TIME & FREQUENCY SOLUTIONS

UNRIVALLED EXPERTISE & TECHNOLOGIES FOR A DEMANDING WORLD

PTP8 Slave
Network Time Client

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

Key Features

- **Standalone IEEE1588v2 PTP Client**
- **Precision timing circuits ensure stability in event of synchronisation signal interruption.**
- **Integrated Web Server.**
- **LED System Status**
- **Multiple Outputs and customer specified options also available.**
- **Time of day (TOD) is also provided for support of legacy equipment using IRIG B, RS232, RS422 and RS485.**
- **OEM Board design also available providing Equipment Manufacturers with a fast track PTP implementation.**

The PTP8 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 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

System 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

Platforms:

The PTP8 Slave is also available as an OEM board-level product and as a 19” rack-mountable unit shown below.

PTP8 NETWORK TIME CLIENT SPECIFICATIONS

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

PTP8 INPUTS
PTP: IEEE 1588v2
Connector: RJ45 10/100Base-T

PTP8 OUTPUTS
Number of system outputs: 5

E1/T1
Number of T1/E1 outputs: 1
Transmit bit rate: 2.048 Mbps (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 or use balun)
T1 option available

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

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

NTP Output
Number of NTP outputs: 1 (acting as a server for up to 256 requests per second)

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 standard OCXO
Holdover Frequency $1 \cdot 10^{-9}$ per °C
Time Holdover 60µs for first day at 25°C

Oscillator Options
Please consult factory with requirement, options include ITU-T G.812 / 813

PHYSICAL
H 34mm W 170mm D 142mm
Weight 600g
Options – 19" Rack Mounting
OEM Board Designed to Customer's Specification

POWER
DC -48V Dual Input (-40 to -72V Range)
AC Adaptor Available

ENVIRONMENTAL SPECIFICATIONS
Operating Temperature: -5°C to +60°C (please contact factory for advice outside this range)
Storage Temperature: -5°C to +60°C
Humidity: up to 95% RH (non-condensing)

MANAGEMENT
LED: 3 status LEDs on front panel
Local management: RS-232, RJ-45 port
Remote management:HTML, RJ-45 port (Web Browser)
SNMPv1 (RFC 1157)
SNMPv3 (RFC 2271) next release
TL1 (GR-831-CORE)
NMS: Time & Frequency NMS
OSS Integration
System Administrator Password Protection

COMPLIANCE
CE
RoHS
Consult factory with requirement for your country / application

EMISSIONS / IMMUNITY
EN6100
Consult factory with requirement for your country / application

PROTOCOLS
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
NTP (RFC 1305)
SNTP (RFC 1769)

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