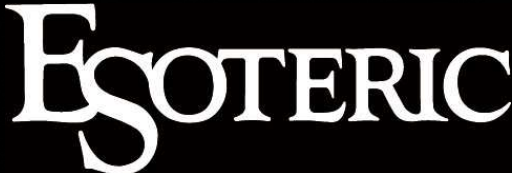


New Products 2021 – 2022

EGOTERIC

Rev. 27/06/25



ESOTERIC

OUR MISSION

The design goal of ESOTERIC is to recreate the original master sound.

ESOTERIC is a high end audio manufacturer established in 1987.

Based in Tokyo, all products (ranging from network audio players, SACD players, DACs, clocks to amplifiers) are hand built in our factory to exacting standards.

Cutting edge technologies, engineering excellence,

state-of-the-art Japanese craftsmanship and passion for innovation

— all coming together to unveil new dimensions in musical experience.



Grandioso G1X
Master Clock Generator



Grandioso G1X
Master Clock Generator



Esoteric
Grandioso G1X
Master Clock Generator

... SO, WHAT IS MASTER CLOCK?

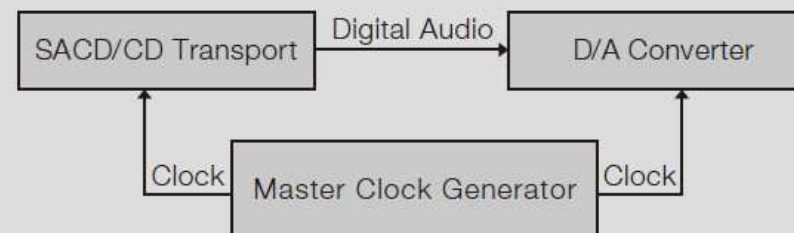
A 'clock' is a pulse signal that is used as a reference signal for all digital circuits. Every piece of digital gear has an on-board clock oscillator, and a high-quality clock is vital for precise, jitter-free signal processing.

The G series master clock generator is an external clock device designed to supply high precision clock to digital devices (such as a transport, D/A converter, Super Audio CD player, or network audio player) equipped with dedicated input terminals. The G series can supply clock signals with a significantly higher degree of purity and stability than clocks generated by connected devices themselves, and thereby significantly improves the sound quality.

fig.1



fig.2



Clock Master Clock Generator (G)

3 series
3 models

Grandioso



Rubidium

Grandioso G1

01



Rubidium

G-01X

02



Crystal

G-02X

03

Clock Master Clock Generator (G)

3 series
3 models

Grandioso



Crystal (In-house)

Master Sound Discrete Clock

NEW!!

Grandioso G1X

01



Rubidium

G-01X

02



Crystal

G-02X

03

PHILOSOPHY & TECNOLOGY

ESOTERIC

STABLE



POWER

Grandioso G1X
Master Clock Generator



Grandioso G1X

Master Clock Generator

PHILOSOPHY

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.

