

# OSA 5200B GPS Clock

Compact 19" 1U Rack Mountable GPS-based High Precision Clocks providing very High Stability and Accurate Frequency and Phase

## Introduction

The OSA 5200B is a very compact 1U high GPS-Based Clock providing higher grade time and frequency synchronization at minimal cost and minimal space.

Based on the high performance Double Oven Oscillator OSA 8663, 4x 1 PPS and 4x 10 MHz outputs deliver time and frequency at a high level of accuracy and stability. The OSA 5200B can also integrate other variants of oscillators, such as the single oven OSA 8788 for better phase noise performance.

Numerous configuration are available thanks to the OSA 5200B versatility, to easily adapting any requirements for base stations, broadcast station and such application, as a rack mountable timing clock solution.

## Functions

The OSA 5200B time and frequency is derived from the GPS.

When locked, the OSA 5200B regenerates the reference and attenuates jitter and wander. When no valid GPS reference input is available, the OSA 5200B enters in hold-over mode and holds its output frequencies to supply long hours of frequency and phase accuracies.

The OSA 5200B is also fully manageable thanks to its user-friendly Configuration Manager software

Furthermore, the OSA 5200B is highly reliable and totally maintenance-free.



## Highlights

- High frequency stability and long term accuracy, on both GPS-locked and Hold-over mode
- Economic, reliable and compact 1U high GPS Clock
- 4x 1PPS and 4x 10MHz outputs of each type
- Phase alignment of all outputs within  $\pm 10\text{ns}$  with "0 crossing" 1PPS / 10MHz
- Optional UTC-derived 1PPS and NMEA0183 timing information
- ITU- T G.811 / ST1 compliant when locked to GPS or ITU-T G.812 (I, V, VI) compliant holdover

## Typical Applications

- Base stations: WiMAX, WiBRO, 3G and 4G
- Broadcasting: DAB, DVB-T/DVB-H and DTV



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## Typical Characteristics

### Outputs

- 4x 10 MHz outputs :
  - Level: 1.0 VRMS  $\pm$  30%, Sine wave, 50 $\Omega$
  - Connector: BNC (other types on demand)
  - Phase alignment to 1PPS Output rising edge:  $\pm$  10ns
- 4x 1PPS outputs:
  - Level: 2.4VP P  $\pm$  20%, (AC-MOS), Square wave, 50 $\Omega$
  - Pulse Width: 200ms
  - Rise Time: < 20ns
  - Connector: BNC (other types on demand)

### Hold-Over performances

OCXO	8663	8788
Long term stability (Freq.Variation per day)	1x10E-10	2x10E-10
Thermal stability (Freq. var. peak-peak over full temp. range)	6x10E-10	2x10E-8

### Phase Noise (tracked mode)

OCXO 8663 (standard)	OCXO 8788 (optional)
<ul style="list-style-type: none"><li>-120 dBc/Hz @ 10 Hz</li><li>-135 dBc/Hz @ 100 Hz</li><li>-140 dBc/Hz @ 1kHz</li><li>-145 dBc/Hz @ 10kHz</li><li>-145 dBc/Hz @ 100kHz</li></ul>	<ul style="list-style-type: none"><li>-120 dBc/Hz @ 10 Hz</li><li>-145 dBc/Hz @ 100 Hz</li><li>-150 dBc/Hz @ 1kHz</li><li>-150 dBc/Hz @ 10kHz</li><li>-150 dBc/Hz @ 100kHz</li></ul>

For lower Phase Noise, please contact factory.

### Power supply

- Dual redundant power supply input
- 20-60 VDC
- 12 Watts at warm-up, 8 Watts steady state



### Management

- RS-232C local manager on DB9 connector
- Alarm dry relay contacts
- TOD (Time-Of-Day) output compliant to NMEA0183 on separate DB9 connector
- GUI-based Configuration and Monitoring software

### Environmental Characteristics

- Operating temperature: -5 to +55°C
- Storage temperature: -40° to +85°C
- Humidity: 95% non condensing

### EMC & SAFETY - CE Mark

- EN 55022: 1998 + A1: 2000 + A2: 2003 (CISPR 22: 1997 + A1: 2000 + A2: 2002)
- EN 55024: 1998 + A1: 2001 + A2: 2003 (CISPR 24: 1997 modified + A1: 2001 + A2: 2002)
- EN 60950-1: 2006

### Antenna cable

- Choice of antenna cable:
  - 20m (LMR-400)
  - 60m (LMR-400)
  - 120m (LMR-400 w/amplifier)
  - Other lengths and cable types on demand

### Mechanical

- Size (HxWxD):
  - 44.5 x 482.6 x 220mm (1.75"x19"x8.7")
  - 44.5 x 482.6 x 245mm (1.75"x19"x9.7") (including connectors)
- Weight: < 2kg (< 4.40lbs)

### Note

Actual features and performance depends on chosen/offered factory options: oscillators, connectivity, firmware options.

**Customized configurations can be offered with attractive prices for volume orders:**

Number of outputs, type of connectors, lower grade oscillator when Holdover capability is relaxed.

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

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