

ESOTERIC

Stereo Power Amplifier

Grandioso S1X



Open, Dynamic, but Incredibly Pure.

A New Milestone in Class-A Stereo Amplifiers – Grandioso S1X.

Pure Soundscape

With the birth of the Grandioso M1X, our flagship monoblock power amplifier, the Esoteric amplifier design platform has been completely revamped. The Grandioso S1 has now been reborn as the Grandioso S1X, the new flagship in a completely different class of Class-A stereo power amplifiers.

The monoblock M1X embodies Esoteric's idea of the ideal amplifier. The dynamic sound of the M1X, produced by a completely redesigned drive stage and a powerful power supply unit that incorporates an enormous amount of material, has captivated audiophiles around the world. The S1X, a Class-A stereo model, beautifully follows the M1X's signature sound of "a sense of dynamism that unleashes the full power of music" and "a sense of grand scale." In exchange for its high power of 2,400W/1 ohm, the S1X offers a half the space form factor and the transparent and detailed expressiveness that only Class-A can deliver.

Here, is a milestone model that realizes Esoteric's ideals of the Class-A stereo amplifier.

Grandioso S1X

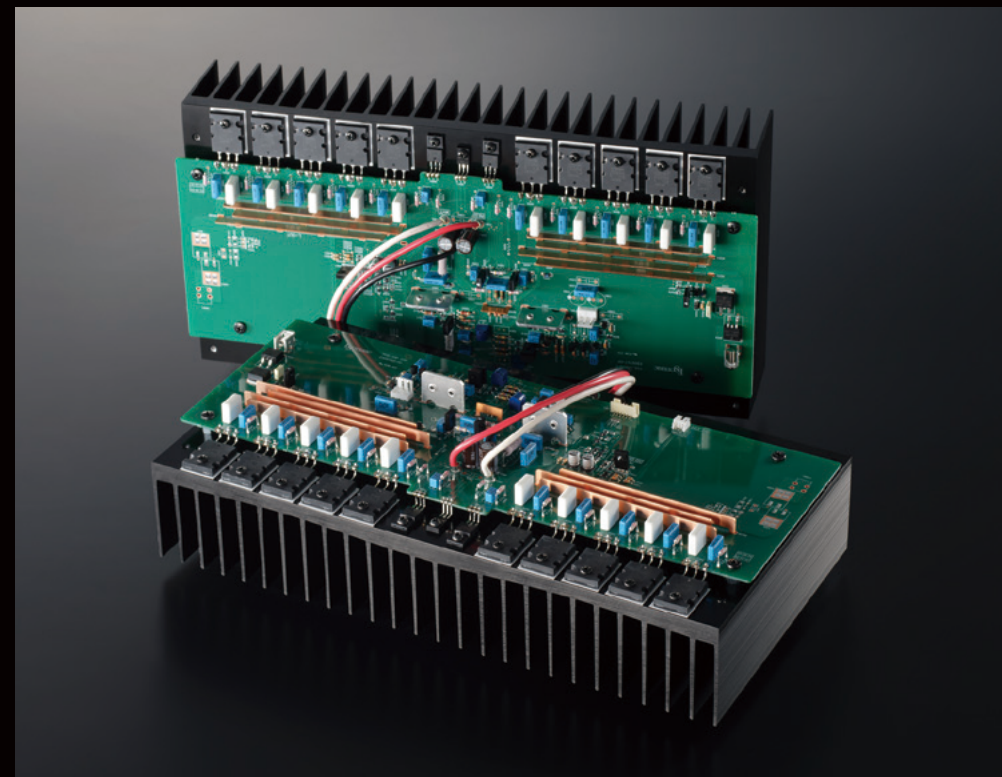
Stereo Power Amplifier



New Drive Stage

The newly designed drive stage, a simple 5-parallel push-pull drive with large bipolar transistors, is Class-A (operating range 50W/8Ω) and has a full sound with clear transparency. However, the general characteristics of Class-A, – pure, polished tone – cannot fully describe the true beauty of the S1X.

Vivid colors like a direct heated triode amplifier, high-speed transient backed by ample idling current, power, and openness... The S1X's new Class-A drive stage inherits the powerful and dynamic design concept of the M1X, including large bipolar elements and a powerful power supply section. Regardless of the amplification method, the S1X earnestly pursues what the best amplifier should sound like and achieves peerlessly powerful sonic signature people unmistakably recognize as Esoteric sound.



