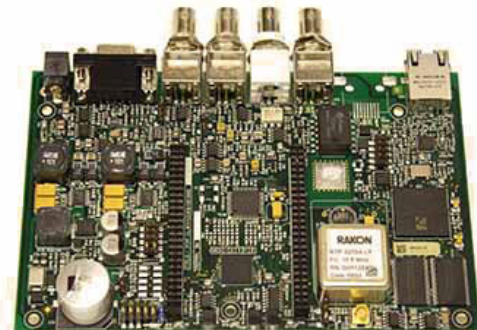




PTP Network Time Client OEM Board-Level Solution

Time & Frequency Solutions offer a board-level PTP network time client using the PTP IEEE1588v2 protocol for equipment manufacturers.



Features

- Provides equipment with a fast-track embedded PTP Client solution with OEM or PCI options
- Client system time accuracy of up to 100 nanoseconds possible using Gigabit network switches.
- Frequency accuracy better than 10ppb possible using Gigabit switches
- Precision timing circuits ensure stability in event of synchronisation signal interruption
- Seamless Upgrade to PTP IEEE1588v2
- Complete End to End PTP Solution with PTP80 Grandmaster Clock
- Interoperability with 3rd Party Grandmaster Clocks
- Accelerates PTP Client Deployments
- Time Outputs (1PPS, TOD)
- Unicast / Multicast Operation

OEM Board Solution

- Provides equipment manufacturers with a custom-built packet-based timing and synchronisation solution at PCB level.
- Fast track implementation equipment manufacturers to deploy packet-based timing with an immediate cost saving and a quick return on investment.
- Custom PCB solution designed to your requirement for adding PTP Client functionality to your equipment
- Time of day (TOD) is available for support of legacy equipment using IRIG B, RS232, RS422 and RS485

Key Benefits & Applications

The OEM PTP Board-Level solution utilises technology from our proven PTP8 NetworkTime Client to provide equipment manufacturers with a custom-built PTP offering designed to an agreed specification for integration into your own product.

Providing PTP Client functionality to operators enables lower operating costs migrating from a TDM to Ethernet backhaul and can be equipped with E1/T1, 1PPS and 10MHz outputs for synchronising remote network equipment such as UMTS, LTE, WiMAX and PON devices.

Typical Applications Include:

- LTE
- WiMAX
- Industrial Automation
- Passive Optical Networks (PON)
- Circuit Emulation Services (CES)
- High Frequency Trading (HFT) in Financial Services
- Any applications requiring Precise Timing delivered over a Packet Network



PTP OEM Board-Level Solution Specifications

Inputs	IEEE 1588v2 2008 10/100Base-T Ethernet
Outputs	E1/T1 ITU G.703 synchronisation clock signal AMI and HDB3 encoding. 10MHz sinusoidal Phase aligned +/- 100ns of 1PPS output. 1 Vrms into a 50Ω load. 1PPS : - 2.5Vpp +/- 0.1Vpp into a 50Ω load phase aligned to master +/-100ns dependant on architecture of LAN i.e. router, hubs, switches used and quality of oscillator specified. DC-Level Shifted IRIG-B : DC Timecode/Time Pulse output 2.5Vpp +/- 0.1Vpp into a 50Ω load. Serial message RS232 : - NMEA GPRMC message format. 9600 baud, 1stop bit and no parity. Synchronous Ethernet Frequency outputs also available. N.B. Further outputs available by consultation
Customer Interface	By consultation to interface with customer equipment
Power	DC supply voltage -48V +/- 12V. Possible on-board supply design if required.
Physical	PCB designed to customer physical requirements.
Environment (Operation & Storage)	Temperature 0°C to +40°C (Wider range by consultation) Humidity: up to 95% RH (non-condensing)
PTP Over Packet Support	PTP packets IEEE 1588v2-2008 Unicast / Multicast ITU-T G.8261 compliant
Management, Alarms & Diagnostics	SNMP and TL1 Web Browser (HTTP)