

ESOTERIC

Linestage Preamplifier

*Grandioso C1X solo*



All instruments start to breathe naturally  
and dynamically on a inky black background of silence.  
A gem of preamplifier created by the wisdom of Esoteric

# *Grandioso C1X solo*

*Linestage Preamplifier*

The most important role of the preamplifier is to act as the command center of the audio system, drawing out the performance of each device that makes up the system to the highest level, and providing the listener with an exceptional listening experience that makes them forget the existence of audio system.

The C1X is the flagship model of Esoteric's preamplifiers. It bears the proud Esoteric trademark "Grandioso". The Grandioso C1X is a reference standard for the next generation, featuring a carefully designed dual balanced circuit, a complete dual mono configuration, a powerful buffer amplifier and power supply circuit to drive the power amplifiers, and ES-Link Analog current transmission that challenges the limits of fidelity. It is a flagship preamplifier that incorporates all of Esoteric's wisdom and numerous technological innovations.

The Grandioso C1X "solo" edition is housed in an integrated chassis without changing the internal circuit configuration of the original C1X, as well as its five independent power transformer configurations for each circuit block, achieving an elegant and beautiful size form factor while maintaining the C1X's signature sound.



# Ultra Fidelity Attenuator System

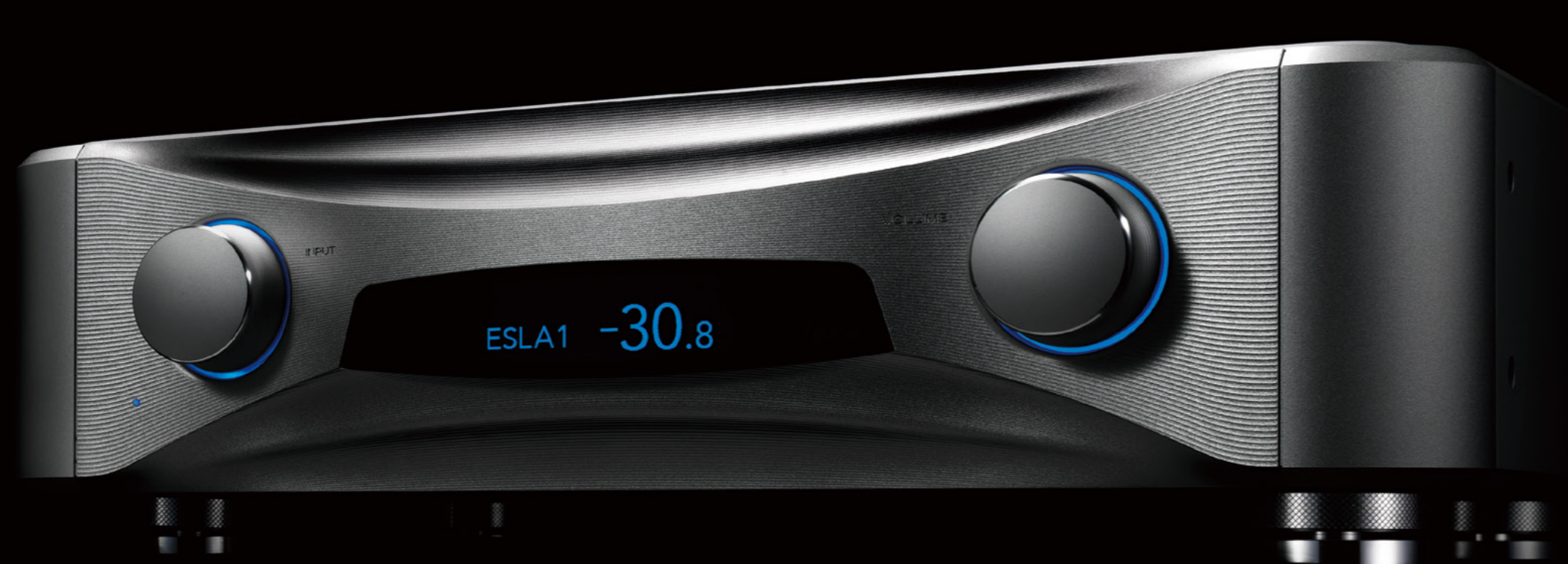
Newly developed “Ultra Fidelity Attenuator System”