*OCXO: Oven-Controlled Crystal Oscillator

Master Sound Discrete Clock

Master Sound Discrete Clock



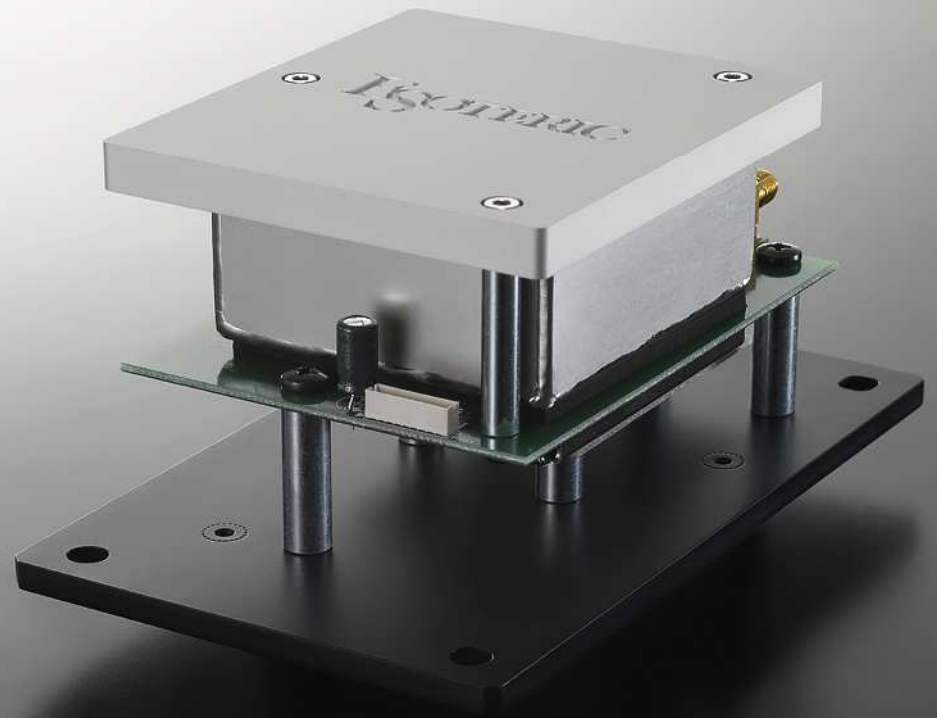
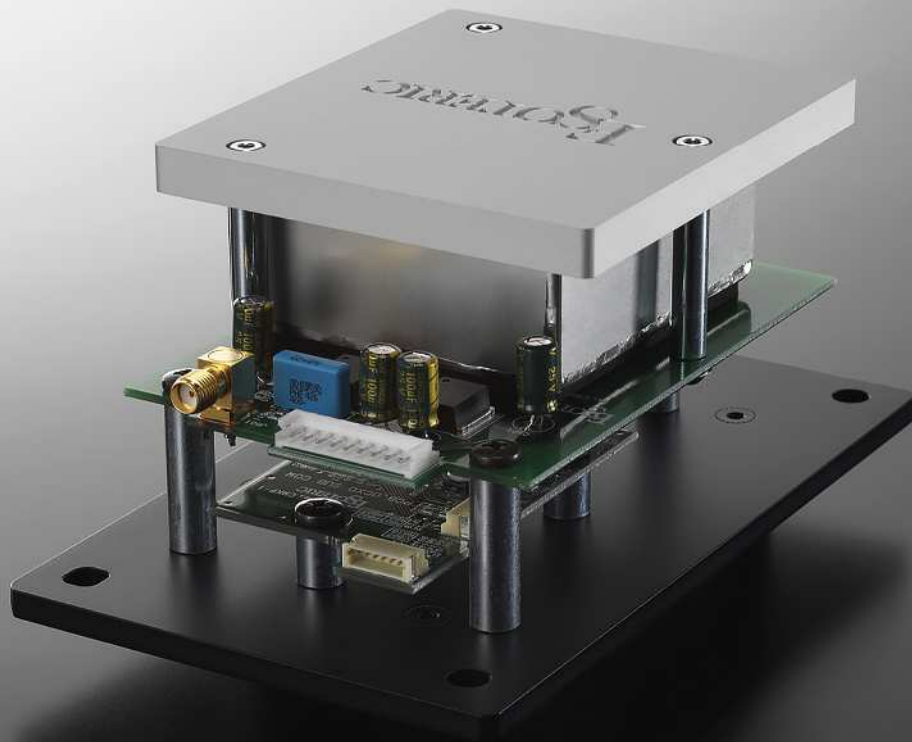
Master Sound Discrete Clock

OUR FIRST IN-HOUSE DESIGN 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.



Master Sound Discrete Clock



Master Sound Discrete Clock

...WHY CRYSTAL?

While other high-precision clock modules may utilize such materials as rubidium and cesium, what is not so well known is that **their clock signals are output from internally synchronized crystal oscillators**. With over twenty years of intensive research into audio clocks, Esoteric focused on the fact that the fundamental design of this core crystal oscillator circuit can have a significant impact on the overall timbre of the digital playback.

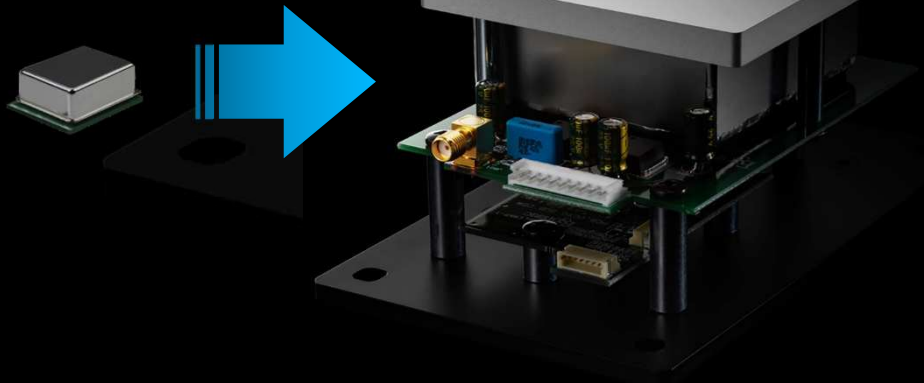
THE FACT — CORE CRYSTAL OSCILLATOR IS
THE KEY TO SOUND QUALITY.

