

Supplemental to New Product Information (SNPI)

CG-10M

Master Clock Generator



**Precision pulses breathe new life into Digital Audio.
An all-new Master Clock Generator for the Hi-Res era.**

■ Main Features

- High-precision "TEAC Reference OCXO" – an 'oven-controlled' crystal oscillator
- ± 3 ppb frequency temperature characteristics, ± 0.1 ppm frequency precision
- 4 x 10MHz clock output connectors (gold-plated BNCs)
- Completely independent and isolated circuit
- High capacity toroidal-core power transformer
- OVEN STATUS gauge with dimmable backlight, for monitoring oscillation stability
- 3-positioned Patented Pin-Point feet to minimise vibrations
- Full-metal body to eliminate incoming electromagnetic noise
- Compatible with TEAC UD-503 and NT-503 (as of November 2017)



Brand	TEAC	
Model Name	CG-10M-B	CG-10M-S
Color	Black	Silver
EAN Code	4907034 221905	907034 221820
UPC Code	043774 033423	043774 033362
Announcement Date	October 18, 2016	
Product Dimensions (W x H x D) / NW	290 x 84.5 x 248.7 mm / 11.4" x 3.3" x 9.8" 3.6 kg / 7.9 lbs.	
Package Dimensions (W x H x D) / GW	444 x 193 x 345 mm / 17.5" x 7.6" x 13.6" 4.6 kg / 10.2 lbs.	
Qty. per Master Carton	1	

* Not every color is available in every country.

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■ Overview

The CG-10M is a master clock generator that delivers an extremely accurate clock signal to allow Digital-to-analogue converters (DACs) to perform at their ultimate best.

It is a well-known fact among audiophiles that the clock signal is the foundation for all digital signal processing. For example, digital signals, such as PCM, are divided extremely finely into tens of thousands of parts per second along the time axis. If that fundamental time axis fluctuates during the process of D/A conversion it is much more difficult to render an analogue audio waveform that is identical to the original. This is all the more true with DSD audio signals that function at MHz speeds in the time axis. For this reason, having as accurate a clock signal as possible is very important for the re-creation of digital audio signals, particularly HiRes files that use ultra high sampling-rates, such as DSD 22.5MHz or PCM 768kHz.

At the heart of the master clock generator is a crystal oscillator, encased in in a temperature-controlled box, the "oven", to maintain the best and stable performance under an ideal temperature condition for crystal oscillation. This oven-controlled crystal oscillator (OCXO, for short) generates an extremely accurate 10MHz clock signal which is within ± 3 ppb of frequency temperature characteristics and within ± 0.1 ppm of frequency precision.

The elegant analogue gauge on the front panel gives a visual indication of the status of the internal crystal oscillator at all times..

The CG-10M is a master clock generator that brings out the best performance from USB DACs, network players, CD players and any other kind of device that supports a 10MHz clock input.

● New Reference OCXO - an Oven-controlled Crystal Oscillator

Since temperature has a huge effect on accuracy of the crystal oscillator, minimising temperature changes and maintaining it at an ideal level are extremely important in order to generate an accurate clock signal. The CG-10M employs an innovative oven-controlled crystal oscillator, the TEAC Reference OCXO to reduce oscillation frequency fluctuations caused by temperature changes.



● A class-leading ultra high-precision clock

Thanks to the TEAC Reference OCXO, the CG-10M delivers an ultra high-precision 10MHz clock signal – within ± 3 ppb of frequency temperature characteristics and within ± 0.1 ppm of frequency precision – to USB DACs and digital players.

A unique laser-engraved serial number and the TEAC Reference OCXO logo on every OCXC case is proof of the rigorous quality inspection undertaken during the manufacturing process.

ppm= 10^{-6} , ppb= 10^{-3}

Frequency temperature characteristics: A value of frequency fluctuation caused by temperature change

Frequency precision: An actual frequency range

● Four BNC clock output connectors

Four gold-plated BNC connectors (50 ohms) are provided to deliver clock signals to multiple devices. Up to four devices that support a 10MHz input may be connected simultaneously, including USB DACs, network players and SA-CD players.



