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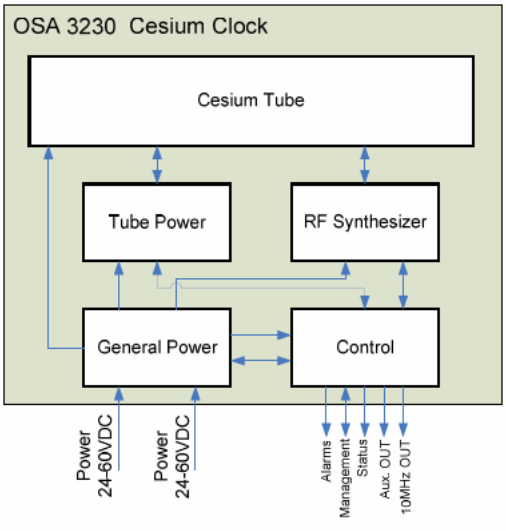
OSA 3230 Cesium Clock

Features

- **Performances exceeding ITU-T G.811 / Stratum 1 PRC**
- **Accuracy better than ±1x10-12 during entire life**
- **Long life 10 years cesium tube**
- **Extremely compact size — 3U high (5.24") — less than 8” depth, compatible with ETSI and 19" standards**
- **Front or Rear access connectors (depending on configuration)**
- **Single 10 MHz output**
- **Programmable 1 / 5 / 10 MHz TTL output**
- **Redundant DC power supply inputs**
- **Remote control and monitoring via RS232 (fully manageable locally and remotely) using SyncView Plus management system.**
- **Optional Ethernet Timing output module**

Telecommunication networks require highly accurate clocks for the effective transmission of digital signals. One of the primary objectives of telecommunication networks is to guarantee, at the connection between different networks, a slip rate of less than one slip in 72 days.

Meeting these stringent specifications requires the implementation of a Primary Reference Clock (PRC) that must generate signals with an accuracy better than 1E-11, at all times. Generally, this is achieved using Cesium clock technology, often combined with GPS receivers as backup sources. Unlike off-air receivers, Cesium clocks are autonomous, self-contained primary references immune from external influences.



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Highlights

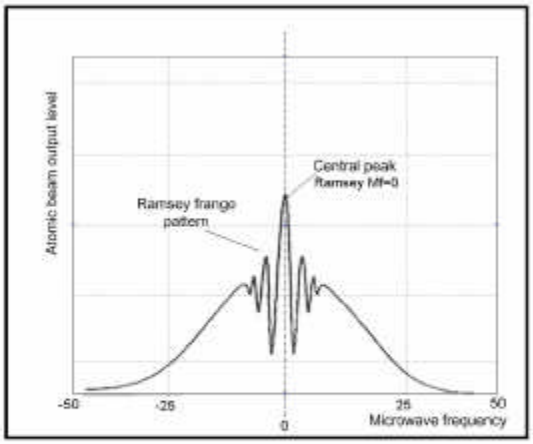
The Brandywine's OSA 3230 Cesium Clock is specifically designed and produced with the latest technology to serve complex applications where an extremely accurate reference signal is needed in a minimum size.

The OSA 3230 Cesium Clock offers a unique set of operational features and performance, including greatly enhanced and easy integration into industrial, professional time and frequency host systems. With its long life cesium tube, the OSA3230 will meet the requirements where G.811 performances are needed over a long period of time.

OSA3230 Front access connector

Applications

- Primary Reference Source for PRC system requiring a signal conform to G.811/ Stratum 1
- Wireline / Wireless Operators
- Railways / Energy Companies
- Utilities



Typical atomic beam current from which the clock signal is derived (central peak)

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Technical Specifications

Cesium performances characteristics

Frequency accuracy	$\pm 1 \times 10^{-12}$
Frequency deviation over full operating conditions	
-5°C to +55°C	$\pm 2 \times 10^{-12}$
Reproducibility	$\pm 1 \times 10^{-12}$
Settability:	
Resolution	$< 1 \times 10^{-14}$
Range	$\pm 1 \times 10^{-9}$
Warm-up time	45 minutes

Outputs

Direct frequency output

Frequency	10MHz
Output level	7dBm @ 50Ω
Connector	BNC

Programmable auxiliary output

Frequency	1 / 5 / 10MHz
Output level	0 / 5V HCMOS (square)
Connector	BNC

Power Supply

DC Power input:

Voltage	48V DC nominal floating (24V to 60V)
Power feeds	Dual
Power consumption	40W @25°C (warm-up max. 50W)

Management

Communication port

Port	2x RS-232C on SUBD-9 (1x front + 1x rear side) for local management and / or remotely using SyncView Plus™ Management System and UMI (Universal Management Interface)

Alarms

Relay contacts	3 x alarm indication

Front panel LED indication

Normal operation	Green
Warm-up	Green-blinking
Standby mode	Yellow
Initialization	Red-blinking
Alarm	Red

Mechanical

Size (H x W x D)	19": 5.19" x 19" x 7.56" (32 x 483 x 192mm) ETSI: 5.19" x 19" x 7.56" (32 x 483 x 192mm)
Mounting	3U high 19" or ETSI mounting Rear or Front Access connectors
Weight:	27lb (excluding packaging)

Environmental Conditions

Operating conditions	EN 300 019-1-3, class 3.2 (temperature range extended fr - 5°C to +55°C)
Transportation	EN 300 019-1-2, class 2.2
Storage	EN 300 019-1-1, class 1.1
Humidity	Up to 95%
Atmospheric pressure	70 kPa to 106 kPa
DC magnetic field	±1 Gauss maximum
Safety	EN 61010-1
EMC & ESD	EN 50081-1, EN 50082-1 IEC 801 parts 2, 3, 4, 5 and 6

OSA3230 Connector panel overview

Powered by OSCILLOQUARTZ
SWATCH GROUP ELECTRONIC SYSTEMS

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