Master Sound Discrete Clock

...WHY CRYSTAL?

The Master Sound Discrete Clock was designed with a singular focus on the crystal oscillator and we developed an entirely discrete circuitry, which till now has been packaged as an integrated chipset.

A UNIQUE DISCRETE
CIRCUIT THAT
IMPROVES THE
QUALITY OF MUSICAL
EXPRESSION.



Master Sound Discrete Clock

TECHNOLOGY

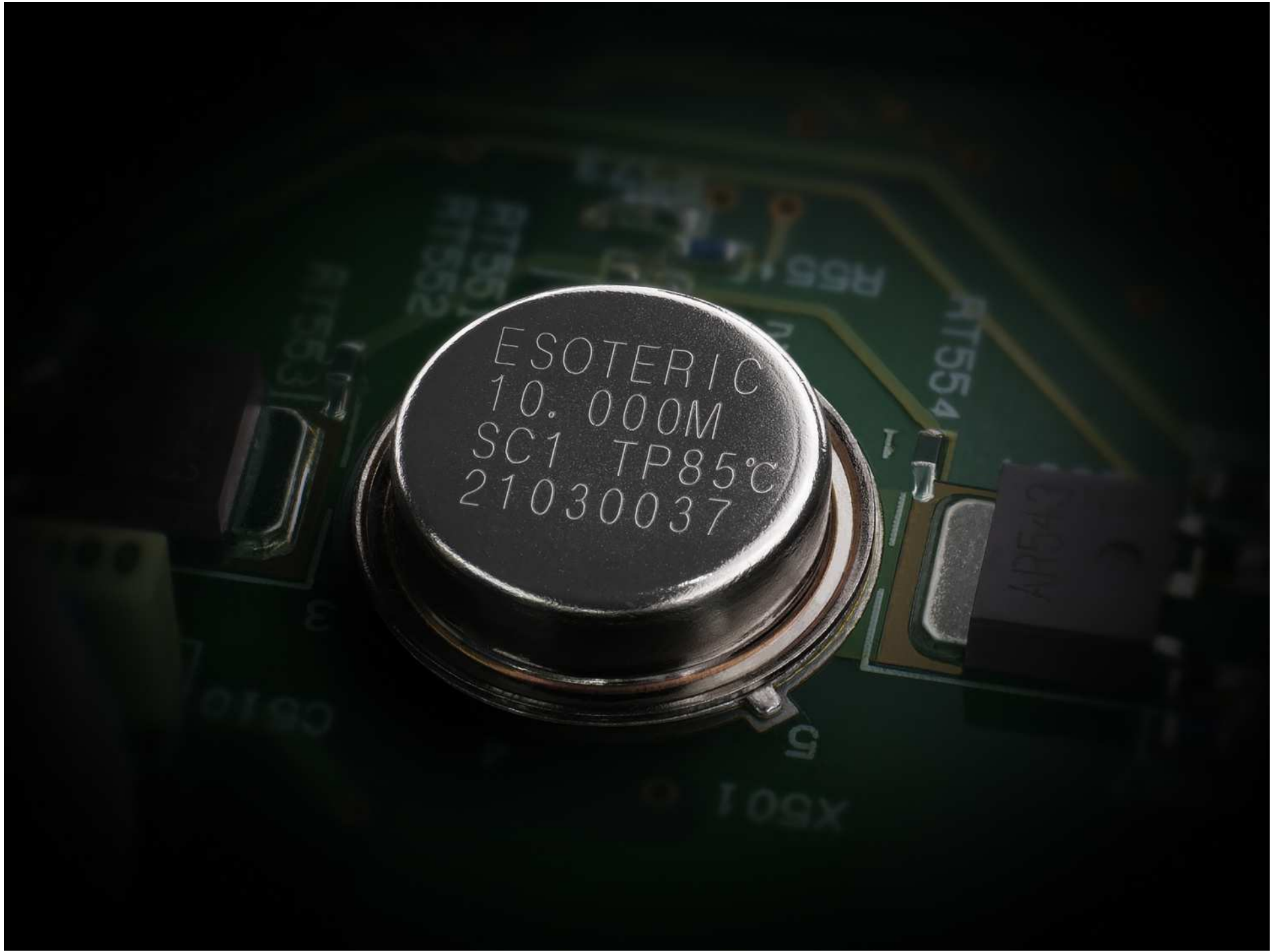
1. ESOTERIC SC1 CRYSTAL
2. MASTER SOUND TC
3. VACCUM FLASK OVEN
4. 128-STEP HEATER
5. 4-INDEPENDENT POWER SUPPLY
6. HCLD (HIGH CCURENT LINE DRIVER)

