



ESOTERIC

G-05 Master Clock Generator Black

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The Master Clock Generator takes the musical expression of digital sources one step further. The G-05 is equipped with the “Master Sound Discrete Clock”, a clock module developed entirely in-house.

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PRODUCT DETAILS

Esoteric’s Manufactured Clock Module
The “Master Sound Discrete Clock” in the G-05 has been developed by Esoteric in-house, from the selection of the crystal oscillator to the temperature control circuit and its control program to achieve high precision, all completed in a unique discrete circuit. Esoteric’s in-house clock module is dedicated to music reproduction. We have paid close attention to every detail and improved the quality of musical expression by designing our own crystal oscillator circuit, previously packaged as a general-purpose module, into a unique discrete circuit to produce tones closer to our engineers' ideals.

“Esoteric SXT-03” Custom Crystal Oscillator
Crystal clocks generally have a natural timbre, low phase noise and excellent stability when combined with advanced temperature control systems. In addition, as the clock signal is generated by oscillation, there is a strong correlation between the physical properties of the material and the final sound quality achieved. Larger crystals have greater self-oscillation and a greater oscillation margin, even with greater resistance in the circuit, making the oscillation more stable. The G-05 is equipped with the Esoteric SXT-03, a large custom crystal oscillator with ideal electro physical properties. The raw crystal material is slowly grown over a long period of time and then SC-cut (Stress Compensated Cut) with excellent temperature characteristics. We also scrutinize the manufacturing process down to the smallest detail, carefully selecting and using crystals whose center frequency fluctuations are strictly within specifications.

Master Sound TC* – Esoteric's Proprietary Temperature Control Program
Crystal frequency accuracy is affected by temperature. Therefore, temperature control is the most important factor in maintaining high clock accuracy. Esoteric's proprietary "Master Sound TC" is a total temperature control system that maximizes crystal performance. We have developed not only the hardware but also the control software in-house to ensure that the Master Sound Discrete Clock delivers the highest possible performance. In a typical OCXO, crystals are stored in a hot oven and kept at a constant temperature. However, crystals differ in the temperature at which they are most stable. In our Master Sound TC system, the oven temperature is controlled by a program customized for each crystal to ensure that each crystal is always at the right temperature for stable performance. The result is an extremely natural and pure clock output with excellent musicality.
* TC = Thermo-Control

Master Sound TC – Unique Calibration Process

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The temperature characteristics of each SXT-03 crystal are measured during production, and an individual characteristics chart is created; the SXT-03 is assembled into a module, and based on this chart, the oven microcomputer control program is individually adjusted to the ambient temperature at which the oscillation is most stable. This series of processes, including burning-in, is carefully carried out for each individual unit.

128-Step Multi-Step Controlled Heater to Maintain Uniform Oven Temperature
The heater, which maintains a uniform temperature inside the oven, is also a concentrated Esoteric specialty. The heaters in ordinary modules are simply controlled to repeatedly turn on and off in conjunction with the falling and rising temperatures inside the oven, but in the Master Sound Discrete Clock, the temperature is finely controlled by a heater with 128 steps of multi-step control. In addition, by minimizing the current fluctuations that occur when the heater is turned on and off, the adverse effects of current fluctuations on the crystal oscillator circuit are eliminated.

Three Independent Power Supply Units for Superior Musical Performance
OCXO modules are typically configured with a single power supply. In the G-05, however, the power supply section is independent of the oscillator circuit, heater/control circuit, and buffer amplifier, and the optimum voltage is supplied directly to each circuit block to achieve high sound quality.

Esoteric-HCLD Output Buffer Circuit
The G-05 is equipped with the highly acclaimed "Esoteric-HCLD" output buffer amplifier circuit found in the Grandioso C1X preamplifier. It takes advantage of its powerful current transfer capability and 180MHz wide frequency response to deliver pure 10MHz sine wave clock signal to connected digital players.

Equipped with Four 10 MHz Clock Outputs
Four 10 MHz sine wave clock outputs are provided to supply clocks to up to four digital devices.

Custom Designed Coaxial Cables with MIL-standard SMA connectors
Special custom coaxial cables, carefully selected for sound quality, are used for the critical wiring inside the G-05. The connectors are gold-plated SMA connectors that comply with MIL standards. The output connectors are gold-plated BNC connectors with precisely matched impedance = 50 to increase transmission reliability and reduce loss.

Unique Chassis Construction
The chassis construction is also specially designed for vibration-sensitive master clocks. The front and side panels are made of heavy-duty, thick-walled aluminum to suppress external vibrations. The Master Sound Discrete Clock module inside the chassis is freely mounted and grounded by its own weight without the use of mounting screws. The isolation feet, machined from steel and supported at three points, use a special mounting method that uses the weight of the chassis to connect to the bottom plate. By eliminating as many screws as possible for mounting the clock module and isolation feet, and by avoiding the stress concentration caused by screwing these vibration-sensitive components together, a natural vibration damping effect can be achieved, resulting in superior sound quality. In addition, the top plate has a semi-floating structure that is not fixed with screws, resulting in an open sound.

Specs

Product Attributes

EAN:	4907034224791
Manufacturer number:	G-05 B
Product weight:	24.327 kilograms

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