



ESOTERIC

Stereo Linestage Preamplifier C-02X

Stereo Power Amplifier S-02

C-02X Specifications

Analog Audio Inputs	
Connectors	RCA x 3 pairs (RCA 2 can be used as an AV pre-input) / XLR x 2 pairs
Input Impedance	LINE :10kΩ
Input Sensitivity	510mV (at rated output) / 200mV (at 800mV output)
Maximum Input Level	12V

Analog Audio Outputs	
Connectors	RCA x 2 pairs / XLR x 2 pairs
Output Impedance	47Ω (RCA) / 100Ω (XLR)
Total Harmonic Distortion	0.0006% (RCA) / 0.0004% (XLR)
Frequency Response	1Hz - 200kHz (-3dB) / 3Hz - 50kHz (-0.2dB)
Signal-to-Noise Ratio (S/N)	116dB (2V input, A-weighted)
Gain	+12dB
Rated Output	2V
Maximum Output Level	7.5V (RCA output, 1kHz, 0.003%) / 15V (XLR output, 1kHz, 0.003%)

General	
Power Supply	230V AC, 50Hz / 120V AC, 60Hz / 220V AC, 60Hz
Power Consumption	21W
External Dimensions (WxHxD)	445 x 162 x 457mm (including protrusions)
Weight	32kg (70 5/8 lb)

Included Accessories	
Power cord x 1 / Remote control (RC-1315) x 1 / Batteries for remote control (AAA) x 2 / Felt pads x 4 / Owner's manual x 1 / Warranty card x 1	

Auxiliary Phono Modules

- MM/MC-compliant phono module boards are also available.
- Independent L & R boards designed in dual mono configuration.
- Can be configured for remote control operation.
- High-quality 4-layer board design with optimized power rectification.



Main Specifications
 • Gain: MM: 52dB, MC: 72dB • Input Sensitivity: MM: 5mV, MC: 0.5mV • S/N Ratio: MM: 91dB, MC: 76dB • Input Impedance: MM: 47kΩ, MC: 20/100/300Ω, selectable • RCA3: Distance between L & R input terminals: 22.5cm

* Installation only available at authorized Esoteric service centers. Please direct enquiries to your nearest Esoteric dealer. Owing to the specialized requirements of the installation procedure, phono module boards cannot be sold separately. Following installation, the RCA3 jacks located on the rear panel of the C-02X will be converted to phono-only input terminals, and line inputs limited to 2 pairs of RCA jacks and 2 pairs of XLR jacks.

Upgrade Service

An upgrade service is available to owners of the C-02 Stereo Linestage Preamplifier which allows the new X edition functions and related parts to be retrofitted to the earlier model.

Applicable Model: C-02
 Contents: Addition of EDLC (super capacitor) array and exchange of power supply boards for sound quality upgrade to equivalent of C-02X.

S-02 Specifications

Rated Power Output	145W + 145W (8Ω) 290W + 290W (4Ω)
Maximum Power Output	580W + 580W (2Ω)
Frequency Response	5Hz - 100kHz (+0dB, -3dB, 8Ω)
Signal-to-Noise Ratio (S/N)	115dB (IHF-A)
Total Harmonic Distortion	0.003% (1kHz, 8Ω, 145W)
Gain	29dB
Damping Factor	1000
Analog Audio Input Jacks	RCA x 1 pair / XLR x 1 pair
Input Impedance	22kΩ (RCA) / 44kΩ (XLR)
General	
Power Supply	230V AC, 50Hz / 120V AC, 60Hz / 220V AC, 60Hz
Power Consumption	440W (no signal: 160W)
External Dimensions (WxHxD)	445 x 221.5 x 489.6mm (including protrusions)
Weight	48kg (105 7/8 lb)

Included Accessories	
Power cord x 1 / Felt pads x 4 / Power cord support bracket x 1 / Power cord support bracket screw x 2 / Owner's manual x 1 / Warranty card x 1	

- These products are made available in three different power supply variations, as shown in the chart above. Make sure that the voltage shown on the rear panel matches the AC line voltage in your area.
- The shape of the AC inlet and plug of the supplied power cord depends on the voltage rating and destination country.
- Specifications and appearance are subject to change without notice.
- Weight and dimensions are approximate.