Master Sound Discrete Clock

TECHNOLOGY

1. ESOTERIC SC1 CRYSTAL
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6. HCLD (HIGH CCURENT LINE DRIVER)

ESOTERIC
10.000M
SC1 TP85°C
21030037



Master Sound Discrete Clock

SC1 — OUR EXCLUSIVE CRYSTAL OSCILLATOR

Based on a highly reliable crystal developed for the aerospace industry, Esoteric developed an exclusive musical reproduction-dedicated SC1 crystal.

THE SC1 PROVIDES NATURAL TONE
QUALITY, EXTREMELY LOW PHASE
NOISE, AND EXCEPTIONAL STABILITY



Master Sound Discrete Clock

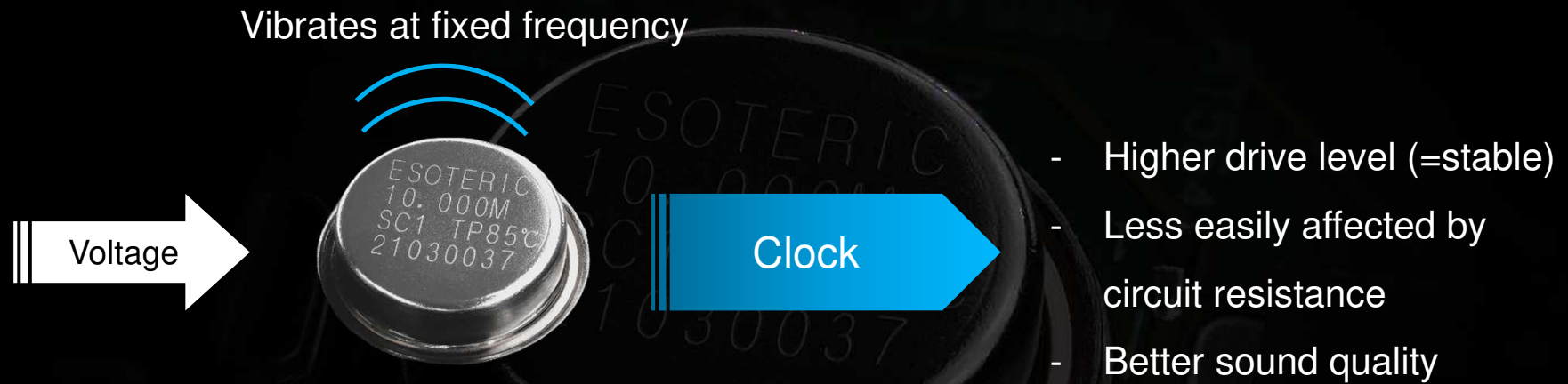
SC1 — OUR EXCLUSIVE CRYSTAL OSCILLATOR

When voltage is applied, the clock's crystal resonates at a fixed frequency that serves as the clock signal. Because of this, the crystal's physical characteristics, such as size, cut shape, and surface treatment, can all have a significant effect on frequency accuracy and sound quality. Larger crystals tend to produce a higher signal amplitude that is less easily affected by resistance within the circuit.

PURE AND POWERFUL
— THE SC1 IS THE LARGEST
CRYSTAL IN ITS CLASS.



LARGE CRYSTAL (SC1)



CONVENTIONAL CRYSTAL



Master Sound Discrete Clock

TECHNOLOGY

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2. MASTER SOUND TC
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Master Sound Discrete Clock

MASTER SOUND TC* *Thermo-Control

— OUR EXCLUSIVE THERMO CONTROL SYSTEM

Since the accuracy of a crystal can change drastically due to the influence of temperatures, temperature control is essential in maintaining a clock's accuracy.

