

CD

P L A Y E R S



CREATION IN DEPTH

*Digital audio technology
brings the ineffable allure of music within reach.
Now, a new generation of CD players that live up to the promise of
Ultimate Fidelity.*

LUXMAN

INTRODUCING THE

*Two award-winning
the audio*

*The Luxman DP-07 CD player and its
the DA-07, together are
take the two
in the Japanese*



COMPONENTS OF THE YEAR

C.O.T.Y.
COMPONENTS OF THE YEAR

Out of a field of dozens of ultra-high-end components from domestic and overseas makers, Japan's esteemed *Stereo Sound* magazine named Luxman's CD player system the No.1 Components of the Year in 1988. The stated criterion for the award is the product that "comes closest to perfection". The DA-07/DP-07 system was the overwhelming choice of the judges based on its originality of design as well as musical sound quality.

LUXMAN PUTS THE MUSIC BACK INTO COMPACT DISCS ●●● Ultimate Fidelity. What does Luxman's motto imply for the design of its CD players? For one, it means Luxman engineers have not forgotten that music is ultimately a collection of analog waves. The digital-to-analog conversion process is thus the heart of music reproduction in a CD player. In designing the Ultimate Fidelity CD player, Luxman's goal was to convert digital signals back into musical signals so precisely as to be indistinguishable from the original source. ●●● Until now, the design of the digital/analog converter (DAC) in all CD players has been based on a relationship known as Shannon's Theorem. Because this conversion process results in great quantities of high-frequency noise, a low-pass filter is required to reproduce clean analog signals. However, the filter inevitably entails some phase shift. To overcome this, engineers have made improvements through the use of multiple (2, 4, or 8-times) oversampling digital filters. But the solution created new problems in the form of "ringing" distortions. Further improvements have been achieved through the use of dual



STATE OF THE ART

components have swept

world by storm.

companion digital/analog conversion unit,

the first CD player system to

most coveted prizes

audio industry.

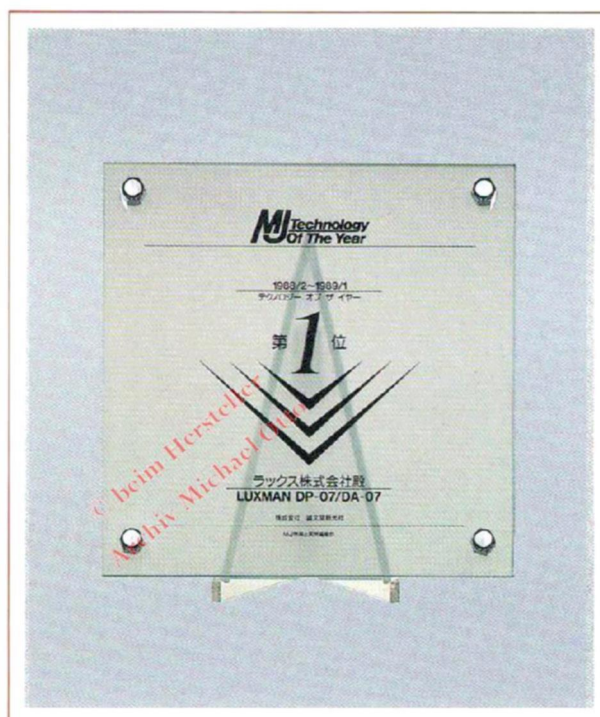
TECHNOLOGY OF THE YEAR



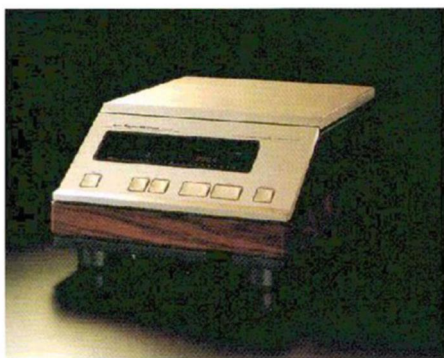
The venerable *Musen to Jikken* ("Radio and Test") has been introducing technological advances in audio since 1924.