PROUDLY MADE IN TOKYO

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MasterSoundWorks

Audio expression, symphonic beauty, artistic passion, the concert hall's spatial feel, the excitement of the audience. Esoteric's Master Sound Works is an audio product concept that recreates all of the music information in original master recordings with the most state-of-the-art technology available today.

Grandioso Lineage

Representing the next generation in a proud lineage of audio excellence, the C-02X Stereo Linestage Preamplifier and S-02 Stereo Power Amplifier feature state-of-the-art circuitry in a discrete dual mono configuration that dramatically conveys all the power and energy of music.

Assembled one at a time in Esoteric's Tokyo factory and incorporating all the knowledge and technology of the flagship Grandioso line, these two new models accentuate the refined qualities of audio reproduction with expert craftsmanship and handmade precision.



Stereo Linestage Preamplifier
C-02X

Stereo Power Amplifier
S-02

Stereo Linestage Preamp

C-02X

The preamplifier is a crucial component that determines the 'sound' of an audio system, and represents the passion and commitment of its makers. As the crowning achievement of the Esoteric Sound, the Grandioso C1 opened new horizons for 'Made in Japan' preamplifiers. Now, this expressive power gives birth to the next-generation C-02X; a stereo preamplifier created to transcend the concept of high fidelity and resonate with the refined sensibilities of engineers and musicians alike.

Independent Dual Mono Design

The C-02X's DC power supply features a fully independent dual mono design that completely eliminates inter-channel interference. Its dedicated bank of five generously rated power transformers for each channel also blocks noise from the power line, enabling a pure, natural amplified sound. Grandioso technology reveals itself in such detailed refinements as the careful layout of the power supply circuit boards, which further contribute to the C-02X's superb sound quality.



Fully-Balanced Configuration Provides Excellent S/N Ratio

The preamplifier's source signal is first received by dedicated buffer amplifiers integrated with each input, from which the circuit configuration is balanced at each stage. Through the elimination of common-mode noise and reductions in circuit impedance, a pure, noise-free signal is fed to the gain amplifiers via the shortest path possible, for an exceptionally high signal-to-noise ratio.

ESOTERIC-QVCS

The C-02X's Esoteric-QVCS* volume control employs four precision switched resistor ladder networks, which change in unison as the volume knob is rotated. This arrangement allows the signal paths for the left and right channels and their positive and negative phases to be kept totally independent and as short as possible. Consequently the sound has superb clarity, excellent channel separation and highly accurate phase characteristics. The elimination of audio board wiring to the volume control further contributes to a reduced signal path, while preventing degradation of sound quality and helping to maintain the low distortion one would expect of a reference model.

* QVCS = Quad Volume Control System

Ultra-Low-Noise Logic Control

Built into the front panel, the logic control section is totally isolated, both physically and electronically, from the preamplifier module by way of an optocoupler. To assure low-noise operation, it also shuts completely down when not in actual operation, thus eliminating all possible influence on the C-02X's audio circuitry.

Highly Responsive Low-Noise, Low-Impedance Power Circuit

Five independent high-capacity power transformers, coupled with large banks of reservoir capacitors, provide power supply circuits that have exceptionally low output impedances and very clean and stable outputs. The low-noise silicon carbide (SiC) Schottky barrier diodes used in the high-speed rectifier circuit further enhance resolution and the signal-to-noise ratio for significant improvements in sound quality.

