

OSA 5225 Time Node

The OSA 5225 Time Node is an accurate time centre, easily configurable with its outputs and dual synchronization inputs

Introduction

The OSA 5225 Time Node is a precise time centre featuring two configurable synchronization inputs for redundancy and several outputs. The OSA 5225 can be configured as a secure and redundant NTP Time Server as well as a time distributor of many other time protocol and format (IRIG-B, PPS, ...)

Input/outputs flexibility

Dual external synchronization can be chosen among GPS, NTP, IRIG-B/AFNOR NFS 87500 1000 Hz or DCLS signals. Up to 4 NTP ports are available. 3 NTP ports can be individually substituted with any synchronization outputs such as IRIG-B, PPS, ASCII, 10MHz sine wave, ... All phase locked to the reference clock and individually configurable in offset and time zone.

High Accuracy

Its own base time and its synchronization algorithm guarantee and output accuracy of up to 100 nanoseconds when GPS synchronized.

Enhanced Security

High security level: 64 bits RSA™ MD5 encryption, leap time protection, high stability time base, SNMP alarm traps, static relay alarms, supervision with HTTP and front display.

Power

The OSA 5225 Time Node has a dual power supply 230/115VAC and 20-60VDC, allowing redundancy in case of power supply failure. The internal Ni-Mh battery ensures at least 2-hour of running reserve in case of main cut.

Management

Set-up and configuration can be done via Ethernet (telnet or http). Thanks to the SNMP module, an automatic alarm management is provided for the whole input/outputs of the NTP server. A general alarm on relays is also available. An optional NTP/SNTP synchronization software for windows NT/XP/2000 is provided with 10 users licence.



Highlights

- Dual synchronization inputs
- Ethernet Supervision & Configuration (HTTP, SNMP, TELNET)
- 19" 1U aluminium rack case
- Alphanumeric display
- Redundant 20-60 VDC and 230/115 VAC power supply inputs and two hours of battery autonomy
- Various standard outputs (10 MHz, 1 PPS, NTP)
- Up to 3 synchronization output modules:
 - IRIG-B (various formats)
 - ASCII, PPS, PP2S, PPM, PPH (configurable pulses), DCF
 - NTP ports

Typical Applications

- Time distribution in:
 - Air transport, airports
 - Rail transport, railway stations
 - Underground train
 - Maritime transport
 - Telecommunications
 - Power stations
 - Businesses, banks and schools
 - Radio and television
 - Hospitals and emergency services
 - Fire stations
 - Aircraft, trains and helicopters

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Typical Characteristics

Environmental Characteristics

- **Power supply requirement:**
 - 230 VAC Max.: 0,1 A Max.
Typ. : 20mA plus 2mA per output
 - 115 VAC Max.: 0,2 A Max.
Typ. : 40mA plus 4mA per output
 - 20-60VDC Max.: 0,6 - 0,15A Max.
- **Environment:**
 - Operating temperature: 5 to 50°C (41 to 122°F)
 - Storage temperature: -40 to 70°C (-41 to 151°F)
- **Electrical autonomy:** Typ. 2 hours on internal NiMH battery, 5 to 7 years lifetime.
- **Dimensions:** 44 mm (1U x 263 mm x 482 mm (19"))
- **Weight:** 2,3 Kg
- **Certifications:** CE, EN 60950-1, EN 55022, EN 50024
- **MTBF:** 109 526 hours

Oscillator stability

- **Standard:** ageing 2x10E10/day

Synchronization input connector

- GPS (Antenna, preamp.): TNC
Input minimum signal level : 18dB
 - IRIG-B/AFNOR NFS 87500
100 Hz* 2,2V p-p to 8 Vp-p
 - IRIG-B/AFNOR NFS 87500
DCLS* (TTL, RS422)
 - Ethernet 10/100BaseT: RJ45
- (* Manual and automatic compensation of the transmission delay)

GPS Antenna

- **Dimensions:** 3,05" D x 2,61" H
77,5 mm x 66,2 mm
- **Operating temperature:** -40°C to 85°C
- **Cable:** LMR 400, 20, 60, 120 m

Standard output

- 10MHz, 1.3Vpp ± 20%, Sine wave, 50Ω, BNC
- 1PPS, 1.7Vpp ± 20%, 50Ω, BNC
- 1 output - NTP - Ethernet 10/100BaseT
NTP v2, v3, v4* (RFC 1305)

NTP Client

- In option : NTP/SNTP synchronization software for Windows® NT/XP/2000. 10 users licence.

Optional output modules (up to 3)

Signal	Connector	Accuracy
1 output - NTP Ethernet 10/100 Base-T NTP v2, v3, v4* (RFC 1305)	RJ45	±20µs (1)
4 outputs - IRIG-B / AFNOR NFS 87500 1000 Hz (8,8V p-p)	8 pins	20µs (1000Hz)
4 outputs - ASCII RS422, RS485 (unidirectional)	1*DB9.	500µs
4 outputs - ASCII RS232 (unidirectional)	1*DB9	500µs
4 outputs -IRIG B DCLS (TTL, dif- ferential TTL) or configurable pulse (PPS, DCF...) ➢ static relay (350 V AC/DC, 130 mA) or phototransistor (70 V AC/DC, 60mA) ➢ TTL (rise time :10ns) ➢ differential TTL (r.t. : 10ns)	8 pins	3 ms 100 ns 100 ns
SMPTE	2 pins	

Management

- HTTP (RFC 2616), RJ45
- TELNET (RFC 854 to 861), RJ45
- SNMP v2C + MIB II (RFC 1213), RJ45
- DHCP (RFC 2131), RJ45
- UDP / TCP Time Protocol (RFC 868), RJ45
- IPv4 and IPv6*, RJ45
- Two static relay alarms (Power Supply, Synchronization)

Security

- 64 bits RSA™ MD5 encryption
- HTTPS with management of up to 8 REALMS*
- SSL V3 and TSL V1 and certificate mgmt*
- IPsec*

*: Contact Oscilloquartz for availability

(1): Equipment output interface.



Oscilloquartz SA reserves the right to change all specifications contained herein at any time without prior notice.

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