In naming the Luxman CD player system "Technology of the Year" from a final field of 20 top-class components, MJ's judges did not limit their praise to the engineering break throughs of the DA-07 or the uncompromising design and construction of the DP-07:

"The quality of music reproduction was so wonderful, we forgot about the very existence of any mechanism or electronics!"



or multiple DACs, or DACs with 18, 20 or higher numbers of bits. Luxman has contributed to improvements in CD reproduction through these measures as well as unique refinements of the analog and digital signal paths. ●●● Still, the inherent trade-offs in applying Shannon's



Theorem to CD players remained. To get around them, Luxman pioneered a totally new conversion method — the Fluency DAC. Based on a new theory of functions developed at Tsukuba University, the Fluency DAC represents an epochal improvement in musical reproduction from the CD format.

AN ENTIRELY NEW APPROACH ●●● How does the Fluency DAC work? In theory, any wave can be mathematically represented by a summation of instantaneous impulses. This means that it is possible to reproduce an analog wave by generating numerous impulses according to "bits" of digital data over a period of time. The Fluency DAC uses a new formula to select digital data so that the DAC reproduces smooth analog waves directly, eliminating the need for filters, oversampling, or higher-bit DACs.

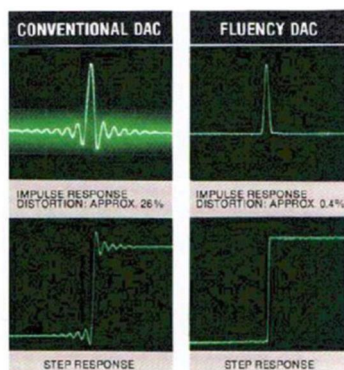
DA-07·DP-07



DA-07 THE LUXMAN DA-07 DIGITAL/ANALOG CONVERTER UNIT features •Fluency DAC conversion of digital inputs with sampling frequencies of 44.1 kHz (CD), 48 kHz (DAT), and 32 kHz (Digital Satellite Broadcasting Tuner) •Complete isolation of left/right channel and digital/analog signal paths at all stages, including independent L/R power transformers •Ultra-high quality materials and components used throughout, including PC-OCC wiring and 70 μ -thick OFC glass epoxy PC boards •Independent voltage regulators at 11 stages •Massive anti-resonant rigid construction with 18-mm front panel •Full copper-plated chassis and 10-block internal layout for maximum shielding •Switching of 3 coaxial and 3 optical digital inputs (2 standard and 1 ultra-high speed for use with DP-07) •Digital recording optical and coaxial outputs •3 analog outputs (variable coaxial, fixed coaxial, and fixed balanced) •Adjustable master output level •Front panel display dimmer/switch •Champagne gold finish

A conventional DAC design applying Shannon's Theorem and a digital oversampling filter results in ringing distortions. These can be seen in the small ripples on either side of the musical signal. Ringing results in constant low-level noise and a perceived decline in dynamic range. These spurious signals also cause phase distortions during listening, detracting from the subtle musical harmonics that make music come to life. ●●● The Fluency DAC virtually eliminates ringing. A similarly dramatic improvement in reproduction is seen in the square wave test.

RESTORING THE FULL MUSICAL SPECTRUM ●●● The advantages of the Fluency DAC are not limited to the elimination of phase shift and ringing. By accurately selecting musical signals at the input stage, the Fluency DAC produces an analog signal with more musical depth. ●●● Almost all music sources naturally contain a small but significant harmonic component at the upper limits of audibility. This component is critical to the soundstage localization and musical "ambience" that are essential for realistic reproduction. However, digital recording for compact discs is a pulse-code modulation process using a sampling frequency of 44.1 kHz, which effectively eliminates all musical signals from about 22 kHz on up. Moreover, conventional DACs employ a filter that begins a steep cut-off at lower frequencies. ●●● Luxman found an ingenious way to restore this missing musical ambience using the Fluency DAC. Because harmonics arise from basic physical laws and mathematical principles, the distribution of harmonics that occur in nature can be recreated. By carefully programming the digital input stage of the Fluency DAC, Luxman has succeeded in reproducing the rich ambience lost in the CD recording and playback.