Esoteric-HCLD* Output Buffer Boosts Current Transmission While EDLC* Power Supply Ensures High Stability



As a line driver, the preamplifier must be able to fully drive the power amplifiers and faithfully convey the music signal's wide dynamic range. The key to achieving this is a circuit that provides both high current drive capability and high speed. The C-02X's output buffer circuitry delivers an exceptionally high current drive coupled with a high slew rate of 2,000V/μs for sharp response. Independent buffer circuits for each output and symmetrical circuitry for both the hot and cold phases of the XLR outputs maximize instantaneous output current capability.

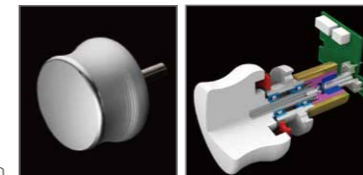
Located closest to the output buffer circuitry, the EDLC* Super Capacitor array, originally developed for the Grandioso C1, was adapted as a highly stable power source. Its compact physical size belies the extraordinary

100,000μF (0.1F) capacity it provides each channel, for high levels of instantaneous output power and strong, steady bass reproduction. Integrating these two technologies, the C-02X preserves musical dynamics that would otherwise be lost if smaller current transmission levels were employed between the pre and power amplifiers, allowing it to reproduce a breathtaking level of audio reality.

*HCLD = High Current Line Driver *EDLC = Electric Double-Layer Capacitor

High-Precision Ball Bearing Controls

The C-02X's elegant volume and input selector knobs are machined from solid blocks of aluminum. Like the Grandioso C1, their control shafts use a VRDS drive mechanism bearing system for high-precision rotation, with no mechanical play in their movements. Rotational torque has also been fine-tuned to provide a luxurious analog control feel in keeping with this high-end preamplifier.

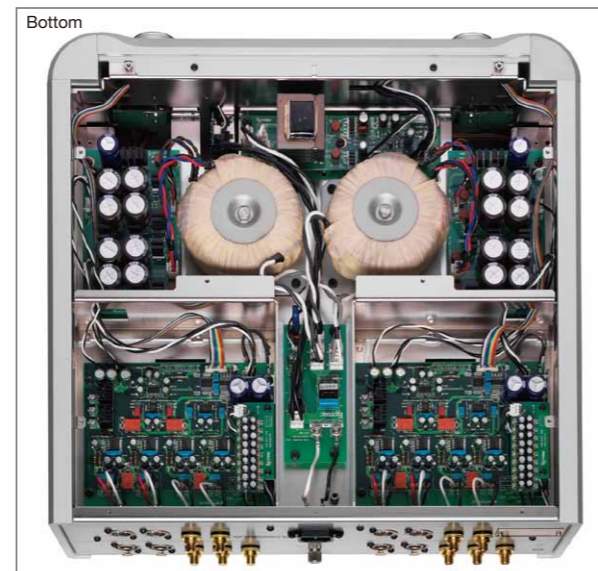
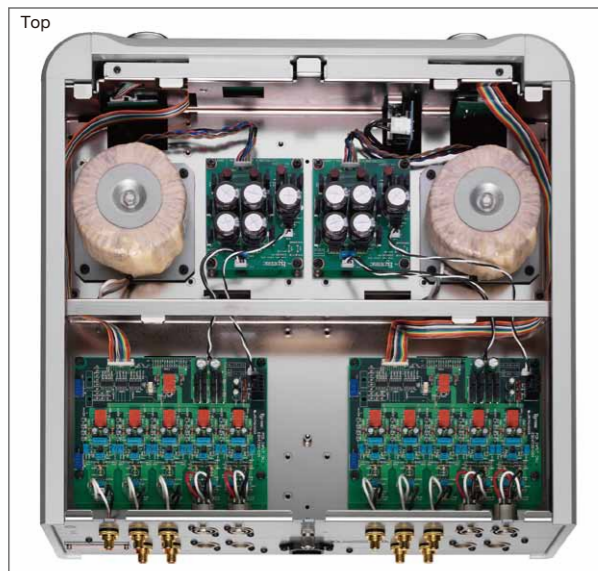
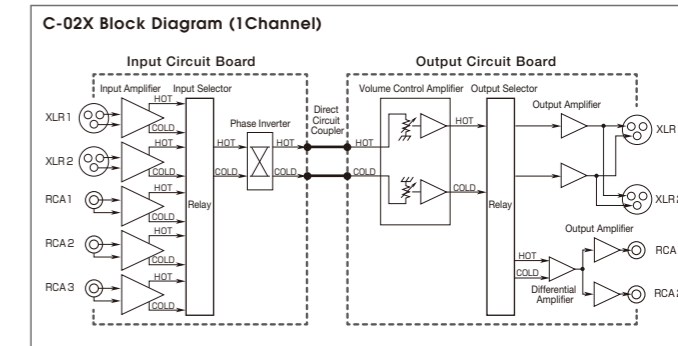