MASTER SOUND TC IS OUR
EXCLUSIVE TOTAL TEMPERATURE
CONTROL SYSTEM DESIGNED
TO MAXIMIZE THE PERFORMACE
OF THE CLOCK MODULE

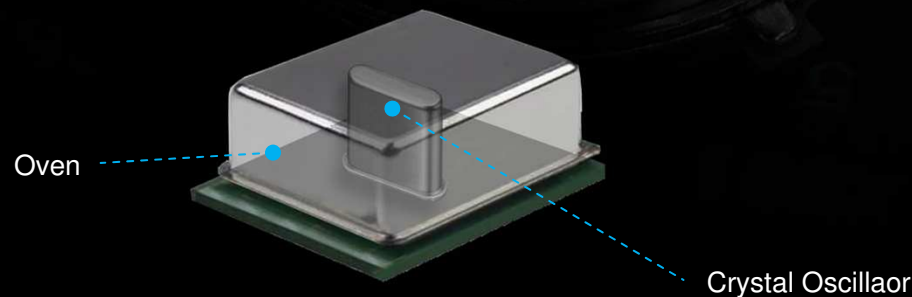


Master Sound Discrete Clock

MASTER SOUND TC

— OUR EXCLUSIVE THERMO CONTROL SYSTEM

In most conventional OCXO circuits, the crystal is kept in a small oven at approximately 85°C. However, since the temperature at which a crystal exhibits its best performance can vary from one crystal to the next, it has been common to correct for any clock frequency error using a supplementary correction circuit.

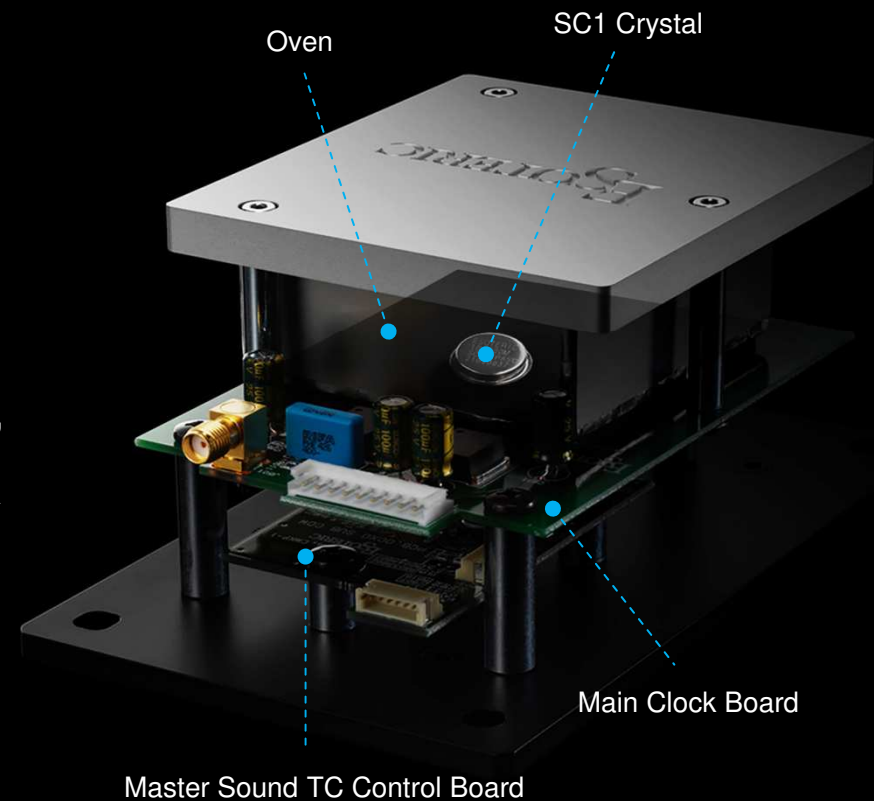


Master Sound Discrete Clock

MASTER SOUND TC

— OUR EXCLUSIVE THERMO CONTROL SYSTEM

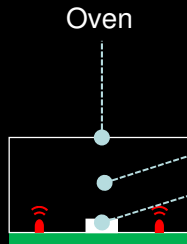
In the Master Sound TC system, a customized program micro-controls the oven in order to maintain the optimum temperature for each individual crystal to achieve its most accurate operating performance. This design keeps any circuit signal correction to an absolute minimum, thus providing the purest and most natural clock output, and by extension the cleanest and most accurate sound.