DP-07 THE LUXMAN DP-07 COMPACT DISC PLAYER features •GaAlAs laser double hetero diode pickup •Anti-resonant ceramic FRP base and massive aluminium diecast chassis •Special shock absorber for floating pickup support •High-speed precision linear motor tracking •Isolation of left/right channel signal paths at all stages including power transformers •Independent voltage regulators at 10 stages •Pickup, microcomputer/display, output stages, transformer, and power supply components isolated in separate internal blocks to eliminate electrical crosstalk •Ultra-high quality materials and components used throughout, including PC-OCC wiring and 70µ-thick OFC glass epoxy PC boards •Top-loading panel to eliminate tray vibrations and seal out atmospheric disturbances •Full remote control features •Line phase sensor •Front panel display dimmer/switch •Champagne gold finish

WORKS OF ART — INTRODUCING THE HARDWARE ●●● The Fluency DAC is the heart of the Luxman DA-07 D/A Converter Unit, a masterpiece of electronic engineering and careful design in its own right. Luxman spared no effort on any aspect of its massive anti-resonant construction, top-quality components, and capabilities, which include D/A conversion for CD, DAT, and digital satellite broadcasting and three optical and three coaxial digital inputs. ●●● Likewise, the Luxman DP-07 CD Player sets a new standard for uncompromising quality of design, materials, and construction in pursuit of Ultimate Fidelity. Its top-loading design, a massive anti-resonant ceramic FRP base and diecast chassis, and the most elaborate damping system ever used in a CD player ensure that the GaAlAs laser pickup tracks flawlessly. As in the DA-07, unmatched purity of output signal is achieved through full separation of L/R power supplies and signal paths. In series with the DA-07, the DP-07 produces a sound of a totally different dimension from any other CD player. In sum, it is the only CD player that can claim to reproduce music as it was first played.

THE ULTIMATE CD PLAYER SYSTEM ●●● Luxman is so confident that the DP-07/DA-07 CD player system will set a new standard for CD reproduction, it has already started to tackle the development of Fluency DAC-equipped CD players for more moderate budgets. For now, though, the choice of the ultimate CD player is a simple one. Listen and let your own ears help you decide whether you want the state of the art. ●●● Because until we can advance it any further, this is it.



TOP-LOADING DISC TRAY



FRP ANTIRESONANT BASE

D-105u

Perfect Harmony of Digital and Analog Technologies



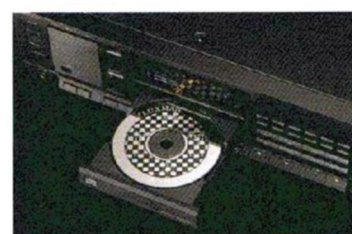
Creating a Truly Musical CD Sound



D-105u
CD Player
LV-105u
Integrated Amplifier

■ **High-Quality Vacuum Tube Analog Output Stage** Building on its expertise in developing the latest generation of Ultimate Fidelity vacuum-tube amplifiers, Luxman has opened a new world of musicality in CD sound. The two 6CG7 tubes employed in the output circuit enable the D-105u to recapture the soft, three-dimensional, musical tone quality of any recording. ■ **Advanced Digital Output Stage** 18-bit, 8-times oversampling digital filters assure you of accurate, linear frequency response and minimal phase shift. Dual D/A converters bring about a significant improvement in channel separation. ■ **STAR Circuit** The D-105u employs Luxman's unique STAR (Signal Transit for Accurate Response) Circuit, which reduces channel cross-talk by isolating the left and right ground and power supplies. ■ **"Mid-Ship" Mechanism** Luxman's High-Rigid Lock mechanism combines with the ideally balanced, central position of the disc tray to enhance resistance to resonations caused by external vibrations. ■ **A Host of High-Touch Features** You won't find many other CD players that have gone so far in pursuit of audio excellence. To complement its top-notch specs, Luxman adds a range of convenient features, like remote volume control; a fluorescent front panel display dimmer/switch; and editing and adjustable timed fade-out for expert CD dubbing. ■ **Direct Link to the LV-105u** A masterpiece of audio craftsmanship in its own right, the D-105u also functions as the main playback source in serial remote control with the Luxman LV-105u Ultimate Fidelity integrated amplifier.

