

SR1070

10 or 5 MHz & 1 PPS GPS controlled source

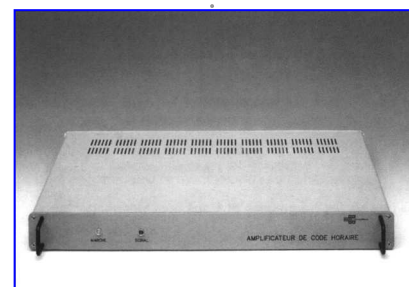
Features

- The aim of the SR1070 equipment is to provide accurate 10 or 5 MHz frequency and a 1 pulse per second reference signal.
- It integrates a GPS receiver which outputs a precise 1 PPS signal. This signal is used to estimate the frequency drift and so the local processor can achieve oscillator disciplining. Even in case of lacking GPS reception the unit maintains the frequency accuracy and no jump in frequency occurs.
- The equipment is housed in a standard 19 inch 1U height cabinet.
- The front panel includes three status leds : power on, tracking and lock.
- The rear panel groups all input/output connectors : antenna input, signals outputs, serial communications.
- Two 1 PPS signals are available :
 - The 1PPS output from the GPS receiver.
 - A 1PPS signal phase coherent with the 10 or 5 MHz frequency and held within ± 100 ns of the UTC when the oscillator is disciplined.

These two signals provide an effective mean of system testing.

COMMUNICATION

- One serial RS232 link provides :
 - Local hour or UTC date and time output in form of an ASCII frame.
 - Equipment monitoring with a simple request/answer protocol : status, date, time, position, satellites tracking, frequency drift estimator.



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Specifications

A one farad super-capacitor is used for storing almanac data when the unit is not powered.

■ Antenna input : TNC connector for active antenna powered by the module : max 80 mA - 5V DC. (Antenna is not provided with the equipment. Many models are available).

■ Oscillator : 10 or 5 MHz OCXO.

Stability of the oscillator alone	< 10^{-9} / day < 3×10^{-8} / month < 3×10^{-7} / year
Stability of the oscillator when disciplined by GPS (averaging)	< 1×10^{-11}
PPS coasting drift	< 1.2 μ s
Phase noise	10 Hz <-110 dBc 1 KHz <-140 dBc 10 KHz <-145 dBc

■ GPS 1 PPS output : TTL level on BNC connector. Drive 50 Ohm load.

■ Local 1 PPS output : TTL level on BNC connector. Drive 50 Ohm load. In phase with 10 or 5 MHz clock.

■ Frequency output : Isolated BNC connector. 10 or 5 MHz TTL or sinus level. Drive 50 Ohm load.

■ Serial communications : Sub'D 9 pin female connectors. RS232 standard. Only TxD & RxD are used.

■ Supply voltage : nominal 230V AC.

■ Dependability : MTBF > 80 000 h

Ordering

SR1070-F-N

F = replace by **5** or **10** MHz

N = replace by **S** Sinus or **T** TTL

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