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GPS Disciplined Oscillator Model GF-8048



The GF-8048, GPS Disciplined Oscillator, is designed specifically for digital terrestrial broadcasting applications.

The GF-8048 can be used at the digital terrestrial broadcasting main stations as well as at satellite stations since it can output highly accurate and stable 1PPS and 10MHz even in blocked spaces or in severe conditions such as high electrical field areas.

The GF-8048 has a GPS receiver and a rubidium oscillator. It receives GPS signals and generates 1PPS (pulse per second) synchronized with UTC as well as 10MHz sine wave coherent to 1PPS.

The GF-8048 offers completely maintenance-free stability. Periodic maintenance work is not necessary.

- **Highly-stable frequency and high accurate UTC time can be easily obtained worldwide.**
- **The GF-8048 incorporates rubidium oscillator as a base oscillator. The excellent low phase noise**

is realized by the combination of OCXO and GPS.

- The GF-8048 can continuously output high accurate and stable 1PPS and 10MHz even if GPS receiver loses the GPS satellite signals in holdover mode.
- The GF-8048 realizes the coherency within +/- 10ns accuracy between the falling edge of 1PPS and the zero crossing of 10MHz sine wave.
- Every rubidium oscillator needs periodical calibration to maintain high accuracy output. The GF-8048 has an “Automatic calibration function” by using GPS as a reference. The real time control by GPS realizes complete maintenance-free GPS-steered Frequency
- Designed specially for digital terrestrial broadcasting transmitter (Main stations/Sub stations).
- Enhance performance in combination with recommended antenna

Multi-GNSS antenna AU-217 receives GPS signal (L1 band) and GLONASS signal (G1 band), and has highly noise resistant as well as highly environmental resistant equivalent to IP67. Multi-GNSS antenna AU-217 is suitable for use with Furuno timing Multi-GNSS modules and disciplined oscillators.

[Here's more on Multi-GNSS antenna AU-217](#)

Specifications

GENERAL

GNSS Reception Capability

GPS L1 C/A

GNSS Reception

12 channels (GPS)

Sensitivity

-133dBm to -110dBm

10MHz Output (Lock State)

Frequency Accuracy: $< \pm 1 \times 10^{-11}$

1PPS Output (Lock State)

1PPS Accuracy: $< \pm 100\text{ns}$ (95%)

10MHz Output (Holdover)

Holdover: $\pm 2 \times 10^{-11}/1\text{h}$, $\pm 3 \times 10^{-11}/12\text{h}$

1PPS Output (Holdover)

1PPS Accuracy: $< \pm 400\text{ns}/1\text{h}$

10MHz Output (No GPS mode (Free running Rubidium))

Free running Rubidium: Frequency Accuracy : $< \pm 5 \times 10^{-10}/\text{year}$

Supply Voltage

48VDC

Operating Temperature

-10°C to +45°C (Performance Assurance Temperature)
-20°C to +60°C (Operating Temperature)

Antenna Detection

Short and Open Detection

Alarm Output

Open Collector Output, LED Display

Outer Size

207mm×327mm×98.5mm

Protocol

NMEA 0183

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