

OSA 5320 PTP Slave

Stand-alone PTP-IEEE 1588 Slave Clock

TELECOM NETWORKS

PROFESSIONAL COMMUNICATION

POWER & UTILITIES

DIGITAL BROADCASTING



Highlights

- Delivers highly economic end-to-end frequency synchronization
- Up to 16 ppb frequency accuracy using Gigabit switches
- Precision timing circuits ensure stability in the event of synchronization signal interruption.
- Slave system time accuracy better than 1 microsecond using Gigabit switches
- Configuration and alarm reporting capabilities using HTML and SyncView Plus
- Time-of-day (TOD) is provided using IRIG-B and NMEA 0183

Applications

- Synchronization of 2G, 3G, LTE, cdma2000 and WiMAX base stations, RNC or Node B, of xPON optical line terminals, of DAB, DVB and DTV transmitters, etc.
- PTP allows the distribution of accurate frequency, phase and time-of-day to these applications even in cases where the transport network is asynchronous.

The Precision Time Protocol (PTP) is a solution for the distribution of synchronization over IP-based packet networks such as IP, IP/MPLS, Ethernet, IP/xPON and IP/xDSL networks. PTP is also known by the name of the corresponding standard IEEE 1588-2008.

Oscilloquartz offers a comprehensive range of PTP products covering all synchronization needs in the domains of telecommunications, broadcasting and power utilities. The OSA 5320 PTP Slave is designed to operate with PTP Grandmaster clocks from Oscilloquartz or from other vendors.

The OSA 5320 consists of a PTP protocol engine which connects to one or several distant PTP Grandmaster clocks over an IP or Ethernet network.

The PTP Slave is a high performance synchronization clock solution delivering frequency, phase and time-of-day over a set of output ports featuring a variety of output formats using Precision Time Protocol (PTP) over an Ethernet network.

Benefits

- Powerful network delay analysis delivers full time alignment over hostile networks (including Layer 2 and Layer 3 routing).
- Acceptable Master Table or Best Master Clock Algorithm selection
- No need to install GPS antennas
- 2.048 Mbit/s, 1.544 Mbit/s and 2.048 MHz synchronization clock signal for legacy equipments
- Time-of-day and Phase clock for Power & Utilities and Broadcast applications
- Multicast & Unicast operation ideal for use in Telecom environment

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Three OSA 5320 PTP Slave versions:

- Telecommunication (synchronization of BTS/NodeB/RNC)
- Broadcasting (synchronization of DVB/DAB transmitters)
- Power utilities (applications requiring time-of-day)

Holdover performances

Version OCXO Double oven

- Ageing: 1×10^{-10} /day
- Temp. sensitivity: 6×10^{-10} over temperature range

Version OCXO Single oven

- Ageing: 1×10^{-9} /day
- Temp. sensitivity: 1×10^{-8} over temperature range

Version TCXO

- Ageing: 1×10^{-8} /day
- Temp. sensitivity: 2×10^{-6} over temperature range

Synchronization Outputs

Outputs	Telecom	Broadcast*	Power utilities
Output quantity	5	5	5
E1/T1/2.048 MHz	2	-	-
10 MHz sine wave	1*	2	-
1PPS	1	2	2
IRIG-B DCLS	-	-	1
IRIG-B AM	-	-	1
TOD - NMEA 0183	1	1	1

Frequency

- A. Telecom output, BNC 75 Ω , configurable by software:
 - 2.048 MHz, ITU-T G.703-13
 - 2.048 Mbit/s, ITU-T G.703-9, G.781
 - 1.544 Mbit/s, ITU-T G.703-5, G.781
- B. 10 MHz sinewave*, 1Vrms, BNC 50 Ω , ± 10 ns phase aligned to 1PPS

Phase

- C. 1PPS: 1.8Vpp, BNC 50 Ω

Time-of-Day

- D. IRIG-B DCLS: IEEE 1344, 1.5 Vpp @ 50 Ω , BNC 50 Ω
- E. IRIG-B AM: IEEE 1344, 1.5 Vpp @ 50 Ω , BNC 50 Ω
- F. NMEA 0183: RS-232/RS-422, RJ-45

PTP Slave port

- Protocol: IEEE 1588-2008 (Version 2)
- Electrical port: 10/100 BaseT, RJ-45
- PTP profile: User configurable
- IP Configuration: DHCP or fixed IP address
- Communication: Unicast, Multicast or Mixed
- TWTT method: 1-step or 2-step mode
- Switching Method: Acceptable Master Table (AMT), Best Master Clock Algorithm (BMCA)
- Performance: ITU-T G.8261 compliant

Management and User Interface

Local / Remote Management

- 3 status LEDs on front panel
- Local management:
 - RS-232, RJ-45 port
- Remote management:
 - HTML, RJ-45 port
 - Manageable via SyncView Plus NMS

Power Supply

Dual DC Power Supply

Voltage: -40 to -60 V DC
or

Single External AC Power Supply*

Voltage: 60 to 240V AC
Frequency: 47 to 63 Hz
Power Consumption: Warm-up : < 20W
Steady state : < 12 W

Mechanical

- Size (W x H x D): 19" or 21" x 1U x 250 mm
- Weight: < 1,5 kg typical

Environmental Conditions

- Operation temp.: -20°C to +55°C (Consult factory out side this range)
- Storage condition: -40°C to +85°C
- Humidity: up to 95% non-condensing
- Safety: EN 60950-1
- EMC & ESD: EN 61000-6-3, EN 61000-6-1
- In use: EN 300 019-1-3 Class 3.2 with extended operat. temp. range of -20 to +55°C

*Contact Oscilloquartz for availability

Subject to change without prior notice.