



ESOTERIC

# GRANDIOSO G1X Master Clock Generator

249514

In the endless pursuit of musical expression that stays one step ahead of everything that has gone before, Esoteric's first-ever in-house developed OCXO* clock module, the G1X Master Sound Discrete Clock, is finally complete. The new Grandioso G1X represents a new horizon in master clocks that brings out the full potential of a digital player's ability to play music, realizing unprecedented levels of profound musical excitement.

PRODUCT DETAILS

**Esoteric's First Wholly Original Clock Module**
Developed entirely in-house, Esoteric's new Master Sound Discrete Clock is totally dedicated to the ultimate in music playback. Fitted with Esoteric's new SC1 crystal oscillator, this high-precision clock module's advanced temperature control circuitry and its programming achieve the highest accuracy in sound. Paying close attention to the smallest details, Esoteric has managed to achieve the richest possible musical playback capability ever experienced in an audio system.

**New Esoteric SC1 Crystal**
From its high-accuracy oscillator circuitry to the core crystal oscillator itself, the new Master Sound Discrete Clock is a completely custom-made component produced exclusively by Esoteric. The material forming its crystal provides a more natural tone quality, extremely low phase noise, and exceptional stability when used in combination with the G1X's advanced temperature control system. Since quartz crystals generate their clock signals through vibration, or resonance, there is a profound correlation between the physical characteristics of the base material and ultimate sound quality. Larger crystals tend to produce a higher drive level that is less easily affected by high resistance within the circuit. They also produce a more stable oscillation. Therefore, every detail in the manufacturing process, from cut shape to size, was carefully examined in pursuit of creating an oscillator that offers the best electrophysical characteristics for ultimate sound quality. Based on a highly reliable variety of quartz crystal developed for the aerospace industry, Esoteric was able to complete the development of its exclusive musical reproduction-dedicated SC1 crystal. The crystal material itself is grown slowly over an extremely long period of time, and then SC (Stress Compensated) cut into its final shape. To ensure optimal control of its resonant vibration, Esoteric proudly introduces the largest sized mass-produced crystal in its class, carefully selecting and utilizing only those pieces whose center frequency fluctuations are within Esoteric's strict standards.

**Original Master Sound TC Temperature Control Program**
Since the frequency accuracy of a crystal can change drastically due to the influence of ambient air temperatures, temperature control is the most important factor in maintaining a clock's highest possible accuracy. Esoteric's exclusive Master Sound TC is a total temperature control system designed to maximize the performance of the crystal oscillator. Not only the physical hardware, but also its control

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software is designed and manufactured in-house, ensuring that the G1X Master Sound Discrete Clock achieves the ultimate in audio performance.

In most conventional OCXO circuits, the crystal is kept in a compact oven at an appropriate temperature of approximately 85°C. However, since the temperature at which a crystal exhibits its best performance can vary widely from one crystal to the next, it has been common until now to correct for any clock frequency error using a supplementary correction circuit. In the Master Sound TC system, a customized program micro-controls the oven in order to maintain the optimum temperature for each individual crystal to achieve its most accurate operating performance. This design keeps any circuit signal correction to an absolute minimum, thus providing the purest and most natural clock output, and by extension the cleanest and most accurate sound.

**Original Vacuum Flask Oven Design**
Heat cannot be conducted through a vacuum without some sort of gas component filling the space. Esoteric has developed an entirely new oven with its own vacuum flask (or thermos) structure. Through the adoption of advanced metal processing technologies created in world-renowned steel town Tsubame City, located in Niigata Prefecture, Esoteric was able to create a vacuum within the hollow of the oven's outer casing that both minimizes temperature fluctuations inside the oven and the electrical energy required to drive the heater, thus further minimizing their effect on sound quality.

**128-Step Heater Control Maintains Uniform Oven Temperature**
The heater developed to maintain a uniform temperature within the oven also epitomizes Esoteric's singular commitment to the ultimate in sound quality. Unlike most conventional modules, which repeatedly switch their heater elements off and on in response to changes in oven temperature, the temperature control circuitry specially developed for the Master Sound Discrete Clock is constantly fine-tuned in real time by a new 128-step multistage heater control. This new design totally eliminates any potentially adverse effects on the oscillator circuitry caused by current fluctuations as the heater is switched off and on.

**Four Independent Power Supplies for the Ultimate in Musicality**
Normally, OCXO modules are equipped with a single power supply to drive all circuits. However, in order to ensure that all of the Master Sound Discrete Clock's circuits are kept totally separate and discrete, the G1X is equipped with four independent power supplies to drive its oscillation circuitry, its heater, its control circuitry, and its buffer amplifier. An optimal voltage is directly supplied to each circuit block from each of these independent power supplies, with the result being significant improvements to sound quality.

**Esoteric-HCLD Buffer Amplifier**
The G1X comes fully equipped with the same Esoteric-HCLD buffer circuitry used in the Grandioso C1X Linestage Preamplifier. This buffer amplifier features extremely powerful current transmission capability and a wide-range, flat frequency response of up to 180MHz, These characteristics greatly contribute to the output of a pure 10MHz sine wave signal to receiving units.

**Five 10MHz Sine Wave Clock Outputs Compatible with 'Adaptive Zero Ground' Mode**
Depending on the listener's preference, the clock output can either be individually switched to 'Normal' mode or 'Adaptive Zero Ground' mode, which drives the reference potential ground to 0V.

**Custom-Made Coaxial Cables with MIL-Spec SMA Connectors**
All important internal wiring features the use of custom-made coaxial cables carefully selected for the ultimate in sound quality. The G1X's MIL-spec SMA connectors feature machined brass BNC terminals that suppress transmission loss to its utmost limits.

**Preheat Function**
In addition to normal on/pff function, the G1X features a 'Preheat Mode' that keeps its built-in clock module fully energized even when the power is turned off.

**Chassis Construction**
The G1X's bottom chassis features sturdy dual-layer construction that mounts its power transformers and other components on separate layers in order to minimize interference between electrical parts, while high-precision slits were cut into its panels by laser. Any vibration generated by the power transformers is grounded to the exterior via the shortest possible distance from the unit's pinpoint feet (patent No. 4075477, No. 3778108). Finally, the semi-floating top panel also helps accentuate the system's relaxed and open sound.

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## Specs

### Product Attributes

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| EAN: | 4907034223473 |
| Manufacturer number: | GRANDIOSO G1X |
| Product weight: | 24.327 kilograms |

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