

# PTP8 - ENHANCED PTP SLAVE NETWORK TIME CLIENT



## PTP IEEE 1588v2 Enhanced Slave Network Time Client Unit



**PTP PORT CONFIGURATION**

PTP domain: 0      master's time: No Requirement

addressing mode: Mixed      transmission protocol: UDP

Delay Mechanism: Delay Request

**PTP TIME CONFIGURATION**

Enable Smoother: YES

**PTP HOLDOVER CONFIGURATION**

Averaging Period: 7200 s      Duration: 7200 s

Forced Time Holdover: NO      Forced Freq Holdover: NO

**UNICAST MESSAGE CONFIGURATION**

	Announce	Sync	Delay	Path Delay
Message Period:	2s	16/s	4/s	1s
Max Message Period:	2s	16/s	4/s	
grant duration:	300	300	300	

STATUS PAGES: CLOCK PTP NETWORK ALARMS UNIT      CONFIG PAGES: CLOCK PTP NETWORK ALARMS OUTPUTS

**CLOCK STATUS**

UTC Time: 20:47:52.217      Output Timebase: UTC  
05-Aug-2011

Output Time: 20:47:52.217      TimeZone Offset: 0 hrs  
05-Aug-2011

Last PTP Sync: 20:47:52.217      DST Applied: NO  
05-Aug-2011

Leap Second Warning: NO

**PTP OVERVIEW**

Masters Visible: 1      PTP Lock Value: 1.000

Master Address: 192.168.101.200      Estl Phase Error: -2.0E-09s

Algorithm State: Running      PTP Port State: Slave

STATUS PAGES: CLOCK PTP NETWORK ALARMS UNIT      CONFIG PAGES: CLOCK PTP NETWORK ALARMS OUTPUTS



AS9100D Certificate Number : C0210021-AS3



# PTP8 - ENHANCED PTP SLAVE NETWORK TIME CLIENT

## Product Overview



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

The PTP8 receives, decode and converts the PTP IEEE1588v2 protocol supplied across a packet network in to industry standard E1/T1, 1PPS, 10MHz, IRIG B and Serial Time Of Day (TOD) signals and messages.

Commonly deployed as a local network time client alongside the Stratum 1 PTP80 Grandmaster, the unit provides a rapid and seamless 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 architecture.

Built to AS9100D aerospace quality standards, these units are commonly specified for use in critical network timing applications that depend upon a reliable, quality time standard. The robust design and build quality delivers exceptional performance and product field longevity.

The unit provides two standard RJ45 connections to a 100BASE-T network one for configuration, firmware uploads and providing NTP (Network Time Protocol) and the other for PTP connection to the master or Grandmaster PTP clock. The units are available as desk mount or provided in a 1U 19" rack mount chassis with single or dual power supply options.

A 9 way D type socket is available for RS232 connection for configuration, status and firmware upload purposes (115.2kbaud, no parity, 8 bit characters and 1 stop bit). 1PPS and 10MHz outputs are provided via two BNC 50 Ohm sockets. E1 or T1 output via 75 Ohm BNC socket and 120 Ohm at RJ45 connector.



## Typical Applications

The PTP8 is commonly specified where precision, reliability and security are key considerations in the network application. These high integrity units are common place and thoroughly proven worldwide in PTP network timing applications where traceable, precision time stamping and time distribution is required.

- Telecommunications : LTE & Ethernet/IP Backhaul
- WiMAX
- DAB/DVB broadcast transmitter synchronisation
- Research Institutions, Test and measurement facilities
- HFT High Frequency Trading : Financial transaction time stamping
- Power Utilities - Time of day information

## Key Feature Summary

- 19" 1U Rack mount versions available with single or dual redundant power supplies
- High stability OCXO safeguarding GPS loss/ holdover periods
- IEEE 1588v2 Compliant : 2 x Ethernet 10/100 BaseT ports (RJ45)
- Time of Day Serial Message via 9 way D-type connector @ RS232 & RS422 levels
- Multiple output signals and formats that include 1PPS, 10MHz, E1/T1, IRIG-B and NTP
- 1PPS output On Time Sync Signal
- Comprehensive web browser for remote configuration and control
- PTPv2 (IEEE 1588), NTP (RFC 1305), SNMP (RFC 1769), SNMP v1, SNMP v3 (RFC 2271) (RFC 1157), Telnet (RFC 854), FTP (RFC 959), ANSI T1.101, GR-1244, HTTP (RFC 2616), Ipv4, ITU G.812, G.813, G.823, G.824, G.703, G.704, TL1 (GR-831-CORE), TFTP (RFC 1350) IEEE 802.3