## Concept

There are two main methods of volume control system employed in preamplifiers. The “stepped attenuator circuit,” which switches multiple fixed resistors to adjust the volume, is an ideal method for a preamplifier that pursues sound quality because of high reliability at the contact points and bringing out pure and direct sound quality. However, since the volume is defined by switching resistors, the circuit scale becomes too large for smooth volume adjustment. In contrast, another method, “variable resistor (potentiometer)” allows smooth, step-less volume adjustment. However, the signal path is longer, and the potential of deterioration of crosstalk between the left and right channels and deterioration of contact points exists due to aging. The newly developed “Ultra Fidelity Attenuator System” is the fruit of our pursuit of an ideal attenuator circuit that realizes smooth, step-less volume control of the “variable resistor”, while maintaining the excellent sound quality of the “stepped attenuator circuit”.

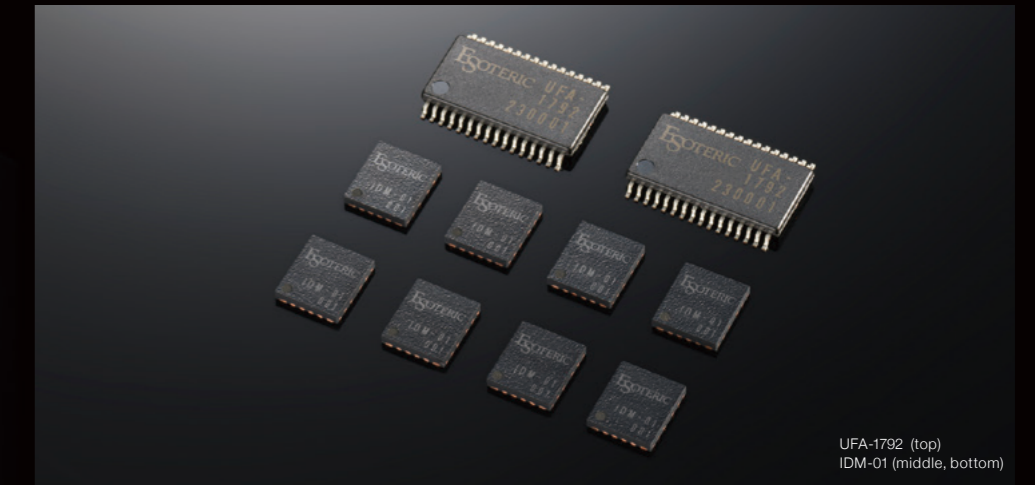
## Dual balanced circuits with 4 circuits per channel

Based on two original new module technologies (UFA-1792, IDM-01), a lot of materials suitable for a flagship model are employed. The Grandioso C1X solo is configured with a dual balanced preamplifier circuit that employs four Ultra Fidelity Attenuator System per channel. All input signals are balanced and internally transmitted with low impedance to minimize noise effects, while the dual balanced configuration employing the best module technology is completely free from channel crosstalk and level balance issues; powerful, and above all, firmly transmits the vibrancy of music to the power amplifier.



## Attenuator module “UFA-1792”

The core of the Ultra Fidelity Attenuator System is the UFA-1792, our proprietary module that integrates a stepped resistor attenuator into an integrated circuit. The internal resistors can be switched in 0.1dB/1,120 steps, which means that the volume can be adjusted in astonishingly fine, nearly infinite steps, compared to a typical attenuator module which offers about 0.5dB/100 steps. In addition, as an original module, everything from materials, layout and internal circuit patterns has been uncompromisingly scrutinized to achieve the resolution and tone quality befitting a top-of-the-line preamplifier.