Dynamics

Robust driving power worthy of a flagship. The source of this power is Esoteric's dedicated power supply unit. For amplifiers that constantly require high current for Class-A operation, the power supply is the most key component to achieve a powerful and rich sound stage. Thanks to Esoteric's unique power supply design, the S1X boasts an extremely dynamic musical expression with great precision.



Over-Sized Bare-Mount Power Transformers

The S1X employs the largest toroidal transformers that the S1X chassis can accommodate. The transformers performance, with a much larger size than the size required for actual use, allows for extremely high follow-through to dynamic changes in current supply, resulting in a dynamic and open sound. Also, suppressing transformer vibration results in limiting current flow. For this reason, the S1X dares to employ a bare mounting with the transformer's metal cover removed.

Power Transformer Dedicated to the Pre-Drive Stages

The S1X's high resolution sound is also a major feature, allowing the delicate tones of each instrument to be heard clearly, even at the climax of a full orchestra performance. A power supply section dedicated to the pre-drive stage (voltage amplification stage), which handles low-level signals from the preamplifier, eliminates the influence of the main drive stage, which has large current fluctuations, and improves resolution. In addition to the two power transformers for the main drive and pre-drive stages, an R-core power transformer for control is installed in a three-transformer configuration to create a pure power supply with thoroughly low noise.

Dual Mono Rectifier Circuits

Unless it is a monaural source, the left and right music signals are different. The power rectification circuits are designed in dual mono configuration, not shared by both channels, to avoid mutual interference and achieve clear channel separation and resolution.

Multiple Custom Caps in Parallel Configuration

The rectification system also incorporates Grandioso's unique and thorough attention to detail. The Grandioso custom capacitors are employed for the rectifier circuits, while the dual mono and parallel configuration of 6 x 10,000μF per channel ensures the high current supply required for Class-A operation at all times. Therefore, the S1X follows the dramatic changes in musical signals with agility and express dynamism to the fullest extent.

Low Impedance Design

Key wiring sections such as from the primary side to the power supply section, drive stage, etc. employ over-sized pure copper busbars and ultra-thick gauge cables with bolted connections. The low impedance design maximizes the response of the power supply circuits.



Power transformer for main drive stage (top left)
Power rectification circuit for main drive stage (top right)
Power transformer for pre-drive stage (bottom left)
Power rectification circuit for input stage (bottom center)
Left and right power rectification circuits for pre-drive stage (bottom right)

Fidelity

With the flagship Grandioso amplifier models, Esoteric is breaking new horizons by pushing the limits of fidelity in preamp-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 × 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
Lineage Preamp