Other Important Features

- Five preset volume curves permit selection of the most comfortable operating feel.
- Individual input gain adjustability helps minimize differences in source volumes. (Range: ±18dB; 0.5dB steps)
- Adjustable left and right channel volume balance control. (Range: ±6dB; 0.5dB steps)
- Selectable phase inversion can be individually set for each source.
- RCA2 terminals permit switching between normal line output and AV-through output for systems operated in both AV surround and pure two-channel modes.
- Remote controller features high-quality aluminum finish. Can also be used to operate any of Esoteric's superb line of SACD players.
- Source component name displays can be programmed using the remote controller.
- Also equipped with dimmer, mute, and auto-display-off functions.

Optimized 3D Chassis Configuration

The C-02X's optimized chassis design features a 2-layer 5-cell configuration that houses each circuit block in its own compartment. This structure shortens the signal path to help minimize inter-circuit interference. The chassis' 5mm-thick steel bottom plate and thick aluminum exterior panels are supported at 4 points by Esoteric's own patented 'Pinpoint Feet' (patent No: JP4075477), which enhance chassis rigidity while effectively suppressing resonant vibration.



Stereo Power Amplifier

S-02

Proudly taking its place as a new reference boasting Grandioso lineage, the S-02 utilizes the know-how and technology employed in Esoteric's premier monoblock M1 and stereo S1 power amplifiers to offer generous power and exceptional dynamics that propel musical crescendos to breathtaking heights. The S-02's outstanding performance and unsurpassed clarity allow the listener not only to hear the music, but also to feel the music, by helping to reproduce the emotion that is the essence of an involving musical experience.

The Sound of Life Unleashed — High Power Creates Spaciousness and Dynamism

The indescribable feeling of spaciousness that comes when sound is truly unleashed and the sense that the music you're hearing is truly live, can only be generated by amplifiers that offer abundant power to properly drive the loudspeakers. Esoteric's amplifiers use the finest components and massive power supplies to achieve the high output power this demands. Faithfully incorporating the design philosophy of our Monoblock M1 amplifier, the new S-02 sets free every nuance of sound, and imparts to music all the vibrancy and richness of life.

Exceptional Power Linearity for Outstanding Dynamics

Loudspeaker impedance can vary widely depending on the frequencies being reproduced. The fast attack of deep bass imposes demanding loads on an amplifier, requiring not only continuous high power output, but also repeated bursts of peak power. Unless the amplifier's power supply is capable of consistently meeting these demands, musical dynamics will be compromised. The S-02's generous power supply capacity enables this nominally rated 145W into 8 ohms amplifier to deliver an impressive 580W into 2 ohms — a testament to the linearity of a power supply that faithfully reproduces the full spectrum of sound dynamics at all volume levels.

Large-Capacity Custom Power Transformer — The Heart of the Finest Power Amplifiers

A robust power supply is critical to an amplifier's ability to deliver high power in a linear manner. This is especially true for the power transformer, so great attention was paid to the material selection, core size and even mounting of the S-02's custom-made EI-type power transformer. Popular among avid audiophiles, this transformer was selected for the full-bodied, high-quality bass it provides. To preserve sound purity, this large-core 940VA transformer features separate windings for left and right channels, and



is securely mounted on a rigid, 5mm-thick steel base plate. Three parallel 4,700µF capacitors per channel shorten charge and discharge times, and provide a tighter, faster sound. Power supply wiring uses heavy-duty cables fitted with crimp terminals, which are tightly bolted together to reduce impedance to the lowest levels possible.