## Amplifier module “IDM-01”

The heart of the preamplifier’s amplification circuit is our proprietary module “Integrated Discrete-Amplifier Module IDM-01”. Carefully selected materials, circuit patterns, and layout, thoroughly implement the Esoteric’s sound philosophy, just like a discrete amplifier, and the extremely short signal path which is the beauty of integrated circuits, allows dynamic and delicate amplification of musical vibrancy.

# Ultimate Driving Power

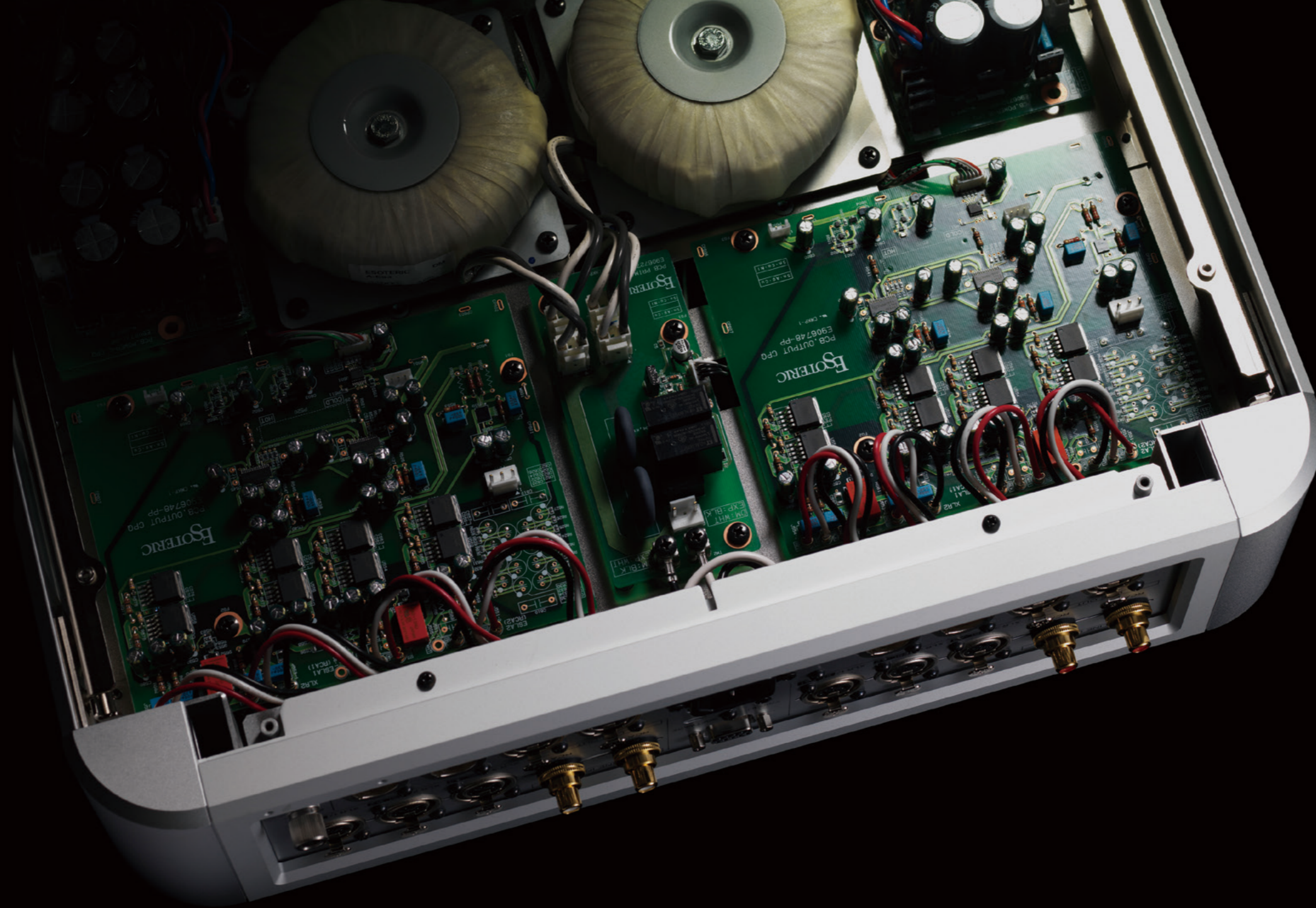
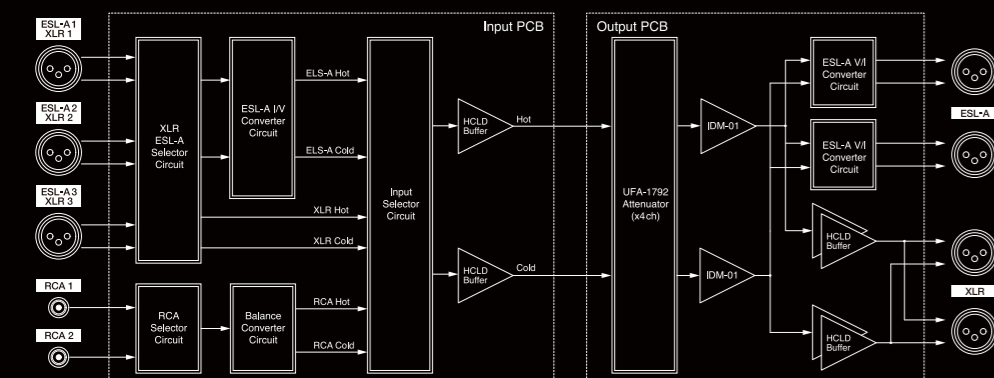
Powerful amplifier drive capability

