SR1010

GPS synchronised time code generator with disciplined oscillator

Features

■ The equipment is a universal IRIG B or NASA 36 time code generator, GPS synchronized. The equipment is housed in a 19" , 2U rack mount.

■ An OCXO oscillator, GPS disciplined is integrated in the equipment

■ The time code signal generated by the equipment is shown on the front face by 7 digits LED’s. An alphanumeric LCD displays the GPS time, the satellites viewed, and the operation mode of the equipment.

■ A 20 keypad keyboard on the front face allows the settings & command of the equipment. The two mains functional block of the equipment are : the GPS receiver and the IRIG B (NASA 36) generator.

The GPS receiver main functions are :

● Reference time delivering, allowing the UT automatic reset of the IRIG B generator.
● Providing the 1 PPS signal with ± 50 ns precision, allowing the IRIG B generated signal right phase.

■ The IRIG B sub-system include a central unit module in charge of the equipment control, an the IRIG B generator. The generated IRIG B signal could be automatically or manually adjusted on the 1 PPS reference. The 1 PPS reference is coming from the GPS receiver or from any other external sources.

■ In case of loss of the GPS signal at the power on, the starting time of the IRIG B generator could be manually input using the front face keyboard. The GPS receiver is a MOTOROLA Oncore receiver. The IRIG B generator is driven by his internal oscillator or by an 1, 5 or 10 MHz external source.

■ Slave option : The equipment is able to enslave an external frequency generator. The reference frequency is entered and compared to the satellite reference through the 1 PPS signal. A valuation of the frequency difference is computed in order to generate a correction tension used by the frequency generator.

■ All the input/output connectors (9) are located on the rear face of the equipment :
  ■ GPS input antenna with isolated coax,
  ■ 1 PPS external input,
  ■ 1 external frequency input 1, 5 or 10 MHz,
  ■ 1 IRIGB (or Nasa36) time code output
  ■ 2 frequency outputs (oscillator frequency )
  ■ 2 outputs for periodic emission of the serial time frame
  ■ RS232 remote control output.
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**Features** (continuation)

A CEE 230V AC standard connector with fuse, filter and On/Off switch is located on the rear face of the equipment.

**Specifications**

- **1 pps signal accuracy**: ± 50 ns with UT+ Oncore receiver (locked mode).
- **Time signal phase**: ± 1 µs compared with the 1 PPS reference.
- **Generated code**: Irig B & Nasa36 – amplitude modulated sine-wave carrier 1/3, 1/1 - 6 Vpp.
- **Leap year**: automatically managed
- **Visualisation**: Universal Time or local
- **Fréquency output**: the frequency is the same as the oscillator frequency or the frequency divided by 1, 2, 4, 5 ou 10. Level +13 dBm.
- **ASCII output**: Serial frame with Year, Day of the year, hours, minutes, & seconds (RS232 or RS422). The same frame is emitted on the two outputs, the period of emission is individually programmable for each outputs.
- **Remote control**: control and command by serial asynchronous link (RS232).
- **Connectors**: isolated base BNC for analog and pulse signals, Sub'D9 pins females for serial RS232 links.
- **Dimensions**: W = 19” (483 mm), H = 2U (89 mm), D = 295 mm,
- **Weight**: 5 Kg
- **Consumption**: 30 W
- **MTBF**: 58 000 h

**Ordering information**

- **SR1010 - 1 - X** with 5 MHz OCXO
- **SR1010 - 2 - X** with 10 MHz OCXO
- **SR1010 - 3 - X** with 8.192 MHz OCXO