ptf

3201B GLOBALTYME™
GPS STANDARD

GPS Tracking: 12 parallel channels
Ovenized Quartz Oscillator
7 μs Over 8 Hours
1PPS and 10MHz Outputs
GPS Antenna and Cable Included
Low Cost
Convenient 1U , 19" rack mount package

The *ptf* 3201B provides an alternative low-cost solution for applications requiring a GPS receiver but with a 12 channel receiver and additional remote monitoring/control functionality over the 3201A. The 3201B offers control/monitor on both RS 232 and Ethernet ports plus a "time print" RS 232 port, thus allowing interfacing to a wider range of equipment. This additional functionality comes in a package which is still offered at a low cost to the end user.

The *ptf* 3201B uses at its heart a microprocessor-CPLD combination interfacing to a 12-channel GPS receiver, control circuitry and a high-quality ovenized oscillator all on a single board.   The result is high integrity and reliability.

As with the 3201A, the level of integration of the *ptf* 3201B makes it the perfect solution for the precise timing applications within the wireless industry. Among its uses are synchronizing and maximizing bandwidth for wireless local loop.

The *ptf* 3201B's GPS Clock outputs a 10 MHz reference signal and a 1PPS signal with an over-determined solution synchronized to GPS or UTC time. The 10MHz reference accommodates applications requiring sub-microsecond timing.

The microprocessor/CPLD combination performs both the GPS navigation and oscillator disciplining functions. The GPS receiver is driven directly by the 10MHz output signal of the oscillator. This is calibrated against the incoming GPS signal, with the resulting clock and frequency measurements fed into the oscillator frequency control algorithm.

The *ptf* 3201B operates on the coarse acquisition (C/A) code transmitted from each satellite. This C/A code, which is unique for each satellite, contains information on the satellite identity for acquisition and tracking. The C/A pseudo random number (PRN) code is a 1023 bit code that repeats at the rate of every millisecond.

Operating on the L1 band and utilizing the C/A code transmissions, the *ptf* 3201B determines time and frequency by measuring the time of arrival of a precise timing mark transmitted by each of the satellites, and computing the time against its known (previously determined or entered) position. This is the basis for the *ptf* 3201B's one pulse per second (1PPS) output.

SPECIFICATIONS

ELECTRICAL

GPS Sub-system
  L1 frequency, C/A code (SPS)
  12-channel continuous tracking receiver

Outputs

10MHz	Special Low Phase Noise Output +12.5dBm ±2.5dBm into 50Ω
1PPS	Referenced to UTC, BNC Connector TTL levels into 50Ω 20 nanoseconds (one sigma) in fixed position mode.

Additive SSB Phase Noise
(1 Hz Bandwidth) Offset from carrier

1 Hz	-94 dB
10 Hz	-125 dB
100Hz	-155 dB
1 kHz	-162 dB
10 kHz	-162 dB

Harmonic Level   -40 dBc max

Spurious   -70 dBc max

Oscillator (OCXO)

Aging	<5E-10/day	<5E-8/year
Electrical Control Range	±5E-7	

Controls & Indicators

Power	Green LED
Lock	Green LED
Fault	Red LED

ENVIRONMENTAL & PHYSICAL

Temperature	Operating	-0° to +60° C
	Storage	-40° to +85° C

Maximum Altitude   18,000 meters

Relative Humidity

Chassis	0 to 95%, RH non-condensing
Antenna	Unlimited

Power Requirements

Input voltage	90 to 264 VAC
Input Freq. Range	45 to 65 Hz
DC (optional)	

Dimensions (HxWxD)   1U x 19" x 16"

Weight	Chassis	<10 lbs
	Antenna	<1.5 lbs

Configuration Options

Option #	Description
RSLD	Mounted Rackslides

ptf 3201B rear view