Other D-105u features include ■ Vacuum Tube Preheating Switch ■ Gold-Plated Analog, Optical and Coaxial Digital Outputs ■ 32-Track Random Access and Programming ■ 10-key Direct Track Access ■ 4-Mode Time Display ■ Memory Auto Check ■ Automatic Pause, Scan, and Repeat ■ CD Single Compatibility.



MID-SHIP MECHANISM



RD-105u

D-103u

The Music Lover's CD Player



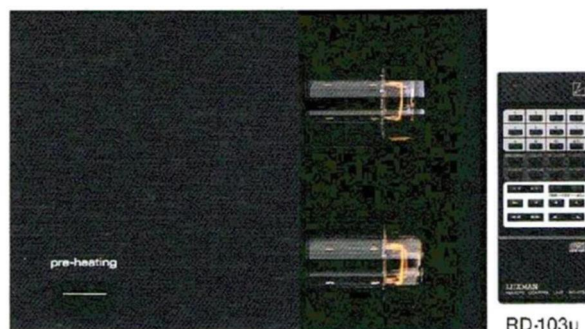
Just the Music — Pure and Simple



D-103u
CD Player
LV-103u
Integrated Amplifier

■ **High-Quality Vacuum Tube Analog Output Stage** The D-103u was designed to make the unique design of the D-105u available to more conservative budgets — without compromising on sound quality. That means using the same basic components in the analog signal path: two triode vacuum tubes in the output stage to recreate the delicate, transparent tones of the original performance. ■ **Advanced Digital Output Stage** The D-103u also offers 18-bit, 8-times oversampling digital filters, and independent dual D/A converters. The STAR Circuit helps preserve signal purity at all stages. ■ **"Mid-Ship" Mechanism** The ideally balanced, central position of the disc tray combines with Luxman's High-Rigid Lock mechanism to enhance the anti-resonance of the D-103u. ■ **Features Emphasize Ease of Use** Convenient D-103u features include: remote volume control; switchable front panel display dimmer; vacuum-tube warm-up switch; and 32-track random access and track programming. In sum, the D-103u offers everything that a music lover could ask for — and more. ■ **Direct Link to the LV-103u** The D-103u is the main playback source in serial remote control with the Luxman LV-103u Ultimate Fidelity integrated amplifier.

Other D-103u features include ■ Memory Auto Check ■ Automatic Scan/Pause ■ Fade-In/Out ■ Emphasis Display ■ CD Single Compatibility.



