



GPRB Portable Rubidium Clock



PRODUCT OVERVIEW

The GPRB is a cost effective Portable Timing Reference source based on FEI's rubidium clock technology.

The high performance Rubidium oscillator is locked by an embedded GPS receiver.

A synthesizer allows to generate the various output frequencies, that are PPS, 5MHz, 10MHz, 2048kHz and 2048kbits.

The GILLAM-FEI GPRB equipment includes the different modules that are required for carrying out a high performance frequency reference. This reference offers performance that complies with standard ITU-T G.811 regarding long-term and short – term accuracy.

MAIN FEATURES

The GILLAM-FEI GPRB will ensure a powerful management for output reference signals, including:

- Full management for receiver, antenna, oscillator, supply failures
- Management for output signal cut ("Squelching") in case of faulty synchronization functions
- Automatic on-site putting into service procedure (Auto-acquisition "Self Survey")
- Local monitoring for the receiver operation: alarm and LEDs status
- Serial supervision interface: Gillam / TSIP protocol
- In option Ethernet supervision interface: TCP/IP 10baseT
- Adaptable connectors panels



Technical Specifications

Physical Availability:

- Portable case
- Standalone case (19" / ETSI)

Input Power Supply:

Portable and Standalone Case:

Two internal power supplies for -48 V DC and 220V AC, with two separated feeders

Output Interfaces:

- PPS 1 X BNC Connector, TTL levels into 50 Ohm
Update Rate: 1 Hz, PPS Accuracy : UTC 20 nanoseconds (one sigma)
- 2048kHz 2 X 1.6 / 5.6, BNC, BT43, etc
ITU-T G.703 §13, 1.5 V peak, 75 W
- 2048kbits 2 X 1.6 / 5.6, BNC, BT43, etc
ITU-T G.703 §9
- 5MHz 1 X BNC Connector; 50 Ohm; sine wave
- 10MHz 2 X BNC Connector; 50 Ohm; sine wave

Accuracy

Operating Tracking Mode: 1.16×10^{-12} (one day average)

Operating Holdover Mode: 4×10^{-12} day, 5×10^{-10} / year

GPS Receiver

Trimble GPS disciplined clock receiver :

- L1 frequency, - C/A code (SPS), - 8 channel, - continuous tracking receiver