CONVENTIONAL OCXO

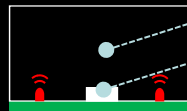
Every single crystal exhibits its peak accuracy at different temperature, but heater-program is not individualized. In case there is any frequency error, it is corrected at the additional error correction circuit.

CRYSTAL A Optimal temperature: 85°C



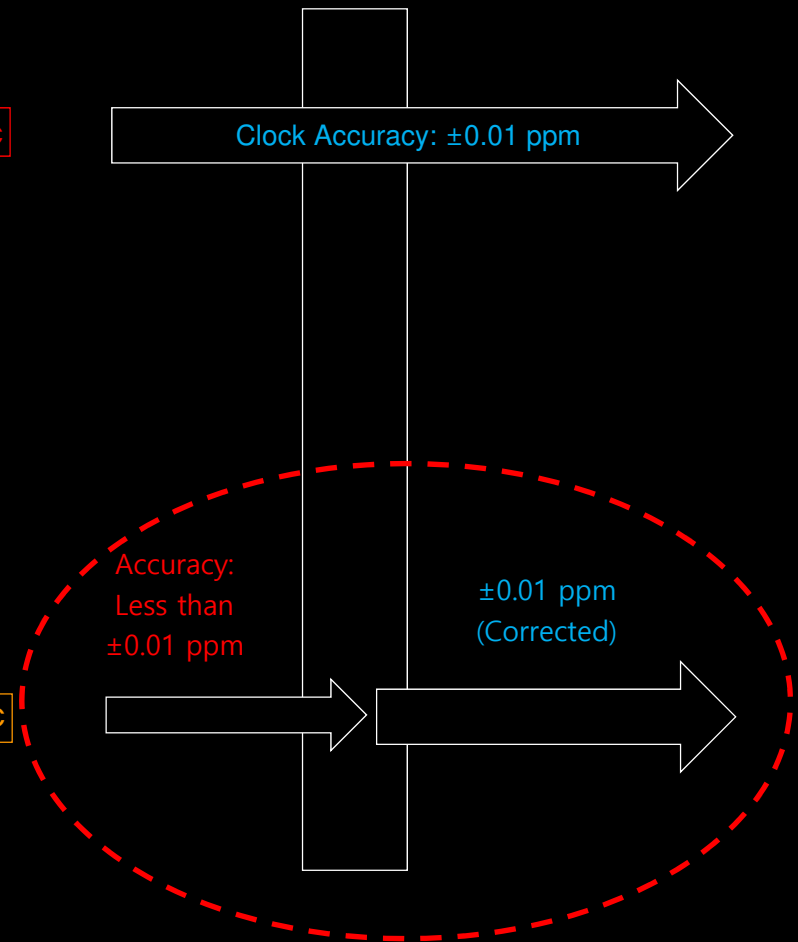
Oven temperature : 85°C
Crystal A: peak accuracy = ±0.01ppm @ 85°C
On-board Heater Program = 85°C (fixed)

CRYSTAL B Optimal temperature: 84°C



Oven temperature : 85°C
Crystal B: peak accuracy = ±0.01ppm @ 84°C
On-board Heater Program = 85°C (fixed)

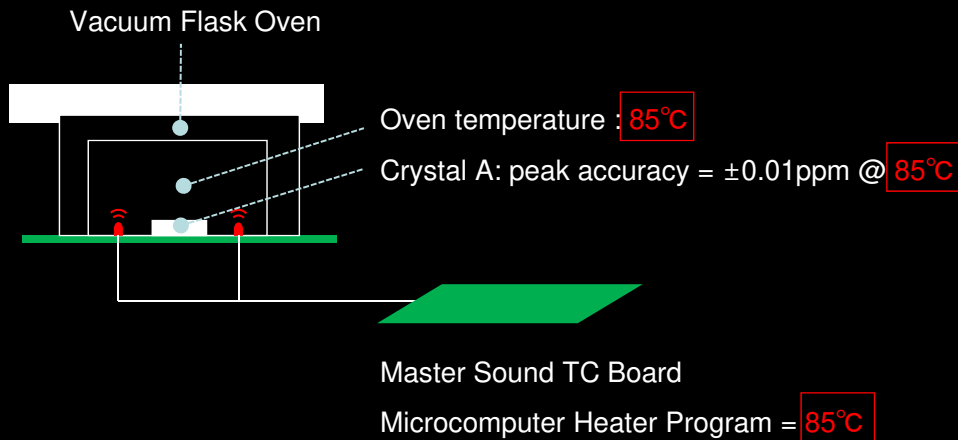
Error Correction Circuit



MASTER SOUND TC

Every single crystal exhibits its peak accuracy, without a need for error correction.
Because every crystal is driven with individual custom temperature control program.
=> results in pure, clean clock signal.