RD-103u

DZ-112

Ultimate Fidelity CD Player

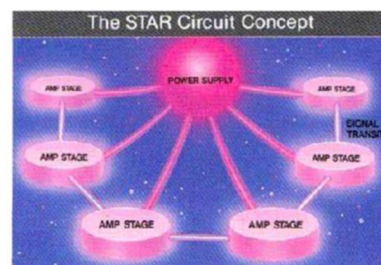


For the Audio Perfectionist

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Archiv Michael Otto

■ **18-Bit DACs and 8-Times Oversampling Digital Filters** Luxman's dedication to true-to-life fidelity is epitomized by the DZ-112 CD player. Two independent 18-bit D/A converters with 8-times oversampling digital filters are employed, one for each channel, to achieve the most accurate, noise-free playback response and increase channel separation. The coaxial digital output provides the option of direct digital output to an amplifier with a built-in D/A converter for even higher fidelity. ■ **STAR Circuit** Discrete power supply and ground lines are provided for each section of the DZ-112, a configuration that Luxman calls the STAR Circuit. Already well-known to Luxman amplifier owners, this technology is equally important in compact disc players, where it serves to preserve the virtually perfect sonic purity at each stage of the reproduction process. ■ **High-Rigid Lock Mechanism** Luxman's exclusive High-Rigid Lock mechanism helps keep external vibrations or cabinet resonances from interfering with tracking by the precision laser-beam pick-up. This basically consists of separate pickup and mechanism bases supported by coil springs and a special shock-absorbing type of rubber. ■ **Remote Volume Control, Unique Editing Features** Volume control as well as random access and 32-track programming are all possible through the remote control unit. In addition to editing and fade-in/out controls for ease in dubbing, the DZ-112 has a unique automatic fade-out programmable up to 99 minutes.

Other DZ-112 features include ■ Adjustable Display Dimmer With On/Off Switch ■ 10-Key Direct Access ■ CD Single Compatibility ■ Serial Remote Control.



RD-105u

DZ-111

Affordable Luxury



Upgrade Your CD Sound System

■ The DZ-111 may well be the "Best Buy" of the Luxman CD player line-up — it represents quality and value that must be heard to be believed. ■ **4-Times Oversampling Filters, Dual DACs** Luxman started with dual 16-bit D/A converters for outstanding channel separation, and used quadruple oversampling low-impedance low-pass filters to minimize phase shift and realize ultra-clear audio in the higher frequencies. ■ **Digital Output** The coaxial output jack gives you the option of keeping the output signal in the digital domain all the way to the amplifier, when the DZ-111 is connected to an amplifier with a built-in D/A converter. This protects the signal from the myriad problems and loss of "ambience" associated with standard electrical phono cables. ■ **STAR Circuit, High-Rigid Lock Mechanism** To preserve the sonic purity of signals in each stage, Luxman employed its exclusive STAR Circuit. The High-Rigid Lock Mechanism keeps the DZ-111 highly resistant to external shocks and cabinet resonances.

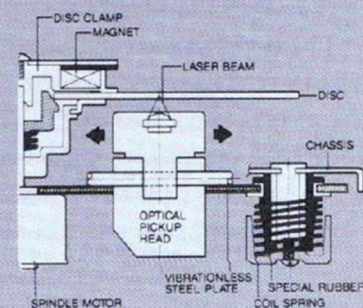
The DZ-111 also features ■ 32-Track Programmability ■ Headphone Volume Control ■ CD Single Compatibility ■ Serial Remote Control

DIGITAL OUT



DIGITAL OUTPUT

HIGH RIGID LOCK MECHANISM



RD-113

DD-113

Digital Direct CD Player



*Exclusively Digital –
Exclusively from Luxman*



DD-113
CD Player
LV-113
Integrated Amplifier

■ **Digital Output for Sonic Purity** The DD-113 is the second generation of the world's first digital output-only compact disc player, the D-113D. By concentrating on perfecting the CD player's basic functions prior to the D/A conversion stage, Luxman has achieved the ultimate in pure digital output and solved the needless duplication of DAC functions in the player and amplifier. ■ **Direct Link With the LV-113** The full potential of the DD-113 can be realized in combination with the Luxman LV-113, an integrated amplifier capable of digital direct input. This set-up completes Luxman's new "Digital Exclusive" system. ■ **High-Rigid Lock Mechanism, STAR Circuit** The DD-113 naturally incorporates all the Luxman advances in basic CD player technology, including the High-Rigid Lock Mechanism. Independent springs support the main chassis and the pickup drive mechanism, while a special type of shock-absorbent rubber isolates the pickup base and the main chassis. The STAR Circuit ensures that a constant ground reference is provided independently for each electrical stage and channel. ■ **Convenient Features Too** An easy-to-read fluorescent display dimmer can be adjusted to your preference, or switched off completely. Programming of up to 32 tracks in random order is possible through the remote control or front panel controls.