Breathtaking Speaker-Driving Power Ensures Accurate Damping for Large Woofers

Optimizing the S-02's loudspeaker drive capability required reducing the output impedance to an absolute minimum. To achieve this, a total of nine bus bars were used for each channel, while the output coil was eliminated. Strenuous efforts were also made to simplify the circuit design and widen its range, resulting in an exceptional damping factor of 1,000, considered a guideline for woofer drive capability. Even large-diameter woofers are provided with accurate damping for precise sound reproduction, giving an expansive feel across a wide range that reaches to even the lowest frequencies.

Balanced Input Stage Configuration Enables High-Clarity Signal Amplification

The S-02's audio input signal enters through discrete balanced input buffer amplifiers and is relayed to the amplification stage by way of a balanced low-impedance signal path. An outstanding dynamic range is assured by clean, noise-free signal amplification that provides the fine sensitivity needed to reproduce nuanced gradations between musical crescendos and silence.

Large Bipolar LAPT Transistors Deliver 34 Amperes of Instantaneous Output Current

The S-02's large bipolar LAPT* transistors are twice the size of more commonly used power transistors. They also boast an exceptional continuous current capacity of 17 amps and an instantaneous peak capacity of 34 amps. In addition, they offer superior high-frequency characteristics that contribute to accurate reproduction of subtle tonal qualities.

*LAPT=Linear Amplified Power Transistor

3-Stage Darlington Circuit with 5 Parallel Push-Pull Configuration

The power amplifier module uses bipolar LAPT transistors in a three-stage Darlington configuration with five parallel push-pull sections. To realize the superior high-frequency characteristics of these devices, a simplified amplifier circuit was developed to reduce the number of components and parallel elements.

LIDSC (Low Impedance Drive Stage Coupling) Provides Loudspeaker Drive Capability Approaching That of the M1

The S-02's unique LIDSC circuit reduces the drive section's second stage to final stage output impedance, while enhancing current supply capability. This makes it possible to maximize amplitude within the available power supply voltage while reducing distortion, and so give this compact Stereo Power Amplifier a loudspeaker drive capability approaching that of the Monoblock M1.

Independently Powered Voltage Amplifier Stage For Dramatically Improved Resolution

To prevent large fluctuations in the drive (current amplification) stage from affecting overall sound quality, the preceding voltage amplification stage receives a low level signal from the input stage, and derives its power from a dedicated power supply equipped with its own toroidal power transformer. This isolation ensures a stable supply of power to the voltage amplification stage for greatly enhanced resolution of fine instrument details, even when reproducing full orchestral crescendos.

Minimized Negative Feedback (NFB) For a More Energetic and Natural Sound

Simplifying the amplifier circuitry and reducing the previous stage's gain results in greatly reduced Negative Feedback (NFB) for a more natural and life-like sound.

High-Quality Components Selected For Outstanding Characteristics and Sensitivity

The S-02 employs highly reliable XLR and RCA input connectors, and loudspeaker terminals produced by WBT of Germany. Other high-grade components include low-impedance electrolytic capacitors and transistors featuring superior high-frequency characteristics.

High-Precision Chassis Construction Optimizes Vibration Suppression

Maintaining Esoteric's traditional dual-level configuration, the S-02's chassis features a 2mm-thick sheet steel internal framework that segregates circuit blocks into specialized compartments for the shortest signal path possible. This compartmentalized internal construction is built on a rigid 5mm-thick steel base and enclosed by thick aluminum panels. Esoteric's original pinpoint feet provide a four-point support system that further ensures high structural rigidity, while eliminating resonances.

