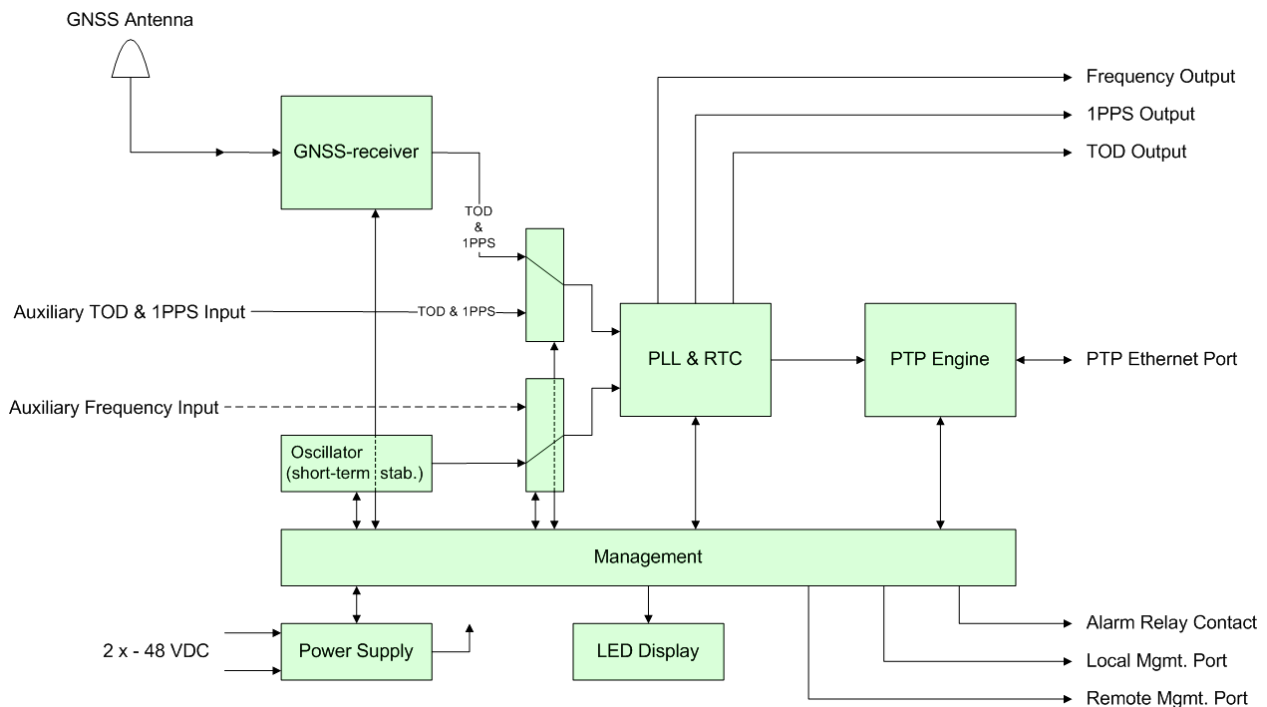


OSA 5330 PTP Grandmaster

The OSA 5330 is a GPS-based master clock using the Precision Time Protocol (PTP) also known as IEEE 1588

Introduction

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.



Highlights

Oscilloquartz offers a comprehensive range of PTP products covering all synchronization needs in the telecommunication domain. The OSA 5330 PTP Grandmaster is designed to interoperate with PTP Slaves from Oscilloquartz or from other vendors.

The OSA 5330 consists of a GPS-receiver and a PTP protocol engine delivering PTP service over an Ethernet port.

The PTP Grandmaster transfers frequency, phase and time-of-day to remote PTP Slaves over an IP or Ethernet network.

The OSA 5330 also features auxiliary input ports for operation without the GPS-receiver. Thus the OSA 5330 can also be driven by a co-located SSU providing the required output signals.

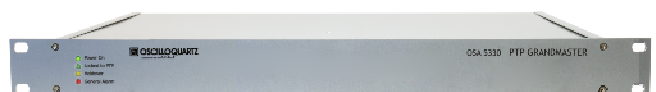
The OSA 5330 is fully manageable. So-called PTP Profiles are used to configure those parameters which are crucial for the interoperability with the connected slaves.

Typical Applications

Typical applications are the synchronization of 2G, 3G, cdma2000 and WiMax base stations, of xPON optical line terminals, 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 typical PTP architecture consists of a PTP grandmaster clock which delivers synchronization to a number of PTP slave clocks.



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Typical Characteristics

GPS-receiver Section

Antenna

Type:	Roof antenna
Frequency:	L1 (1575 MHz)
Power supply:	5 V DC
Operating temperature:	-40°C to 85°C

Choice of antenna cables

LMR-400:	20, 60 m, 120m ¹
Other lengths:	upon request

Performance when locked to GPS satellites

Time accuracy:	100 ns
ADEV:	< 1x10 ⁻¹² (at 10,000 s)
Note 1: with line amplifier	

Internal Oscillator

Ageing:	1x10 ⁻¹⁰ /day, 2x10 ⁻⁸ /year
Temperature sensitivity:	6x10 ⁻¹⁰ over [-5° to 55°C]

PTP Section

Protocol:

PTP layer:	IEEE 1588-2008 (Version 2)
Lower layers:	UDP/IP/Ethernet

Network port:

Ethernet 10/100BaseT, RJ45

PTP profile:

User configurable

Nominal capacity:

5, 120 event messages per sec.

Supported:

- Unicast message negotiation

Options

- Path trace
- Acceptable master table

Auxiliary Inputs

Frequency:	1 x 2.048 MHz, G.703
Phase:	1 x 1PPS
Time-of-day	1 x ASCII over RS-232

Auxiliary Outputs

Frequency:	1 x 2.048 MHz, G.703 1 x 2.048 Mbit/s or 1.544 Mbit/s, G.703
Phase:	1 x 1PPS
Time-of-day:	1 x ASCII

Front panel indications

Indication:	LED Color:
Power On	Green
GPS-locked PTP	Green
Degraded PTP	Yellow
General Alarm	Red

Equipment management

Local Mgmt.

Port:	RS-232C
Protocol:	TL1
Relay contact:	1 x General alarm indication

Remote Mgmt.

Port:	Ethernet 10/100BaseT, RJ45 (separ. from Ethernet port for PTP)
Protocol:	TCP/IP

Power Supply

DC Power Supply

Voltage:	- 40 to - 60 V DC
Power feeds:	Dual

AC Power Supply

Voltage:	90 to 260 V AC
Frequency:	50 to 60 Hz

Mechanical

Size:	44.5 x 483 x 280 mm
Mounting:	For 19" and ETSI rack

Environmental Conditions

Environmental

Operating conditions:	EN 300 019, class 3.2 (- 5 to 45°C)
Transportation:	EN 300 019, class 2.2
Storage:	EN 300 019, class 1.1

Safety

EMC & ESD	EN 61010-1 EN 50081-1, EN 50082-1 IEC 801 parts 2, 3, 4, 5 and 6
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Oscilloquartz SA reserves the right to change all specifications contained herein at any time without prior notice.

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