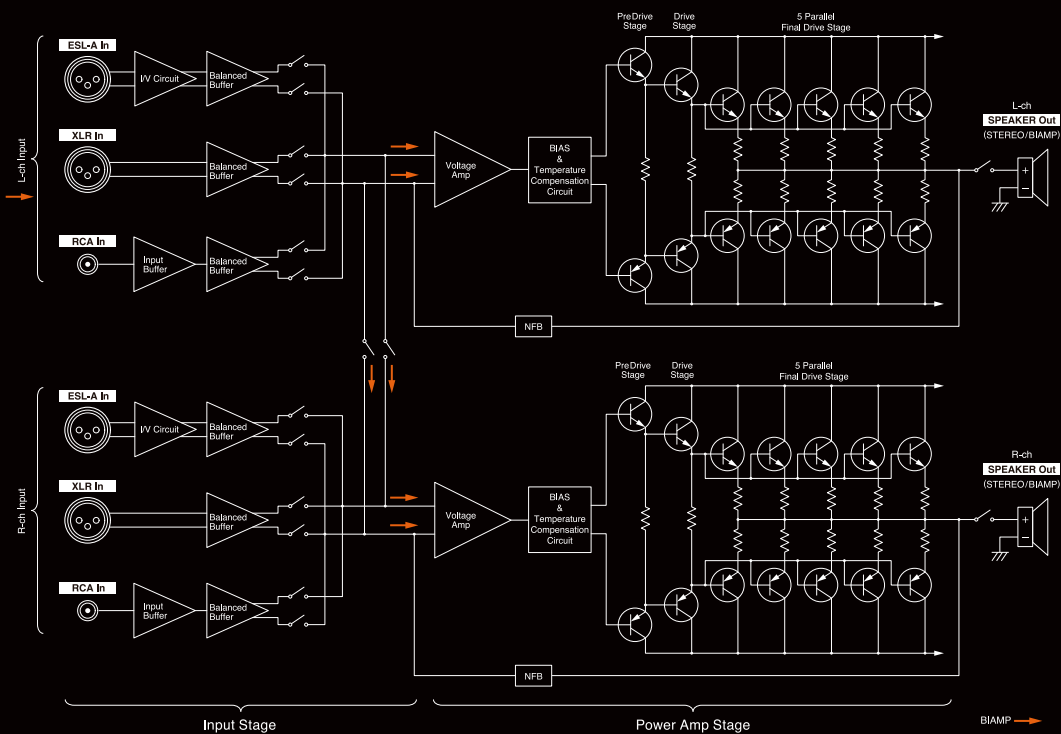
Less is More

Considering its massive appearance, this may seem a little surprising. However, the signal paths in the S1X are designed to be as short as possible, and the circuit is surprisingly simple. The clear sound quality is supported by the “subtractive aesthetics,” so to speak, created by the crystallization of advanced engineering.

In general, a Class-A amplifiers generate a lot of heat, and internal temperature stability is extremely important. For this reason, the S1X optimizes the position and circuitry of the temperature compensation circuit to stabilize the temperature of the entire amplifier block. This contributes to high quality sound because it speeds up the stabilization of the idling current after power-on and allows the amplifier elements to operate with their best characteristics.

The phase compensation circuit is a simple 1-pole configuration, and the final stage is coil-less, while the NFB (negative feedback) is kept to a minimum to enhance the dynamism of the music. The minimalist circuit philosophy allows the harmonics (overtones) that are most important to music, but are easily lost, to be retained and rendered expressively.

Block Diagram

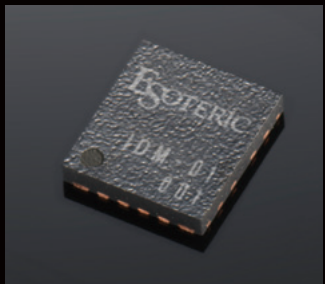


Depth

Despite the simplicity of the circuit, the S1X has been designed to eliminate any compromise in the quality of reproduction by using a dual monaural configuration from the input stage to the final stage. The components are among the largest in their class, and the board pattern, which employs a 105μm thick copper foil in key components, and ultra-thick gauge cables with connector connections eliminated as much as possible, are full of the boldness and power that is typical of amplifiers. Particularly, the seven busbars in the drive stage are made of luxurious 1.0 mm thick high-purity OFC material, and MOS FET switches without mechanical contacts are employed in the speaker output stage. The reduction in internal impedance provides a powerful grip even on woofers with larger diameters, and the driving force reaches the low-frequency limit point with ease.

Texture

The S1X is not only a powerful unit, but one that also delicately creates a gradation between climax and silence. The audio signal is received by a newly designed balanced input amplifier circuit independent of each input stage and transmitted to the amplification stage in a balanced configuration to ensure noise-free and stable amplification. FET switches are also employed for all switching positions in the audio signal path, including input switching, to minimize tonal coloration. Carefully selected high-quality components, such as the IDM-01 (Integrated Discrete-Amplifier Module) developed for the C1X preamp, accentuate the texture of the tones.