RIGHT : PTP80 Grandmaster Stratum 1 PTP Network Server



# PTP8 - ENHANCED PTP SLAVE NETWORK TIME CLIENT

SPECIFICATIONS	
FEATURE	SPECIFICATIONS
<b>Oscillator</b>	
Internal Oscillator	Oven Controlled Crystal Oscillator : OCXO
Holdover Accuracy - Standard OCXO	Holdover Frequency 1x10 <sup>-9</sup> per °C : Time Holdover 60us for first day at 25°C
Oscillator Options	Please consult factory with requirement, options include ITU-T G.812 / 813
<b>IEEE 1588v2 (PTP) - Synchronisation</b>	
PTP Slave	PTP: IEEE 1588v2 - Connector: RJ45 10/100Base-T
<b>Outputs</b>	
1PPS	2.5Vpp +/- 0.1V into 50 Ohm load - BNC
10 MHz sinusoidal phase aligned +/- 100ns to 1PPS	1.0Vrms into 50 Ohm load - BNC
E1/T1 Frequency Output - E1 Standard T1 as option	2.048 Mbps - Line encoding : HDB3 : 75 Ohm Unbalanced BNC RJ45 - 120 Ohm Option
Time of Day Serial Message	NMEA GPRMC message format RS232 9600 baud, 1 stop bit and no parity
NTP (Network Time Protocol) - Up to 1ms accuracy	NTP v3 RFC 1305 : RJ45 10/100BaseT (via DCN port)
<b>Management</b>	
Configurable via remote management suite.	Local management: RS-232, RJ-45 port Remote management:HTML, RJ-45 port (Web Browser) SNMPv1 (RFC 1157) SNMPv3 (RFC 2271), TL1 (GR-831-CORE) Network Management System : Time & Frequency NMS OSS Integration
Status	LED: 3 status LEDs on front panel
Security	Protection from unauthorized access available via System Administrator Password Protection
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
<b>POWER SUPPLY</b>	
Input voltage range	15V DC - AC Mains Adapter 500mA
<b>MECHANICAL</b>	
Size	19-inch rack mounting 1U high 200mm deep ETSI Rack fixings or desktop mount
Weight	3 kg
<b>Environment (Operation &amp; Storage)</b>	
Temperature:	0°C to +50°C (Please consult factory if outside this range) - Storage -5°C- +60°C
Humidity	up to 95% RH (non-condensing)
Approvals - CE Compliant	EN 61000 - Generic Standards for Emissions, Susceptibility & Safety



**For complete PTP Network deployment solutions, the PTP80 Grandmaster Stratum 1 PTP Network Server is recommended as a Grandmaster or Transparent PTP master clock with PTP8 network clients.**

Disclaimer : Brandywine & TFS are always seeking to improve our products, the information in this document only provides general indications of product capability, suitability and performance, none of which shall form any part of any contract.

# Satisfied customers include..

ABB Singapore Airbus Defence & Space ASM Technologies Ltd Atkins Babcock International BAE Systems BBC BP CMC Engineering Malaysia	EDF Energy Indian Navy Jakarta Metro Leonardo Electronics Defence And Security London Stock Exchange London Underground MBDA Ltd MTRC Hong Kong National Air Traffic Services	NASA NEC Network Rail Northrop Grumman Park Air Systems Ltd Qinetiq Ltd Raytheon Systems Ltd Rockwell Automation SBS Transit Singapore Siemens Transportation	Singapore Stock Exchange Telent Technology Services Limited Teligent Thales UK Transport For London Viacom
--	---	---	---

## Sales Contacts and Global Representatives

### TFS UK Head Office

Mrs Laura Cain  
 Sales Coordinator  
 TFS, Witham, CM8 3AL, UK  
 Tel : +44 (0) 1376 514114  
 laura.cain@timefreq.com

### Europe, Middle East, Africa, Australia

Mr David Wright  
 Director of Sales, Europe, Middle East,  
 Africa, Australia  
 Tel : +44 (0) 1694 722891  
 dwright@timefreq.com

### Asia, China, India, Japan

Mr Neil Pitman  
 Director of Sales - Asia  
 China, India, Japan  
 Mobile : +44 (0) 7973 859342  
 neil.pitman@timefreq.com

