OSA 6500B PRC

Primary Reference Clock

- Managed PRC with interface to SyncView™
- One or more Cesium primary references
- Exceeds G.811, ETSI and Telcordia requirements
- UTC traceability from integrated GPS Receiver
- User definable priority table
- ± $5x10^{-12}$ accuracy
- Single site or distributed configurations
- 112 or more outputs
- Input qualification of references with MTIE & TDEV
- SSM handling

The leading partner for your synchronisation needs

OSCILLOQUARTZ

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Precise Quality

Synchronisation significantly impacts network performance.

The global demand for telecommunications is increasing at an incredible pace resulting in networks becoming more and more sophisticated. The same is true for synchronisation elements as they are fundamental to any telecommunications network. The quality and precision of clocking equipment has a significant impact on a network's performance. Digital networks require a reliable supply of accurate and stable synchronisation.

The ITU-T Recommendation G.811 states that a PRC provides the reference signal for the synchronisation of other clocks within a network. The long-term accuracy of the PRC should be maintained at one part in 10^{11} or better with verification to Co-ordinated Universal Time (UTC). The synchronisation reference frequency is usually generated by Primary Reference Clocks (PRCs) and distributed through the network. The availability requirements of SDH based networks entails the use of multiple-site PRC systems.

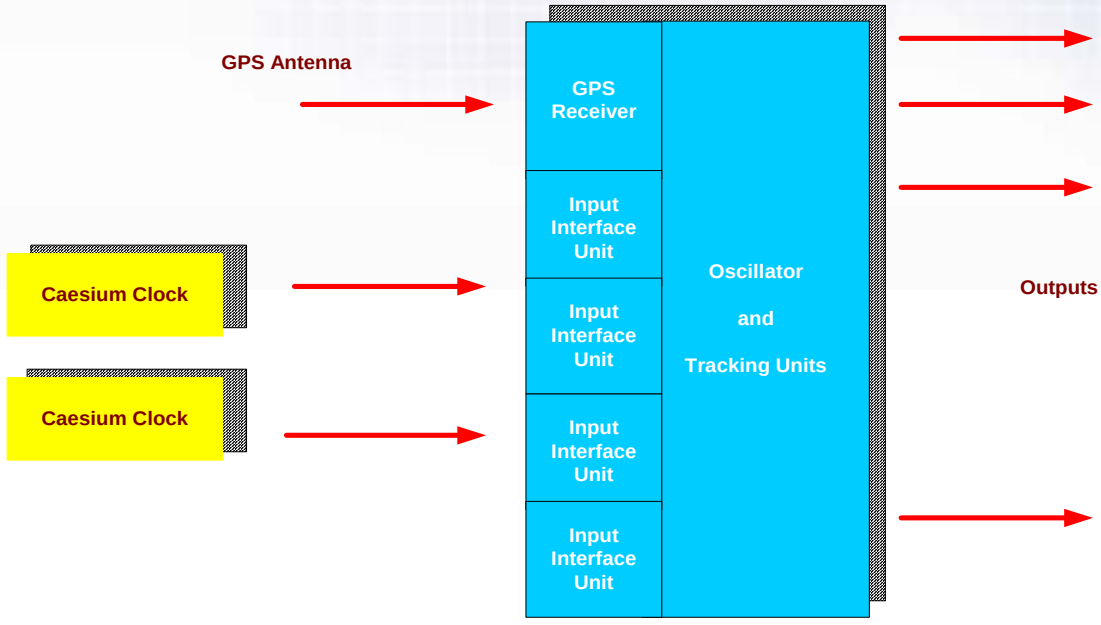
Flexible Approach

A PRC may be an autonomous clock; alternatively, it can be a non-autonomous clock that is locked to UTC-derived signals. In either case, the requirements for long-term accuracy and short-term stability, still apply.

Oscilloquartz PRCs comprise atomic Cesium clocks and/or GPS receivers as reference frequency sources. As the availability of synchronisation is crucial for the network, PRCs are implemented with redundant reference sources.

Most networks are synchronised by decentralised PRCs to achieve protection against failures affecting a complete site. Today's PRCs need to provide a flexible approach that allows the PRC to evolve as the network grows, have a reliable and resilient architecture and interface with a management platform that can manage the entire synchronisation network.

Architecture



Achieves Objectives

The OSA 6500B achieves the objectives required for distributed and stand-alone PRCs especially when the system is controlled by the Oscilloquartz SyncView™ synchronisation management system.

A typical 6500B rack comprises Cesium and GPS references, a synchronisation element, output distribution, alarms, management and power supplies.

At the core of the OSA 6500B is an OSA 5548B Stand Alone Synchronisation Element (SASE) that handles many of the system's primary functions. This reduces the cost of conventional PRC configurations and provides greater management capability.