The DD-113 also features ■ 18-Key Remote Control ■ Serial Remote Control With LV-113 Integrated Amplifier



D-113D Digital Direct CD Player



RD-103u

SPECIFICATIONS

DA-07

Digital/Analog Converter

Method of D/A Conversion	Fluency DAC, 16-bit, no LP filter
Sampling Frequencies	32 kHz, 44.1 kHz, 48 kHz (Automatic switching)
Frequency Response (CD input)	4 Hz ~ 20 kHz (± 0.1 dB)
Total Harmonic Distortion	0.008%
Impulse Distortion (impulse peak/sample peak)	Approx. 0.4% (Ref. 26% for DAC based on Shannon's Theorem)
Signal-to-Noise Ratio	More than 96 dB
Dynamic Range	96 dB
L-to-R Channel Separation	More than 115 dB
Digital Inputs — Coaxial 1, 2, 3	Output voltage: 0.5Vp-p/75 Ω
Optical 1	125Mb/s
Optical 2, 3	6Mb/s
Digital Outputs — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Optical	6Mb/s
Analog Output — Coaxial	Output voltage (Fixed): 2V/47 Ω
	Output voltage (Variable): ~ 2V/100 Ω
Balanced	Output voltage (Fixed): 4V/94 Ω
Dimensions	438 W $\times$ 220 H $\times$ 474 D (mm)
Net Weight	27 kg

DP-07

CD Player

Laser Pick-up	Gallium-Aluminum Arsenide (GaAlAs) Double Hetero Diode
Digital Outputs — Coaxial	Maximum output: 0.5Vp-p/75 Ω
Optical 1	Wavelength 820 nm
Optical 2	Wavelength 680 nm
Remote Control Unit	RD-07, included
Other Feature	Line Phase Sensor
Dimensions	300 W $\times$ 183 H $\times$ 452 D (mm)
Net Weight	20 kg

LV-105u

Integrated Amplifier

Output Power (8 Ω)	80 W $\times$ 2 (20 Hz ~ 20 kHz)
Dynamic Power Output	170 W (4 Ω)
Total Harmonic Distortion	0.008% (1kHz)
Input Sensitivity & Input Impedance	Phono MM: 2.0mV/47k Ω Phono MC: 150 μ V/100 Ω LINE (CD, tuner, tape, AV-Audio): 150mV/47 Ω AV-Video: 1Vp-p/75 Ω
Signal-to-Noise Ratio (IHF-A weighted)	Phono MM: 90 dB Phono MC: 70 dB LINE (CD, tuner, tape, AV-Audio): 110 dB
Frequency Response	Phono MM: 20 Hz ~ 20 kHz (± 0.3 dB) Phono MC: 20 Hz ~ 20 kHz LINE (CD, tuner, tape, AV-Audio): 1 Hz ~ 150 kHz (-3 dB)
Dimensions	438 W $\times$ 148 H $\times$ 353 D (mm)
Weight	11.5 kg

D-105u

CD Player

Frequency Response (CD)	5 Hz ~ 20 kHz (± 1.0 dB)
Total Harmonic Distortion	0.05% (at 1kHz)
Signal-to-Noise Ratio	105 dB
Dynamic Range	89 dB
Channel Separation	89 dB
Analog Output — Fixed	Output voltage: 2.0V/74k Ω
Variable	Output voltage: 0 ~ 2.0V/47k Ω
Digital Outputs — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Optical	Output level: ~ 21 ~ -15 dBm Wavelength: 660nm
Dimensions	438 W $\times$ 145 H $\times$ 320 D (mm)
Net Weight	8.5 kg

