

# PTP800

## Quad-Port Enterprise-Class PTP Server

The PTP800 provides highly accurate yet economic time distribution over local area networks (LAN) using Precise Time Protocol (PTP), the industry-standard means of time distribution over discrete networks.



### Features

- Stratum 1 Network Time Server
- Acts as client and server
- 4 independent 1Gb combo ports
- 5000 Time requests per second.
- NTP V3,V4
- Precision holdover on signal loss with multiple oscillator options
- Configuration via web interface
- Field upgradable
- Multiple dual redundant power supply options
- 'Reset defaults' button

### Input Synchronization Signals

- GNSS, Active or Long Distance Antenna
- 1 PPS with Serial Time of Day
- IRIG-B, AC or DC
- NTP Client
- 10 MHz

### Output Signals

- IRIG-B, AC or DC
- 1 PPS
- Serial Time of Day
- 10MHz

\* Accuracy subject to Reference Clock and network conditions

## Applications

The PTP800 provides a cost-effective way of providing both PTP and NTP time from a trusted source, which is critical in many organizations such as airports, railways, financial institutions, telecommunication companies.

### Enterprise / Corporate Networks

Any business using devices on a network can benefit from using the PTP800 - not only can it use a selection of highly accurate, trusted time sources, it is easily integrated into internal systems thus eliminating network security issues that arise from using an external time source, such as from the Internet.

### Telecommunication / Broadcasting

Hardened dual redundant AC and DC power supplies options. Many PTP profiles are supported. Hardware timestamping allows for better than 1µs PTP client synchronization accuracy, dependant on network configuration and performance

### Rail / Transportation

The ability to operate PTP in client mode means that the PTP800 is especially useful as a sub-master clock in rail applications.

## Key Benefits:

- Accurate and reliable time data from a trusted source
- Remote configuration and status via web browser, remote monitoring with SNMP
- Synchronization between users - eradicates discrepancies
- System time stamping, such as e-commerce transactions, e-mail sent & received, is highly accurate
- Automatic systems procedures such as backups occur at the correct time and in the correct order
- Additional time signal outputs can feed to other systems
- Multiple time source fall back and priority configuration can ensure high synchronization availability
- Various oscillator choices allow for long holdover to maintain time accuracy when synchronization signals are absent



# PTP800 Specifications

## Connections

Four combo RJ45/SFP connectors for 10/100/1000 BASE-T networks

GNSS antenna either with 50Ω BNC socket or RJ45

IRIG-B input/output with 50 Ω BNC sockets. Independently supports IRIG-B000 to 0007, or B120 to B127

1PPS input/output (rising edge) with BNC sockets at 5V

10MHz sine wave input/output with BNC sockets at 5V RMS

micro USB-B port for support

## Interface Standards

- PTP [IEEE 1588v2]
- NTP V3 [RFC 1305], V4 [RFC5905], SNTP V4[RFC 4330]
- SNMP V1[RFC1155/7], V2c[RFC1901/8], V3 [RFC 3411/8]
- Ethernet/ IEEE802.3
- IPv4 [RFC 791], IPv6[RFC2460, 8200]
- ICMP ping [RFC 792]
- SSH [RFC 4250-4254]
- HTTPS [RFC 7540]
- DNS [RFC 1034/5]
- FTP [RFC 765]

## Configuration and Status

Secure web browser configuration of all Network, Protocol, Input and Output options. Stored in non-volatile memory

“Restore Defaults” button for factory reset

Web browser indicates status and system log

Status available through SNMP

9 Digit LED panel displaying Day and Time. Status LEDs to show synchronization status and power

User specific network parameters can be factory-configured upon request

All Ethernet ports available for upgrade of flash code for newer versions or additional options

## Physical (stand-alone unit)

Size: 19-inch rack mounting 1U high 385mm deep

Weight: 4.5 Kg

Power: Dual redundant, hot swappable

AC Power: 90-264VAC 50-60Hz Load 20W (typical) subject to oscillator.

Connection via 3 pin IEC plug

DC Power: 18-36VDC

36-72VDC

Isolation: 2250VDC Input-Output

Display: 9 digit display + 6 status LEDs

## Environment (Operation & Storage)

Temperature: -5°C to +50°C

Humidity: up to 95% RH (non-condensing)

EMC: CE compliant

Safety: IEC 60950-1, CSA 22-2

## Input Synchronisation Accuracy (Rb and OCXO Options)

GNSS ±50 ns from UTC

IRIG-B AC ±500 ns

IRIG-B DC ±2 us

PPS with Time of Day ±100 ns

NTP Client ±50 us from UTC, dependant on network

10MHz, unit will track input signal

TCXO option – accuracies up to 10 times degraded

## Frequency Stability:

Oscillator		Stability per °C	Performance while disciplined						Holdover accuracy at constant temperature after loss of reference		
			Averaging Time						Time	Frequency	
Option	Description		1s	10s	100s	1000s	10000s	1 day	1 day	1 day	3 days
01	TCXO	1.5x10 <sup>-8</sup>	2x10 <sup>-9</sup>	5x10 <sup>-10</sup>	5x10 <sup>-10</sup>	5x10 <sup>-10</sup>	6x10 <sup>-11</sup>	1x10 <sup>-12</sup>	<2 ms	<2.0x10 <sup>-8</sup>	<3.0x10 <sup>-8</sup>
02	OCXO	1.2x10 <sup>-10</sup>	3x10 <sup>-10</sup>	3x10 <sup>-10</sup>	4x10 <sup>-10</sup>	4x10 <sup>-10</sup>	5x10 <sup>-11</sup>	1x10 <sup>-12</sup>	<60 μs	<2x10 <sup>-9</sup>	<4x10 <sup>-9</sup>
03	Rubidium	7x10 <sup>-12</sup>	3x10 <sup>-11</sup>	8x10 <sup>-12</sup>	3x10 <sup>-12</sup>	3x10 <sup>-12</sup>	2x10 <sup>-12</sup>	8x10 <sup>-13</sup>	<1 μs	<1.0x10 <sup>-11</sup>	<1.5x10 <sup>-11</sup>

N.B. Option 1 TCXO supplied as standard unless otherwise specified

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