

# PTP8 Enhanced Slave Network Time Client

The PTP8 Enhanced Slave Network Time Client provides network operators and equipment manufacturers with a packet-based timing and synchronisation solution.



The Enhanced PTP8 has all the features of the standard PTP8 and also includes enhancements specifically for Telecoms applications

## Features

- Stand-alone IEEE1588v2 PTP Client
- Precision timing circuits ensure stability in event of synchronisation signal interruption
- Integrated web server
- LED system status
- Multiple outputs & customer-specified options also available
- Time of day (TOD) is also provided for support of legacy equipment using IRIG B, RS232, RS422 & RS485

## Other Available Platforms

- 19" standard rack mount
- OEM Board design also available providing Equipment Manufacturers with a fast track PTP implementation (see datasheet)

*\* Accuracy subject to Reference Clock and network conditions*

The PTP8 Enhanced Slave Network Time Client converts the IEEE1588v2 protocol supplied across a packet network to traditional E1/T1, 1PPS, 10MHz, IRIG B, Serial TOD and customer requested timing signals.

The PTP8 Enhanced Slave Network Time Client provides a rapid upgrade of existing network infrastructure to packet based timing and synchronisation enabling operators to lower upgrade costs when migrating from a TDM to Ethernet backhaul.

Typical Applications Include:

- Telecommunications: LTE & Ethernet / IP Backhaul (Synchronisation of Base Stations)
- WiMAX
- Broadcasting (Synchronisation of DVB / DAB Transmitters)
- Power Utilities (Applications requiring Time of Day)
- Applications requiring Precise Timing delivered over a Packet Network

## Key Benefits:

- Seamless Upgrade to PTP IEEE1588v2
- Complete End to End PTP Solution with PTP80 Grandmaster Clock
- Accelerates PTP Client Deployments
- Time Outputs (1PPS, TOD)
- Unicast / Multicast Operation
- Correlation of 10MHz and 1PPS



# PTP8 Enhanced Specifications

## General

Internal oscillator: OCXO  
 Network timing client: PTP (IEEE1588v2)  
 Unicast / Multicast Operation  
 Communications : RS-232 (9W D-type)  
 & Ethernet 10/100Base-T  
 (RJ45)  
 ITU-T G.8261 compliant

## PTP8 Inputs

PTP: IEEE 1588v2  
 Connector: RJ45 10/100Base-T

## PTP8 Outputs

**E1/T1:** Number of T1/E1 outputs: 1  
 Transmit bit rate: 2.048 MHz  
 (G.703)  
 Line encoding: HDB3  
 Framing: G.704 without  
 CRC4, G.704 with  
 CRC4 with or without SSM  
 support  
 Connector: BNC 75 ohm Unbalanced  
 RJ48, 120 ohm (option /use  
 balun)

T1 option available

**Frequency Output** Number of 10MHz outputs: 1  
 10MHz sinusoidal phase  
 aligned +/- 100ns of  
 1PPS output  
 1Vrms into 50ohm load:  
 Connector BNC 50ohm

**1PPS Output** Number of 1PPS outputs: 1  
 2.5Vpp +/- 0.1Vpp into a 50  
 ohm load

**IRIG-B Output** DC-Level Shifted IRIG-B  
 DC Timecode / Time Pulse  
 output 2.5vpp +/-  
 0.1Vpp into a 50 ohm load  
 Connector: BNC socket grounded 50  
 ohm

**Serial Message RS232** NMEA GPRMC message  
 format  
 9600 baud, 1 stop bit and no  
 parity

## Customer Special Requests / Options

Available to factory order

## Frequency / Timing Accuracy

### Frequency/timing accuracy

Frequency: Better than 10ppb possible  
 (network dependent)  
 Timing: Better than 100ns possible  
 (network dependent)

### Holdover accuracy based on OCXO

Frequency Aging 1-10<sup>-9</sup> per day  
 Time drift 60µs for first day at 25°C

**Oscillator Options** Please consult factory

## Physical

Dimensions: H 34mm W 170mm D 142mm  
 Weight: 600g  
 Options: 19" Rack Mounting or OEM board  
 designed to Customer's Specification

## Power

DC -48V Dual Input (-36V to -72V Range)  
 AC Adaptor Available

## Environmental Specifications

### Temperature

Operating: -5°C to +60°C (contact factory for  
 advice outside this range)  
 Storage: -5°C to +60°C

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

## Management

LED: 3 status LEDs on front panel  
 Local management: RJ-45 port  
 NMS: Time & Frequency NMS  
 OSS Integration  
 System Administrator Password  
 Protection  
 Remote management:  
 HTML, RJ-45 port (web browser)  
 SNMPv1 (RFC 1157)  
 SNMPv3 (RFC 2271) next rel.  
 TL1 (GR-831-CORE)

## Compliance

CE  
 RoHS  
 Emissions / Immunity: EN6100 Consult factory with require-  
 ment for your country / application

## Standards

ANSI T1.101  
 GR-1244  
 HTTP (RFC 2616)  
 IPv4  
 ITU G.812, G.813, G.823, G.824,  
 G.703,G.704  
 PTPv2 (IEEE 1588)  
 SNMP v1 (RFC 1157)  
 SNMP v3 (RFC 2271)  
 TL1 (GR-831-CORE)  
 Telnet (RFC 854)  
 TFTP (RFC 1350) FTP (RFC 959)  
 IEEE 802.3