<p><b>Austria, Germany &amp; Switzerland</b>  <b>Semic RF Electronic GmbH</b>                  Contact : Wolfgang Gruber                  Tel: +0049 89 614 1520                  Email: sales@semic.de                  Web : www.semic.de</p> <p><b>Australia &amp; New Zealand</b>  <b>Unitronix</b>                  Contact : Tim Marshall                  Tel: +0061 02 4977 3511                  Email: sales@unitronix.com.au                  Web : www.unitronix.com.au</p> <p><b>Brazil</b>  <b>Sigtron Instrumentos e Servicos Ltda</b>                  Contact : Eduardo Strafacci                  Tel: +0055 11 5031 7359                  Email: eduardo@sigtron.com.br                  Web : http://sigtron.com.br/</p> <p><b>China, Hong Kong &amp; Macau</b>  <b>Spectrum &amp; Master Comms. Technologies</b>                  Contact : Mr William Lai                  Tel: +852 2529 1111 / Mobile +852 9378 9271                  Email: smcthk@netvigator.com</p> <p><b>Indochina (Vietnam, Laos, Cambodia)</b>  <b>Hanova JSC</b>                  Contact : Mr Hai Le                  Tel: +84 91 351 4905                  Email: hai.le@hanova.vn                  Web : www.hanova.vn</p> <p><b>India</b>  <b>PDAC Microsystems Pvt Ltd</b>                  Contact : Mr Pradeep Dhar                  Tel: +91 40 40247626 / Mobile +91 80082 95670                  Email: pradeep@pdac.in                  Web : www.pdac.in</p> <p><b>Janus Trading Co</b>                  Contact : Mr Santosh Krishnan                  Tel: +91 124 408 6641                  Email: santosh@januscorp.in                  Web : www.januscorp.in</p> <p><b>Signowave Solutions Private Limited</b>                  Contact : Santosh Kulkarni                  Tel : +91 40 6717 2356 / Mobile : +91 70327 09060                  Email: santosh.kulkarni@signowave.com                  Web : www.signowave.com</p>	<p><b>Israel</b>  <b>IES Electronics Agencies (1986) Ltd</b>                  Contact : Avi Nataf                  Tel: +00972 37530700                  Email: info@nisko-ies.com                  Web : www.nisko-ies.com</p> <p><b>Italy</b>  <b>Millimettrica RF &amp; Microwave Components SRL</b>                  Contact : Aldo Cagno                  Tel: +0039 011 317 9910                  Email: acagno@millimettrica.it                  Web : www.millimettrica.it</p> <p><b>Japan</b>  <b>Nacelle Co Ltd</b>                  Contact : Mr Hisato Tadokoro                  Tel : +81 3 5921 5099                  Email : tadokoro@nacelle.co.jp                  Web : www.nacelle.co.jp</p> <p><b>Korea</b>  <b>ETOOB</b>                  Contact : Jaydon Lee                  Tel : +82-2-6677-3409                  Email : jaydon.lee@etooob.co.kr                  Web : www.etooob.co.kr</p> <p><b>Malaysia</b>  <b>Alam Sinergi Teknik Sdn. Bhd.</b>                  Contact : Mr HH Chew                  Tel: +60 3 7847 5925 / Mobile: +60 13 5131068                  Email: hhchew@alamsinergitekNIK.com</p> <p><b>North America : USA &amp; CANADA</b>  <b>Brandywine Communications Inc.</b>                  Tel: +1 877 367 7962 Fax: +1 714 755 0175                  Email: info@brandywinecomm.com                  Web : www.brandywinecomm.com</p> <p><b>North Africa, Mauritania, Morocco, Tunisia, Algeria, Libya, Egypt, Chad, Mali</b>  <b>ProComSat</b>                  Contact : Hussein Ait Si Selmi                  Tel: +0021321548618                  Email: hussein@procomsat.com                  Web : www.procomsat.com</p> <p><b>Spain &amp; Portugal</b>  <b>Tecnologia GPS S.A.</b>                  Contact : Jose Luis Estaban                  Tel: +34 91 323 72 30                  Email: comercial@tecnogps.es                  Web : www.tecnogps.es</p>	<p><b>Philippines</b>  <b>Imaginet International Inc</b>                  Contact : Mr Blair Duncan                  Tel: +63 2 895 9755 / Fax : +63 2 895 9766                  Email: blair@imagnet.com.ph                  Web : www.imagnet.com.ph</p> <p><b>Singapore</b>  <b>PROGRESO Networks (S) Pte Ltd</b>                  Contact : Victor Tang                  Tel: +65 6509 9600 / Mobile +65 9735 1700                  Email: victor@progreso.com.sg                  Web: www.progreso.com.sg</p> <p><b>Thailand</b>  <b>CSG Solution (Thailand) Company Ltd</b>                  Contact : Mr Chinnaret Kusathisiriphan                  Tel: +66 2 575 2971 / Mobile +66 94 951 6524                  Email: chinnaretk@csgs.co.th                  Web: www.csgs.co.th</p> <p><b>Turkey</b>  <b>Merit Elektronik</b>                  Contact : Levent Celebi                  Tel: +0090 312 472 7495                  Email: leventc@meritelektronik.com.tr                  Web : www.meritelektronik.com.tr</p> <p><b>South Africa</b>  <b>Satellite 2000 Systems International Inc</b>                  Contact : Fred Joubert                  Tel: +001 818 991 9794                  Email: sales@sat-2k.com                  Web : www.sat-2k.com</p> <p><b>U.A.E.</b>  <b>Zener Fire &amp; Security LLC</b>                  Contact : Ranjith Nambiar                  Tel: +0021321548618                  Email: ranjith@zenerfire.com                  Web : www.zenerfire.com</p>
--	---	---

**tfs Time & Frequency Solutions**

25 Eastways, Witham, Essex, CM8 3AL, UK  
 Phone +44 (0) 1376 514114 | Fax +44 (0) 1376 516116  
 Email : enquiries@timefreq.com

**brandywine communications**

153 Warner Ave, Tustin, CA 92780, USA  
 Phone +1 714 755 1050  
 Email : Info@brandywinecomm.com

Disclaimer : Brandywine & TFS are always seeking to improve our products, the information in this document only provides general indications of product capability, suitability and performance, none of which shall form any part of any contract.