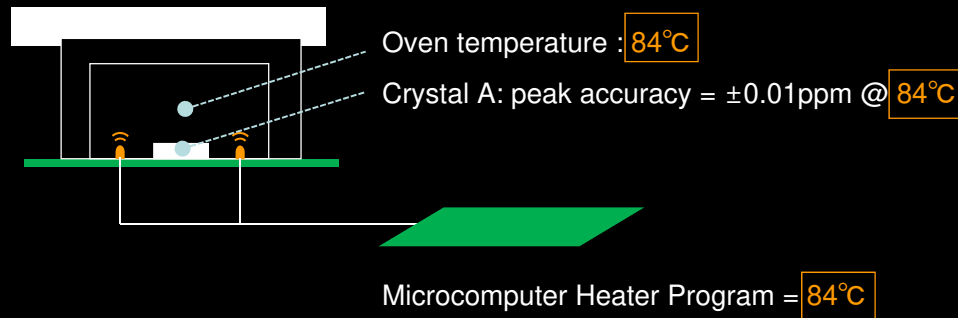
CRYSTAL A Optimal temperature: 85°C



Error Correction Circuit
= Absolute Minimum

Clock Accuracy: ±0.01 ppm

CRYSTAL B Optimal temperature: 84°C



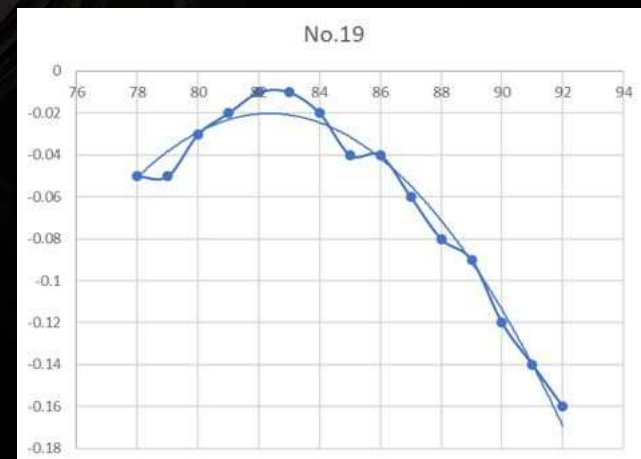
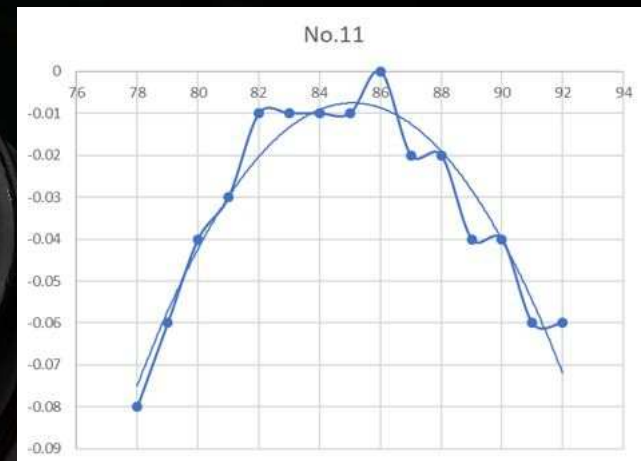
Clock Accuracy: ±0.01 ppm

Master Sound Discrete Clock

MASTER SOUND TC — PRODUCTION PROCESS

In the case of Esoteric's new SC1 crystal, temperature characteristics are measured individually at the time of manufacture, and characteristic charts are produced for each individual unit. The SC1 crystal is then installed in the oven and based on its chart specifications, the oven's microcomputer control program is individually customized to match the installed crystal's optimum operating temperature in order to ensure that each and every crystal performs at peak accuracy.

SC1 Temperature Characteristic Charts



Master Sound Discrete Clock

MASTER SOUND TC — PRODUCTION PROCESS

This series of operations is carried out meticulously over several hours, including individualized burn-in, therefore only a handful of G1X units can be produced in a single day.