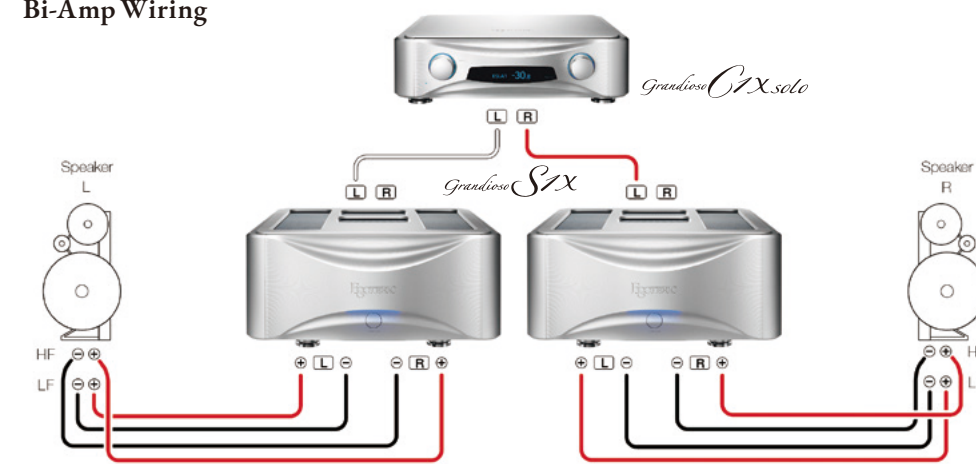


Versatility

The Grandioso S1X behaves not only as a stand-alone stereo power amplifier, but also offers flexibly in a variety of high-end-worthy applications. The system is expandable to a mono-block amplifier by deploying two S1Xs, depending on the matched speakers and the operating environment. A mode selector supports conventional stereo mode and bi-amp mode for multi-way speakers with separate HF/LF inputs. You can freely customize the configuration of the Class-A amplifier system of your dreams according to the quality and characteristics of the sound you desire. Even if you use multiple amplifiers, the power on/off is controllable from the Grandioso C1X preamplifier via DC trigger*, allowing sophisticated use suitable for high-end applications.

*3.5mm monaural mini plug cable for connection is sold separately. Please prepare a cable of the appropriate length for your environment.

Bi-Amp Wiring



Mechanical Perfection

To achieve the unique design goal of “reproducing the master sound,” the S1X chassis optimally controls all vibrations that can affect sound quality. The sleek and clean form of this sports car-like mechanical engineering, 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. On the other hand, 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 structure that reduces mechanical stress and enhances sound quality. In addition, the large heat sinks of the amplifier block have a special wave shape that disperses the peak resonance of the fins and suppresses resonance.

Dual Honeycomb Grille

The most striking feature of the S1X’s exterior is the “dual honeycomb grille” at the top. A honeycomb-shaped opening is employed to improve heat dissipation, and a light-weight top panel is pursued to the last possible degree to enhance the openness of sound. By overlapping two grills of different thicknesses, vibrations are also efficiently dispersed in pursuit of a pure tone. In addition, the layout of the top panel opening is completed with a design that achieves both an elegant appearance and a high degree of heat dissipation performance to control the Class-A heat output.





Key Features

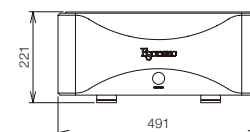
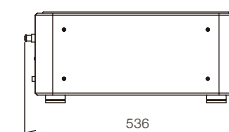
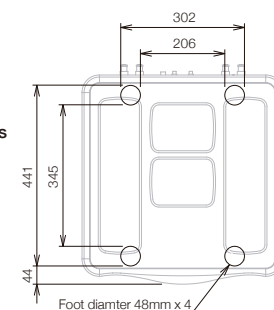
- Newly designed drive stage with 5-parallel push-pull drive by large bipolar transistors
- Pure Class-A operating range of 50W/8 ohm provides a full musical expression that combines precision and dynamism
- “ES-Link Analog” transmission pushes the limits of fidelity between preamp and amplifier
- Superior power linearity for unparalleled dynamics (50W/8Ω to 100W/4Ω)
- Large toroidal-core power transformer that is extremely responsive to dynamic current supply changes
- 3-transformer configuration with independent power transformers for the pre-drive stage, main drive stage, and control system
- Channel independent high-capacitance Grandioso custom capacitors (10,000μF × 6/ch)
- Pure copper busbars, ultra-thick wiring, and shortest pattern connections significantly reduce internal impedance
- Balanced audio connections in each circuit block to ensure low noise
- High quality parts such as FET switch for input switching, discrete amplifier module IDM-01, etc.
- Stereo mode and bi-amp mode for further system upgradability with multiple units
- Enlarged chassis to M1X size with newly designed Class-A construction
- Chassis design optimizes internal vibration control by thoroughly pursuing a balance between “rigidity” and “flexibility”
- Dual honeycomb grille and semi-floating top panel for heat dissipation and open sound characteristics
- Pinpoint isolation foot with unique structure to reduce mechanical stress
- Unique wave-shaped heat sink to reduce peak resonance
- DC trigger input for power on/off



Specifications

Rated Output Power:	50W + 50W (8Ω, Class-A) 100W + 100W (4Ω)
Compatible Impedance:	4 to 16 Ω
Frequency Response:	5Hz to 100kHz (+0dB, -3dB, 8Ω)
Total Harmonic Distortion:	0.006% (1kHz, 8Ω, 50W)
S/N Ratio:	109dB (IHF-A, XLR)
Gain:	28.5dB (XLR), 34.5dB (RCA)
Analog Audio Inputs:	ES-LINK Analog x1, XLR x1, RCA x1
Power:	120V AC 60Hz, 220-240V AC 50Hz
Power Consumption:	310W (270W at no signal)
Overall Dimensions (WxHxD):	491x221x536 mm(include protrusion)
Weight:	48 kg

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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