

Overview

The GPS-100P is a timing and frequency reference system designed for synchronization of satellite networks such as DVB-RCS systems. This system requires a precision time and frequency reference to synchronize transmitters across multiple locations. Without synchronization, networks are not able to reliably deliver data to the end user due to timing differences and transmit carrier inaccuracy.

The unit receives reference timing information from the GPS constellation and processes it to generate the required output signals. In case of a loss of GPS signals, the unit automatically goes to a hold-over mode.

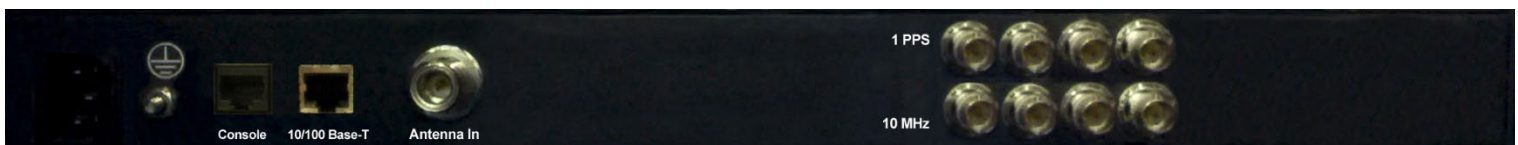
The GPS Receiver sub-system provides the following functions:

- Distributes 1PPS signals
- Distributes 10 MHz signals
- Provides NTP server function
- Capability to be remotely monitored and controlled via a GUI or SNMP.

The GPS-100P is packaged in a 1U 19" rack mount chassis and employs auto-ranging AC power supply units accepting 90-264VAC 50-60 Hz. The front panel features an alphanumeric display showing the time plus LED indicators that provide status on the various functions.



Front



Back

Product Features & Specifications

GPS Receiver

Input connector	N
Tracking	up to 12 parallel channels
Acquisition time	Cold start < 45 min
Frequency stability	< 1 x 10 ⁻¹¹ per day
Holdover	< 9 x 10 ⁻¹¹ per day

Communication Protocols

Network Interface	10/100/1000 Base-T, RJ-45 connector
Network Time Server	NTP, RFC 1305
Network Transport	UDP/IP, TCP/IP, Ethernet IEEE 802.3
Network Management	SNMP v1 and v2

1 PPS

Outputs	4 (8 option)
Level	0-5V, 50 Ohms
Drive Capability	can drive a 50 Ohms load
Control	Enabled/disabled per channel
Rise/Fall Times	< 15 ns, shape affected by distributed capacitance of interface cables & loads
Accuracy	±15 nS
On Time	rising edge on GPS update
Pulse Width	<50 uS
Jitter	± 2.5 nS
Connector	BNC-F
Impedance	50 Ohms
Return Loss	15 dB typical

Product Features & Specifications

10 MHz

Phase Noise	1 Hz	< -90 dBc/Hz
	10 Hz	< -120 dBc/Hz
	100 Hz	< -135 dBc/Hz
	1 kHz	< -145 dBc/Hz
	10 kHz	< -155 dBc/Hz
	>100 Hz	< -158 dBc/Hz

Harmonics	< -30 dBc
Spurious Noise	< -70 dBc
Outputs	4 (8 option)
Waveform	Sine
Output Power	0 dBm or +13 dBm \pm 1 dB, switchable
Impedance	50 Ohms
Connector	BNC-F
Return Loss	15 dB typical

Display

Front Panel LED	GPS locked
Alphanumeric display	Year/Day/Hour/Min/Sec

Product Features & Specifications

Power Supply

AC Input	90-264V AC, 50-60 Hz
Consumption	40W
Dual Redundant Supplies	(Option)

Mechanical

Size	Height 4.5 cm (1 RU)	Width: 43.5 cm"	Depth: 27.5 cm"
Weight	40W		

Environmental

Operating Temperature	0°C - 50°C
Humidity	0% to 90% non-condensing