## Parallel-drive Esoteric-HCLD for driving amplifier

Many audiophiles have experienced the speakers started to “sing” immediately after changing the preamplifier. Audibly, the preamplifier has a great influence on the drive power of the speakers, and a good preamplifier will drive and control the speakers to the maximum level.

The Grandioso C1X solo maximizes the driving of the power amplifiers by applying the largest possible amount of material to the output buffer amplifiers. The output buffer amplifier employs the Esoteric-HCLD (High Current Line Driver), which is renowned for its excellent drive capability and 180MHz wide range, and boasts an astonishingly high-speed slew rate of 2,000V/μs. This powerful buffer amplifier is installed in a parallel configuration for a single signal line, while the output buffer amplifier has an independent power supply section, – with two dedicated large toroidal power transformers in independent left and right configurations. The C1X solo’s output buffer amplifier, which boasts the powerful current output capability befitting a flagship, fully powers the amplifier and the speakers, conveying to the audience an unprecedented level of vibrancy.

## Block Diagram



## Powerful power supply section

We believe that 70% of the sound quality of a preamplifier is determined by the design of the power supply section. The C1X solo consists of a total of five main components: left and right input/output amplifiers and a control section. All five of these are powerfully driven by five independent power transformers for each section (audio system: toroidal core, control system: R core).

By separating the power supply components for each section and investing far more amount of materials than intrinsically required, mutual interference between circuit blocks is fundamentally eliminated, resulting in extremely pure and dynamic sound quality. In addition, carefully selected parts appropriate for a flagship model, such as the high-capacitance Grandioso custom block capacitors and Schottky barrier diodes, are employed in pursuit of high sound quality.



# Fidelity

## ES-Link Analog

With the flagship Grandioso amplifier models, Esoteric is breaking new ground by pushing the limits of fidelity in pre-amp-to-amplifier signal transmission. Esoteric’s unique current transmission system “ES-Link Analog” is the ideal method for preamp to amplifier transmission where the signal level is extremely low. Compared to the conventional voltage transmission, it transmits approximately 100 times more current, making it less susceptible to noise and sending the full energy of the music to the amplifier.

