5.1 Lbs)

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5 YEAR
WARRANTY

	DAC Quantization	Oversampling	Frequency Response	Total Harmonic Distortion (2 V out, 1kHz, 20Hz-20kHz BPF)	Signal/Noise Ratio (30 kHz I/F, IHF-A, Emph-on)	Dynamic Range (30kHz L/F, IHF-A)	Channel Separation (1kHz)
D-105u	18 bits	8x	5Hz-20kHz (± 0.5dB)	0.05%	105dB	92dB	90dB
DZ-122	18 bits	8x	5Hz-20kHz (± 0.5dB)	0.005%	105dB	90dB	95dB
DZ-121	18 bits	8x	5Hz-20kHz (± 0.5dB)	0.005%	105dB	90dB	95dB
DZ-111	16 bits	4x	5Hz-20kHz (± 0.5dB)	0.06%	105dB	90dB	95dB
DZ-92	16 bits	4x	5Hz-20kHz (± 0.5dB)	0.06%	105dB	92dB	95dB
DC-114	18 bits	8x	5Hz-20kHz (± 0.5dB)	0.005%	104dB	95dB	95dB
DC-113	16 bits	8x	5Hz-20kHz (± 0.5dB)	0.008%	104dB	92dB	95dB

	Bass Driver	Tweeter	Cross-Over Frequency	Impedance	Frequency Response
S-505	8-in woofer	1 in soft dome tweeter	3kHz	8 ohms nominal 5.6 ohms min.	50Hz-22kHz (± 2.5dB)
S-503	6 1/2 in woofer	1 in soft dome tweeter	7kHz	8 ohms nominal 5.6 ohms min.	60Hz-22kHz (± 2.5dB)

	Rated Continuous Power Output (20-20kHz, 8 ohms @ Rated THD)	Dynamic Power Output (4 ohms)	Dynamic Power Output (2 ohms)	Peak Short-Circuit Current (40Hz, 10ms burst, 5% duty cycle)	Total Harmonic Distortion (20Hz-20kHz, 8 ohms, Full Power)	Intermodulation Distortion (60Hz + 1kHz ± 1, 8 ohms, Full Power)	Signal-to-Noise Ratio	Frequency Response	Video Bandwidth	Signal-to-Noise Ratio (1kHz, IHF-A)	FM Usable Sensitivity (IHF)	FM Sensitivity, 50 dB Quiet (IHF)	FM S/N Ratio (IHF-A)	FM Total Harmonic Distortion (1kHz)	FM Stereo Separation (1kHz)	Output Voltage Impedance
R-117	160W	600W	700W	50A	0.03%	0.03%	Phono MC (re 5mV) 70dB Phono, MM (re 5mV) 88dB CD, Tape, Video (re 0.5V) 100 dB	6Hz-10MHz (± 1dB)	62dB	Mono 10.3dB Stereo 13.2dB	Mono 13.2dB Stereo 36.6dB	Mono 60dB Stereo 75dB	Mono 0.08% Stereo 0.10%	Wide I.F. 50dB Narrow I.F. 35dB	—	—
R-115	70W	200W	270W	35A	0.03%	0.03%	Phono (re 5mV) 88dB CD, Tape, Video (re 0.5V) 98dB	6Hz-10MHz (± 1dB)	62dB	Mono 10.3dB Stereo 13.2dB	Mono 13.2dB Stereo 36.6dB	Mono 60dB Stereo 75dB	Mono 0.08% Stereo 0.10%	Wide I.F. 50dB Narrow I.F. 35dB	—	—
R-114	50W	100W	130W	20A	0.05%	0.01%	Phono (re 5mV) 78dB CD, Tape, Video (re 0.5V) 95dB	—	—	Mono 10.8dB Stereo 14.0dB	Mono 80dB Stereo 38.0dB	Mono 80dB Stereo 74dB	Mono 0.15% Stereo 0.20%	47dB	—	—
R-113	35W	84W	100W	16A	0.08%	0.03%	Phono (re 5mV) 88dB CD, Tape, Video (re 0.5V) 96dB	—	—	Mono 10.8dB Stereo 14.0dB	Mono 80dB Stereo 38.0dB	Mono 80dB Stereo 74dB	Mono 0.10% Stereo 0.18%	45dB	—	—