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● Independent and isolated circuit design

Each circuit in the CG-10M – from the power supply section to the buffer-amp at the output stage, – is completely isolated to prevent cross-interference when multiple devices are connected to the BNC connectors.

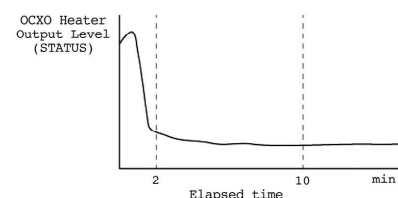
By incorporating a buffer-amp into each circuit, no degradation of the signal waveform occurs when the generated clock signal is shared by several devices.



● Oven Status Gauge for clock stability monitoring

The OVEN STATUS analogue gauge located in the middle of the unit, a TEAC trademark in recent years, shows the stability of the crystal oscillator when in use. As the temperature of the oven that contains the crystal oscillator reaches to the ideal temperature for accurate clock generation, power consumption of the oven decreases and the gauge points to zero, signaling to the user that the digital processing on the connected device is now controlled by an extremely accurate 10MHz clock signal.

The gauge is a backlit-type with a dimmer control (including the ability to completely switch the backlight off).



Note: The oscillator is usually stable about 2 minutes after the power is turned on. However, at least 10 minutes are necessary for the clock to reach an ideal condition.

● Toroidal-core power transformer

A high-capacity, toroidal-core power transformer constantly supplies a constant, stable current that contributes greatly to the efficacy of the crucial clock generation and its subsequent high-precision output.



● Three-position, patented 'Pin-Point' feet for perfect stability

The CG-10M employs TEAC's patented 'Pin-Point' feet. These ingeniously comprises two separated metal sections in a in an integrated housing. One is has a spiked top and is attached to the bottom of the chassis, the other is a basin-shaped base that hangs down from the spiked section with a flange-shaped cup to simply installation.

Three 'Pin-Point' foot are used for support, two at the front and one at the rear, for excellent stability, even on an uneven floor.

As a result, the three 'Pin-Point' feet help improve the accuracy of clock oscillation by minimising vibrations and resonance. This, in turn, reduces mid and low frequency muddiness, improves the soundstage and enhances fine sound detail.

*Japan patent No. 4075477 and No. 3778108

● A robust full-metal chassis, combined with an A4-size footprint

Designed to match the successful Reference 500 series, the CG-10M features aluminum panels and a robust metal chassis (that also isolates it from electromagnetic noise). with a compact A4-size footprint that will fit anywhere.

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■ Features at-a-glance

- High-precision "TEAC Reference OCXO" – an 'oven-controlled' crystal oscillator
- ± 3 ppb frequency temperature characteristics
- ± 0.1 ppm frequency precision
- 4 x 10MHz clock output connectors (gold-plated BNCs)
- Completely independent and isolated circuit
- High capacity toroidal-core power transformer
- OVEN STATUS gauge for oscillation stability monitor with dimmable backlight
- Patent-registered 'Pin-Point' feet to minimise vibrations*
- Three feet for the perfect support
- Full-metal body to eliminate incoming electromagnetic noise
- Detachable 3-pole IEC power socket
- Compatible with TEAC UD-503 and NT-503 (as of November 2017)
- Compliant with RoHS

■ Specifications

Clock Outputs

Connectors	BNC x 4 (gold-plated)
Output Sampling Frequency	10MHz
Output Impedance	50 ohms
Output Level	0.5Vrms (sine wave)

OCXO (Crystal Oscillator)

Clock stabilization time	2 minutes
Frequency temperature characteristics	within ± 3 ppb
Frequency precision	within ± 0.1 ppm (when shipped new)

General

Operation Power	
US/Canada	AC 120V, 60Hz
UK/Europe	AC 220-240V, 50Hz
Power Consumption	
US/Canada	15.4W (warming up), 10.0W (stable)
UK/Europe	15.8W (warming up), 10.8W (stable)
Overall Dimensions (W x H x D)	290 x 84.5 x 248.7 mm / 11.4" x 3.3" x 9.8"
Weight (Net)	3.6 kg / 7.9 lbs.
Operating Temperature	+5°C to +35°C
Included Accessories	Power cord x 1 Pads x 3 Owner's Manual (including Warranty Card)

■ Rear Panel