Also, it is not affected by the impedance of the interconnects running between the preamp and amplifier, so it maintains a perfect integrity between the output signal of the preamp and the input signal to the amplifier.

### ES-Link Analog – Esoteric’s unique current transmission

ES-Link Analog is Esoteric's proprietary current transmission method. By connecting devices that support this method, it is possible to reproduce the sound as if it were being played directly from an analog console in a recording studio. The sonic signature of ES-Link Analog is powerful, live and dimensional.

In conventional voltage transmission, the output impedance of the source device is low, and the input impedance of the target device is high. In other words, the current required for signal transmission tends to be kept low.

Also, due to the resistance component (impedance) of the transmission path (interconnect cable), the voltage of the transmitted signal is attenuated by the level calculated by Ohm's law (voltage = current x resistance) when delivered to the target device. Therefore, a longer the cable causes increased resistance which has significant affects on that signal.

In contrast, in current transmission, the output impedance of the source device is high and the input impedance of the input device is low, resulting in a "High out, Low in" circuit, and the current level is maintained higher during signal transmission than in voltage transmission, allowing a powerful audio signal delivery.

Also, in current transmission, the current level output from the source device always matches the one on the target device. Imagine using a hose to send water from a faucet to a bucket. As long as there are no holes in the hose, the same amount of water from the faucet

will always flow to the bucket, regardless of the length of the hose. Similarly, if the cable that serves as the transmission path is not divided into multiple paths, all current from the source device will be delivered to the target device, and the current values flowing will always be the same, even if the transmission path is longer.

This advantage of accurate transmission of even the smallest signals is evident from the fact that current transmission is widely used in measuring instruments that measure precise signals.

Conventional voltage transmission impedance of the Esoteric products is designed several tens of ohms on out-going circuits and around 100k ohms on in-coming circuits. In contrast, the ES-Link Analog out-going/in-coming circuits are designed approximately 1kΩ on the out-going circuit, and 0Ω on the in-coming circuit.

If we focus on the current value that flows when transmitting audio signals, the current level of ES-Link Analog transmission when transmitting audio signals at the same level as normal voltage transmission is approximately 100 times higher than the current level flowing in voltage transmission. Consequently, the high current level allows for the full energy of the music to be delivered.



Grandioso *S1X*  
Stereo Power Amplifier

Grandioso *C1X solo*  
Linestage Preamplifier



## Art of Silence

### Input amplifier

The input amplifier section, as well as the output amplifier section, is configured with complete dual mono/dual balanced circuits with independent left and right power transformers and rectifier circuits. Input signals are transmitted without loss by using Esoteric-HCLD buffer amplifiers for signal transfer from the input amplifier to the output amplifier. For the input switching, a switch with an FET element is employed instead of the conventional mechanical relay system. The FET element allows 12A instantaneous current and 3A constant current, and minimizes current loss.

The conventional mechanical relays add sonic coloration by using rare earth materials at their contact points, emit operation noises, and wear over time – the FET elements are totally free from these negative factors, sound neutral and are reliable all the time.

### Ultra-low noise logic control

The logic control section, which controls operation and display, is shielded and housed in the front panel, isolated from the audio circuits. A photo-coupler that converts the control signal to optical signal for transmission is employed for connection to the preamplifier section to ensure physical and electrical isolation.

Furthermore, by completely shutting down the control circuitry except during operation, low-noise operation is achieved without affecting the audio circuitry. We improved operability by having the built-in program automatically lower the volume level to zero when the preamplifier is turned off, and automatically restore the level when the power is turned back on. We also aimed for a high-end operability that is full of elegance and a pleasure to use, such as fading out/fading in the music signal when switching inputs.

## Mechanical Perfection

### Chassis construction

To achieve the unique design goal of “reproducing the master sound,” the C1X solo chassis optimally controls all vibrations that can affect sound quality. The sleek and clean form of this sports car-like mechanical engineering, to pushes the limits of its balance between rigidity and flexibility, and speaks to its high degree of perfection.