TP-117	—	—	—	—	1V out, 20Hz-20kHz 0.006% 8V out, 1kHz 0.008%	0.003%	—	Phono (RIAA) 20Hz-20kHz (± 0.5dB) CD, Tape, Video 4.5Hz-350 kHz (± 3.0dB)	6Hz-10MHz (± 1dB)	Mono 10.8dB Stereo 14.8dB	Mono 14.8dB Stereo 38.0dB	Mono 78dB Stereo 72dB	Mono 0.1% Stereo 0.15%	48dB	Rated 1.0 V/600 ohms Maximum 8V
TP-114	—	—	—	—	1V out, 20Hz-20kHz 0.008% 8V out, 1kHz 0.01%	0.005%	—	Phono (RIAA) 20Hz-20kHz (± 0.5dB) CD, Tape, A/V 5Hz-160 kHz (± 3.0dB)	—	Mono 11.3dB Stereo 14.8dB	Mono 14.8dB Stereo 38.0dB	Mono 77dB Stereo 72dB	Mono 0.15% Stereo 0.20%	47dB	Rated 1.0 V/600 ohms Maximum 8V
T-117	—	—	—	—	—	—	—	—	—	Mono 8.8dB Stereo 16.0dB	Mono 88dB Stereo 36.0dB	Mono 88dB Stereo 78dB	Mono 0.05% Stereo 0.06%	55dB	—
T-111	—	—	—	—	—	—	—	—	—	Mono 10.8dB Stereo 19.0dB	Mono 85dB Stereo 38.0dB	Mono 75dB Stereo 70dB	Mono 0.15% Stereo 0.20%	50dB	—
F-116	—	—	—	—	—	—	—	10Hz-16kHz (± 1, -3dB)	—	—	—	—	Max Level ± 0.05%	—	Max. 4.5V/500 ohms
M-117	200W	550W	820W	150A	0.03%	0.007%	(IHF-A, 200W out) 120 dB	5 Hz-100kHz (± 1dB) 2.4 Hz-200kHz (± 3dB)	—	—	—	120dB	—	—	—
M-113	50W	140W	180W	40A	0.03%	0.005%	(IHF-A, 50W) 116 dB	5 Hz-80kHz (± 1dB) 2.4 Hz-160kHz (± 3dB)	—	—	—	116dB	—	—	—

LV-105u	80W	170W	140W	—	0.25%	0.03%	Phono, MM (re 5mV) 90dB Phono, MC (re 0.5mV) 70dB CD/Tuner/Tape/AV (re 500mV) 96dB	Phono (RIAA) 20Hz-20kHz (± 0.3dB) CD/Tuner/Tape/AV 3.5Hz-300kHz (± 3dB)	6Hz-10MHz (± 1dB)	—	—	—	—	—	—
LV-117	110W	250W	300W	70A	0.05%	0.02%	Line Straight (re 500mV input, IHF-A) 97dB	Audio, Line Straight 3.5 Hz-150kHz (± 3dB)	6Hz-10MHz (± 1dB)	—	—	—	—	—	—
LV-113	155W	150W	190W	30A	0.05%	0.02%	Phono MM (re 5mV) 84dB Other Analog Inputs (Line Straight, re 500mV) 96dB	Phono MM 20Hz-20kHz (± 0.3dB) Other Analog In 6 Hz-150 kHz (± 3dB)	6Hz-10MHz (± 1dB)	—	—	—	—	—	—
LV-112	55W	120W	150W	25A	0.05%	0.02%	Phono MM (re 5mV) 84dB Other Inputs 95dB (Line Straight, re 500mV)	Phono MM 20Hz-20kHz (± 0.5dB) Other Inputs 6.5Hz-150 kHz (± 3dB)	—	—	—	—	—	—	—
LV-111	40W	90W	60W	9A	0.05% (1kHz) 0.008%	0.02%	Phono (re 5mV) 82dB Other Inputs 95dB	Phono 20Hz-20kHz (± 0.5dB) Other Inputs 5.8 Hz-100kHz (± 3dB)	—	—	—	—	—	—	—
LE-109	—	—	—	—	—	—	Input 1 (MC Straight) 86dB Input 2 (MM, 0dB) 101dB Input 1 (MC, 22dB) 86dB Input 2 (MC, 32 dB) 78dB	20Hz-20kHz (± 0.3dB)	—	—	—	—	—	—	—