D-103u

CD Player

Frequency Response	5 Hz ~ 20 kHz (± 1.0 dB)
Total Harmonic Distortion	0.05% (at 1kHz)
Signal-to-Noise Ratio	105 dB
Dynamic Range	89 dB
Channel Separation	89 dB
Analog Output — Fixed	Output voltage: 2.0V/47k Ω
Variable	Output voltage: 0 ~ 2.0V/47k Ω
Digital Outputs — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Optical	Output level: ~ 21 ~ -15 dBm Wavelength: 660nm
Dimensions	438 W $\times$ 145 H $\times$ 320 D (mm)
Net Weight	6.5 kg

LV-103u

Integrated Amplifier

Output Power (8 Ω)	60 W $\times$ 2 (20 Hz ~ 20 kHz)
Dynamic Power Output	140 W (4 Ω)
Total Harmonic Distortion	0.008% (1kHz)
Input Sensitivity & Input Impedance	Phono MM: 2.0mV/47k Ω Phono MC: 150 μ V/100 Ω LINE (CD, tuner, tape, AV-Audio): 150mV/47 Ω AV-Video: 1Vp-p/75 Ω
Signal-to-Noise Ratio (IHF-A weighted)	Phono MM: 90 dB Phono MC: 70 dB LINE (CD, tuner, tape, AV-Audio): 110 dB
Frequency Response	Phono MM: 20 Hz ~ 20 kHz (± 0.3 dB) Phono MC: 20 Hz ~ 20 kHz LINE (CD, tuner, tape, AV-Audio): 1 Hz ~ 150 kHz (-3 dB)
Dimensions	438 W $\times$ 148 H $\times$ 353 D (mm)
Weight	10.2 kg

DZ-112

CD Player

Frequency Response	5 Hz ~ 20 kHz (± 0.5 dB)
Total Harmonic Distortion	0.005% (at 1kHz)
Signal-to-Noise Ratio	105 dB
Dynamic Range	97 dB
Channel Separation	96 dB
Analog Output — Fixed	Output voltage: 2.0V/47k Ω
Variable	Output voltage: 0 ~ 2.0V/47k Ω
Digital Output — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Dimensions	438 W $\times$ 85 H $\times$ 311 D (mm)
Net Weight	4.5 kg

DZ-111

CD Player

Frequency Response	5 Hz ~ 20 kHz (± 0.5 dB)
Total Harmonic Distortion	0.06% (at 1kHz)
Signal-to-Noise Ratio	106 dB
Dynamic Range	90 dB
Channel Separation	95 dB
Analog Output (Fixed)	Output voltage: 2.0V/47k Ω
Digital Output — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Dimensions	438 W $\times$ 85 H $\times$ 311 D (mm)
Net Weight	4.2 kg

DD-113

CD Player

Digital Output — Coaxial	Output voltage: 0.5Vp-p/75 Ω
Optical	Output voltage: ~ 21 ~ -15 dBm Wavelength: 660nm
Dimensions	438 W $\times$ 85 H $\times$ 311 D (mm)
Net Weight	4.4 kg

LV-113

Integrated Amplifier

Output Power (8 Ω)	70 W $\times$ 2 (20 Hz ~ 20 kHz)
Dynamic Power Output	150 W $\times$ 2 (4 Ω) 190 W $\times$ 2 (2 Ω)
Total Harmonic Distortion	0.006% (1kHz)
Input Sensitivity & Input Impedance	Phono MM: 2.5mV/50k Ω LINE (CD, tuner, tape, AV-Audio): 150mV/40 Ω AV-Video: 1Vp-p/75 Ω
Signal-to-Noise Ratio (IHF-A weighted)	Phono MM: 87 dB LINE (CD, tuner, tape, AV-Audio): 105 dB
Frequency Response	LINE (CD, tuner, tape, AV-Audio): 1 Hz ~ 150 kHz (-3 dB)
Dimensions	438 W $\times$ 137 H $\times$ 382 D (mm)
Weight	9.8 kg

*Luxman CD players have a purely musical sound quality
that cannot be fully described by words or numerical specifications.
And that is the true meaning of Ultimate Fidelity.*



LUX CORPORATION

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