For example, the enclosure, which requires rigidity, makes extensive use of aluminum blocks and is thoroughly non-resonant, while the top panel, which needs to be free of vibration for an open sound, has a semi-floating structure. Esoteric’s unique patented isolation foot, which integrates a spike and a saucer, also has a special mounting structure that reduces mechanical stress and enhances sound quality.

### High-quality feeling that satisfies the pleasure of operation

The volume control and input selector employ solid construction knobs machined from an aluminum block. By adopting a bearing mechanism developed in the design of VRDS drive mechanisms for the rotary axis, extremely precise rotation without core shake is achieved. By adjusting the rotational torque to the optimum level, a smooth, analog-feeling operation is achieved, befitting Esoteric’s flagship preamplifier.



### Double-face remote control

A compact and simple remote control is included that can also operate Esoteric digital source devices. The functional design features buttons used for each operation scenario on both sides of the remote control, and the smartphone-sized aluminum body, which fits comfortably in the hand, is achieved through advanced metal processing. Esoteric’s new approach is a design that allows you to experience thoughtful operability and craftsmanship every time you pick it up.



Top: Keys for amplifier (Left)  
Bottom: Keys for Esoteric digital players (Right)





Double-face remote  
RC-1334 included

## Key Features

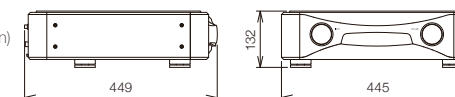
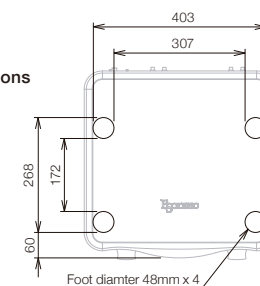
- Full dual monoblock configuration in a one-piece chassis
- Dual-balanced configuration with 4 circuits per channel for thorough low noise
- "Ultra-Fidelity Attenuator System" with 1,120 steps @ 0.1 dB intervals
- Discrete amplifier module "IDM-01"
- 3 inputs and 2 outputs of ES-Link Analog, a unique and proprietary current transmission system
- 2,000V/ $\mu$ s slew rate current transmission enhanced output buffer circuit
- Esoteric-HCLD (High Current Line Driver)
- 2 XLR outputs and 2 ES-Link Analog outputs for a multi-power amplifier system
- 5 transformers: 4 large toroidal transformers for audio system and 1 R-core transformer for control system
- Input switching circuit with FET elements ensure great sound and long life
- Smooth feeling control knob with high precision ball bearings
- Gain adjustment per input:  $\pm 18$ dB (0.1 dB step), and L/R balance adjustment:  $\pm 6$ dB (0.1 dB step)
- AV-thru function that allows the coexistence of AV surround and pure 2-channel (selectable input terminals)
- Editable source device names on the readout
- Various functions such as dimmer function, mute function, automatic display off setting, etc.
- Large volume font for better visibility
- RS-232C terminal for external control
- DC trigger input/output for system power on/off
- Double-face remote control to operate Esoteric source devices (RC-1334)



## Specifications

Frequency Response:	1Hz to 150kHz ( $-3$ dB, XLR)
Total Harmonic Distortion:	0.00035%
S/N Ratio:	120dB (2V Input, IHF-A, XLR)
Gain:	+12dB
Analog Audio Inputs:	ES-Link Analog/XLR x3, RCA x2
Analog Audio Outputs:	ES-Link Analog x2, XLR x2
Power:	120V AC 60Hz, 220-240V AC 50Hz
Power Consumption:	22 W
Overall Dimensions (WxHxD):	445 x 132 x 449mm (include protrusion)
Weight:	27.5kg

## Dimensions/Feet positions (unit: mm)



- This product is available in two 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.

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