The OSA 6500B can be equipped with up to three Cesium primary references, such as the OSA 5585 PRS. This ensures full compliance with the long term stability requirements of ITU-T, ETSI or Telcordia. The OSA 5585's long life beam tube has an eight year warranty to minimise maintenance.

An optional integrated GPS Receiver provides UTC traceable reference.

Selection of the references uses a priority table, in either automatic, manual or forced mode. Remote control is available via the management interfaces.

The selected reference is applied to redundant channels containing the high stability oscillators which provide references in holdover mode. Switching and phase alignment is automatic.

Output phase coherence is maintained well below 1/8 UI, typically < 15ns, in the event of any switching operation to minimise phase variations in the network.

The OSA 6500B can be installed with a reduced configuration and later expanded into more complex network.

User Choice

High Output Capacity

The OSA 6500B delivers up to 112 unprotected or 64 protected outputs or other combinations to suit individual requirements. Output capacity can be increased to several hundreds of outputs by adding OSA 5530B expansion subracks.

Wide range of output interfaces

Several output interface modules are available each with 16 outputs. Interface types include 2.048 Mbit/s, 2.048 MHz, 1.544 Mbit/s, 5 and 10 MHz.

All outputs can be squelched individually. The 2.048 and 1.544 Mbit/s modules include provisions for SSM handling. Output squelching and SSM are configurable by the user via the management interfaces.

Alarms and Monitoring

The OSA 6500B provides comprehensive alarm reporting and remote monitoring capabilities. An alarm panel displays urgent and non-urgent alarms. Monitoring and control are provided by a local management port. The interface allows the user to configure the system as well as to receive spontaneous events and alarms with date and time stamp.

Remote Management

An Embedded System Manager (ESM) ensures effective management of the OSA 6500B by providing extensive management capabilities.

It provides a gateway to Oscilloquartz's central management system, SyncView™, and Local Manager.

Dedicated X25 or Ethernet communication ports provide direct connection to the management system without the need for additional mediation devices.

This platform enables full management capabilities, including spontaneous alarm reporting, equipment configuration, alarm and event log, real time calculation of MTIE & TDEV curves, security and many other functions.

The ESM software can be down-loaded from SyncView™. ESM has no impact on the overall equipment reliability. Internal rearrangements and critical decisions are always made automatically by the equipment itself, without intervention of the ESM module.

Continuous reference

OSA 6500B

Primary Reference Clock

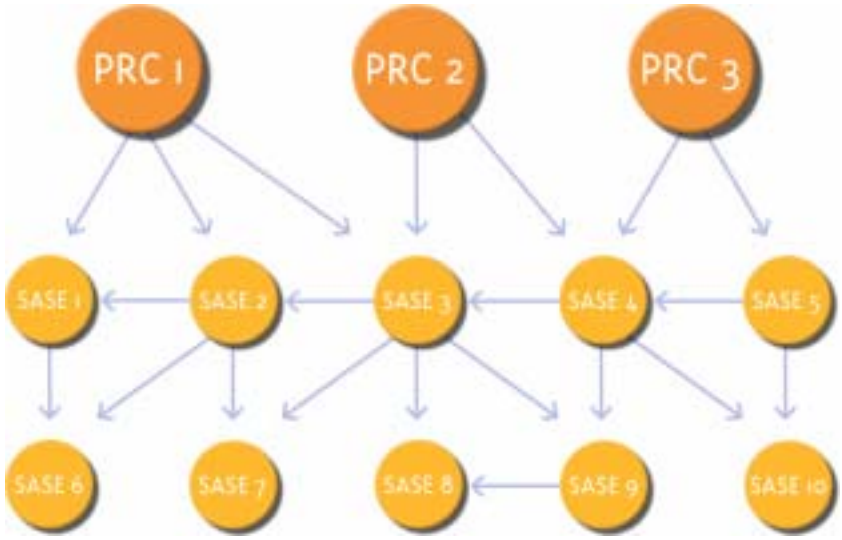
Decentralised PRCs

Many telecom operators opt for a decentralised PRC arrangement especially in large countries, complex networks or where network security is of paramount importance. The network is synchronised by several PRCs, which are at different geographical sites, to protect against site failures. This ensures a higher degree of reliability as the nodes receive references from at least two sources which are routed over separate paths.

In a PDH environment, references from one PRC are provided to the other using dedicated 2.048 Mbit/s lines. System status and control uses the status bits in the 2.048 Mbit/s links. In an SDH network synchronisation is carried from the PRC to the SASE/SSU using the STM-N signals.

Normally one of the PRCs is declared master. The network and stand-by PRC derive their references from the master. In the event of a failure the system will automatically change over to ensure continuous synchronisation.

The OSA 6500B when combined with the SyncView™ Management System achieves the objective of a distributed PRC arrangement.



We have detailed product information for the OSA 5585, OSA 5548B, OSA 5548C, OSA 5533C, OSA 5581C and SyncView™. Call your local representative to obtain your fee copy.

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