MICROSYSTEMES
Time-frequency & Networks

SR1070

10 MHz & 1 PPS GPS controlled source

Features

■ The aim of the SR1070 equipment is to provide accurate 10 MHz frequency and a 1 pulse per second reference signal.

■ It integrates a Motorola GT+ Oncore 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 :

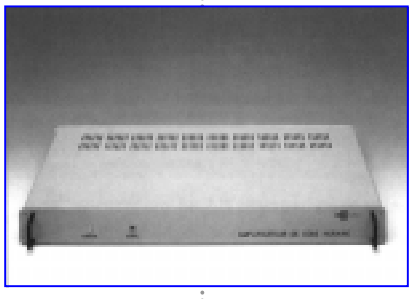
- The 1PPS output from the GPS receiver.
- A 1PPS signal phase coherent with the 10 MHz frequency and held within ± 500 ns of the UTC when the oscillator is disciplined.

These two signals provide an effective mean of system testing.

COMMUNICATION

■ Two serial communication links provide for :

- Local our 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.



SR1070

GPS synchronisation board for PC - ISA bus

Specifications

■ Main characteristics of the Motorola GPS GT+ Oncore receiver :

Receiver	8 parallel channels L1 1572.42 MHz Code C/A
Tracking	8 satellites simultaneous
Acquisition time, first fix (TTFF)	<15s warm start (witch almanac) <90s cold start
Precision	100 m with SA <25 m without SA
Precision off 1 PPS	500 ns with SA
Temperature range	-40°C à +85°C
Altitude	18 km max

A one farad super-capacitor provides 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 MHz OCXO.

Stability of the oscillator alone	< $1x10^{-6}$/year
Stability of the oscillator when disciplined by GPS	< $1x10^{-10}$

■ 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 MHz clock.

■ Frequency output : Isolated BNC connector. 10 MHz TTL 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-V

- F : french version
- U : english version

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