Master Sound Discrete Clock

TECHNOLOGY

1. ESOTERIC SC1 CRYSTAL
2. MASTER SOUND TC
3. VACCUM FLASK OVEN
4. 128-STEP HEATER
5. 4-INDEPENDENT POWER SUPPLY
6. HCLD (HIGH CURRENT LINE DRIVER)

Master Sound Discrete Clock

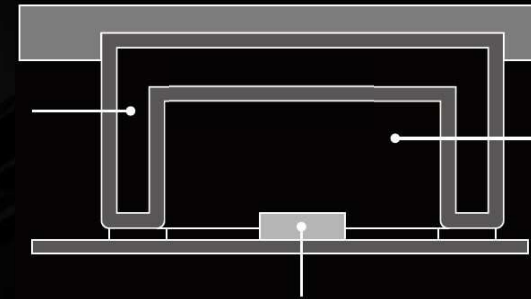
VACCUUM FLASK OVEN

Heat cannot be conducted through a vacuum.

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.

Vacuum Area



Reference Temp: 85°C

SC1 Crystal

Master Sound Discrete Clock

TECHNOLOGY

1. ESOTERIC SC1 CRYSTAL
2. MASTER SOUND TC
3. VACCUM FLASK OVEN
4. 128-STEP HEATER
5. 4-INDEPENDENT POWER SUPPLY
6. HCLD (HIGH CURRENT LINE DRIVER)

Master Sound Discrete Clock

128-STEP HEATER

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.



Master Sound TC Control Board
That controls heaters

Master Sound Discrete Clock

TECHNOLOGY

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2. MASTER SOUND TC
3. VACCUM FLASK OVEN
4. 128-STEP HEATER
5. 4-INDEPENDENT POWER SUPPLY
6. HCLD (HIGH CURRENT LINE DRIVER)

Master Sound Discrete Clock

4-INDIPENDENT POWER SUPPLY

Normally, OCXO modules are equipped with a single power supply to drive all circuits.

However, the G1X is equipped with four independent power supplies.

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.

1. OSCILLATION CIRCUIT
2. HEATER
3. CONTROL CIRCUIT
4. BUFFTER AMPLIFIER





Master Sound Discrete Clock

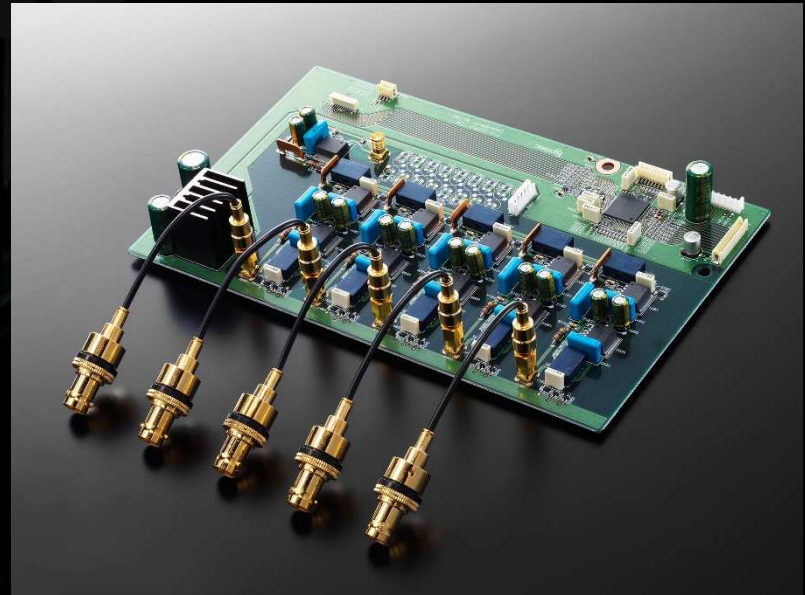
TECHNOLOGY

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5. 4-INDEPENDENT POWER SUPPLY
6. HCLD (HIGH CURRENT LINE DRIVER)

Master Sound Discrete Clock

ESOTERIC HCLD (HIGH CURRENT LINE DRIVER)

The G1X comes fully equipped with the same Esoteric-HCLD buffer circuitry used in the Grandioso C1X Linestage Preamp. 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.



Master Sound Discrete Clock SONIC BENEFITS



Conventional Clock

Master Sound Discrete Clock

1. Ultra high resolution down to the lowest frequency
2. Increased soundstage depth / height (3-dimensional)
3. Farther advanced micro dynamics
4. Super wide soundstage

EGOTERIC