

PRODUCT OVERVIEW



INTRODUCTION

TASCAM's CG-1800 master clock generator is ideally suited to the needs of video and audio post production. It's designed around a high-precision OCXO. This oven-controlled crystal oscillator has 0.01PPM accuracy – the highest precision in its class. Jitter Management and Glitch-free Relocking circuits ensure highly-accurate clock outputs by smoothly reacting to dropouts. For applications demanding even more accuracy, a 10MHz input accepts signal from Rubidium or GPS-based generators.

Video clock inputs and outputs are available for use with video blackburst generators, and tri-level sync is supported for high-definition video. Four video clock outs join the 12 word clock outputs. Two of the word clock outs can be set to alternate speeds, supporting 256fs for Avid systems or downsampling for mixed 96k/48k facilities. The unit can be set from 32kHz to 192kHz sampling rates.

When it comes to precise synchronization and clear audio quality, the CG-1800 is the ideal choice for post and music studios. Also available is the CG-2000 with redundant power supplies, redundant clock source, and GPO output.

FEATURES

- High-precision OCXO (Oven-Controlled Crystal Oscillator) with 0.01PPM accuracy
- Jitter management circuit for stable clock output
- Glitch-free relocking circuit prevents noise and skipping during clock dropouts and recovery
- 10MHz input for use with Rubidium or GPS clock generators
- Twelve word clock outputs, two of which support 1/2Fs, 1/4Fs, 2x Fs, 4x Fs, and 256x Fs the selected rate
- Two AES/EBU and two S/PDIF outputs
- Four system presets, saved internally with USB drive backup
- Sampling Frequencies from 32kHz to 192kHz are supported
- Panel lock switch to prevent accidental changes
- Four video clock outputs
- Video clock input
- Tri-level sync support for high-definition video
- Clock Analyzer functions for troubleshooting
- Video and word clock inputs
- AES/EBU clock input
- 1u rack mount size

SPECIFICATIONS

Video Input

Connector type: BNC
Input level: 0.5–2.0 Vp-p
Input impedance: 75 Ω (switchable in menu)

Input format

SD video black burst:
NTSC (RS-170A)
PAL (ITU-R624)
SD video composite sync:
NTSC B/W (RS-170)
HD video tri-level:
720p/50/59.94/60 (SMPTE 296M)
1080p/23.976/24/25/29.97/30/50/59.94/60
(SMPTE 274M)
1080i/23.976/24/25/29.97/30 (SMPTE 274M)
1080PsF/23.976/24/25/29.97/30 (SMPTE RP211)
Permissible frequency deviation: ± 10 ppm

Word/Ext Input

Connector type: BNC
Input level: 0.5–5.0 Vp-p
Input impedance: 75/50 Ω (can set to 75/50/OFF
in menu)

Supported frequencies

WORD CLOCK: 32/44.1/48/88.2/96/176.4/192
kHz (–4/–0.1/0.0/+0.1/+4% PULL UP/DOWN
supported only when 48/96/192 kHz se-
lected)
ATOM: 10.0 MHz
GPS: 10.0 MHz
Permissible frequency deviation: ± 10 ppm

AES3/11 Input

AES3/11 INPUT
Connector type: XLR-3-31
Input level: 0.2–10 Vp-p
Input impedance: 110 Ω
Format: AES11-2003, AES3-2003, IEC60958-4

Supported frequencies:

32/44.1/48/88.2/96/176.4/192 kHz
(–4/–0.1/0.0/+0.1/+4% PULL UP/DOWN sup-
ported only when 48/96/192 kHz selected)
Permissible frequency deviation: ± 10 ppm

Calibration Input

Connector type: BNC
Input level: 0.5–5.0 Vp-p
Input impedance: 50 Ω (can turn ON/OFF in
menu)
Supported frequencies
ATOM: 10.0 MHz
GPS: 10.0 MHz, PPS

Video Outputs

Connector type: BNC
Output impedance: 75 Ω

Output format

SD video black burst:
NTSC (RS-170A)
PAL (ITU-R624)
SD video composite sync:
NTSC B/W (RS-170)
HD video tri-level:
720p/50/59.94/60 (SMPTE 296M)
1080p/23.976/24/25/29.97/30/50/59.94/60
(SMPTE 274M)
1080i/23.976/24/25/29.97/30 (SMPTE 274M)
1080PsF/23.976/24/25/29.97/30 (SMPTE RP211)

Word Outputs

Connector type: BNC connector
Output level: 1.0–3.5Vp-p (can set by 0.5V steps
in menu)
Output impedance: 75 Ω
Supported frequencies:
32/44.1/48/88.2/96/176.4/192 kHz
11.2896/12.288 MHz (Super Clock, only
connectors 11/12)
(–4/–0.1/0.0/+0.1/+4% PULL UP/DOWN sup-
ported only when 48/96/192 kHz selected)

AES 3/11 Outputs

Connector type: XLR-3-32 (1: GND, 2: HOT, 3:
COLD)
Output level: 2.5 Vp-p
Output impedance: 110 Ω
Format: AES11-2003, AES3-2003, IEC60958-4
Supported frequencies:
32/44.1/48/88.2/96/176.4/192 kHz

SPECIFICATIONS (cont)

S/PDIF Outputs

Connector type: RCA pin jack

Output level: 0.5 Vp-p

Output impedance: 75 Ω

Format: IEC60958-3 (S/PDIF)

Supported frequencies:

32/44.1/48/88.2/96/176.4/192 kHz

(-4/-0.1/0.0/+0.1/+4% PULL UP/DOWN supported only when 48/96/192 kHz selected)

Performance

Internal oscillator

Type: OCXO (oven-controlled crystal oscillator)

Permitted frequency deviation: ± 0.01 ppm (Adjusted value when shipped new from the factory)

Frequency temperature characteristics: ± 0.05 ppm (0 to 40 °C)

Long-term frequency stability: ± 0.005 ppm (daily)

± 0.5 ppm (annually)

General / Power supply

AC: 100-240 V, 50-60 Hz

Power consumption: 14 W

Dimensions (W x H x D): 19" x 1.76" x 11.8" (482.6 x 44.9 x 300.5 mm)

Weight: 7.3 lbs. (3.3 kg)

Operating temperature range: 32°-104° F (0°-40° C)