

Oscilloquartz

# OSA suite

Precise and assured synchronization

## Benefits

- **Resilient timing solutions**  
Our timing solution portfolio combines network- and GNSS-delivered synchronization with ultra-accurate core clocks
- **Unrivaled track record in synchronization**  
Oscilloquartz has been a pioneer in time and frequency synchronization since 1949
- **Cutting edge technology**  
Unique and comprehensive portfolio including SFP-based grandmasters, compact dual GNSS receivers featuring multi-band antennas, and optical cesium clocks
- **Syncjack™ technology**  
Built-in synchronization assurance for continuous real-time monitoring and performance optimization
- **Operational simplicity**  
Ease of operation with Mosaic Network Controller and Sync Director, applying AI/ML for predictive maintenance
- **Compact and energy efficient design**  
Delivery of accurate, secure and robust timing with the smallest size and power consumption on the market

## Overview

**Our economies and societies depend on critical infrastructure such as communication networks, power utilities, transportation, and financial institutions, among many others.**

Accurate synchronization is an essential requirement with each of those operations and needs to be provided in a resilient and robust way. A combination of precise GNSS timing and network-delivered synchronization over timing-aware packet networks from ultra-stable core clocks and core grandmasters is the most reliable way to meet this ambitious demand.

Whether at the edge or core of the mobile backhaul network, deep in the radio access network, in utility distribution networks, or in defense communication networks, our portfolio of synchronization devices provides you with the ideal solution. From the industry's most compact SFP-packaged grandmaster, embedded timing modules and shelf-based edge grandmasters to our highly scalable core devices, we have solutions for every need. What's more, our sophisticated cesium atomic clocks provide a reliable source of time for even the most demanding synchronization applications. Complemented by our powerful synchronization network management system, synchronization assurance across complex timing networks becomes simple.



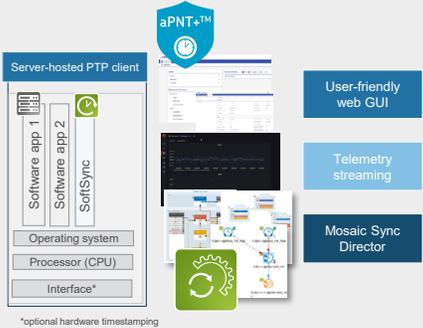
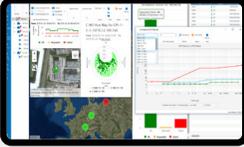
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## OSA suite at a glance

	Product	Major features and applications
	OSA 3230B	<p>Magnetic Cesium atomic clocks for primary reference clock (PRC/ePRC).</p> <p>ITU-T G.811/Stratum 1 PRC and G.811.1 ePRC</p> <ul style="list-style-type: none"> <li>ePRC, 100ns over 14days</li> </ul>
	OSA 3350	<p>Optical pumping cesium clocks with outstanding frequency stability.</p> <p>ePRC and ePRTC reference with extended holdover capabilities:</p> <ul style="list-style-type: none"> <li>ePRTC+, 100ns over up to 40days</li> <li>SePRTC, 100ns over up to 55 days</li> <li>SePRTC+, 100ns over up to 120 days</li> </ul>
	OSA 3300	<p>Optical pumping cesium clock for high performance applications like metrology, time keeping institutes, science labs and space navigation. Best in class ADEV parameters for</p> <ul style="list-style-type: none"> <li>HP – High Performance</li> <li>SHP – Super High Performance</li> </ul> <p>Cesium clock variants.</p>
	OSA TimeScale	<p>Secure precision timekeeping and UTC realization. Fully integrated solution offering exceptional precision, traceability and flexibility. Engineered to meet the most stringent requirements, our system ensures operational continuity and safeguards against disruptions, even in the event of GNSS outages.</p> <p>The system continuously monitors frequency and phase, comparing signals in real-time for both internal and distributed sources, ensuring the highest levels of accuracy.</p>

	Product	Major features and applications
	<p>OSA5430</p> <p>OSA5440</p>	<p>Modular, high-performance IEEE 1588v2 PTP core grandmaster, NTP server and SSU supporting 10Gbit/s as well as 1Gbit/s interfaces. Ultimate scalability, with a carrier-class fully redundant design. GNSS receivers supports Single (L1) and Multiband (L1/L5) GNSS receivers.</p> <p>Fanout can be extended by</p> <ul style="list-style-type: none"> <li>• 1x Line Card in OSA5430</li> <li>• 10x Line Cards in OSA5440</li> </ul> <p>Providing additional BITS, Ethernet, Composite Clock interfaces or Multiband (L1/L2) GNSS receiver Line Card.</p>
	<p>OSA5410XG</p>	<p>Compact and cost-effective small form factor design optimized for access network deployment. It offers unique flexibility by utilizing Synchronous Ethernet, NTP and PTP, including all relevant PTP profiles. Multipurpose ports offer flexible configuration options supporting PPS, CLK or IRIG interfaces.</p>
	<p>OSA5412/22</p>	<p>Edge PTP grandmaster featuring NTP server and multi-band, multi- constellation GNSS receivers. A wide range of sync fanout options for deployment with communication networks, power utilities and broadcasting, among others. Equipped with single and multiband GNSS receiver as well as Low Earth Orbit constellations Iridium STL. OSA5422 is equipped with two expansion slots for a line cards extending the fanout with additional BIT, CLK, PPS, Composite Clock, IRIG interfaces as well as Audio Video Signals and M-Code receiver.</p>
	<p>OSA 5405-I</p> <p>OSA 5405-P</p> <p>OSA 5405-O</p> <p>OSA 5405-MB</p> <p>OSA 5405-S</p>	<p>PTP grandmaster and GNSS receiver with a build in GNSS antenna to deliver accurate synchronization at cell and broadcasting sites, substations, enterprise premises.</p> <p>Optimized variants for:</p> <ul style="list-style-type: none"> <li>• OSA5405-I indoor</li> <li>• OSA5405-O outdoor</li> <li>• OSA5405-MB Multiband outdoor</li> <li>• OSA5405-P Power substations</li> <li>• OSA5405-S GNSS+Iridium STL receiver</li> </ul>
	<p>OSA 5401 SyncPlug™</p>	<p>SFP-based PTP grandmaster, boundary and slave clock designed for cost efficient deployments in various customer applications, enabling upgrading legacy systems with IEEE 1588v2 PTP and Synchronous Ethernet functionality.</p>

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	<p>OSA 5400 SyncModule™ TimeCard™</p>	<p>Embedded timing modules that can be mounted into open servers and switches utilizing PCIe or M.2 interfaces. Device manufacturers can easily upgrade their white boxes devices with sophisticated synchronization capabilities without expensive and slow development efforts.</p>
	<p>OSA 5400 STL</p>	<p>M.2 module integrated with STL and GNSS receivers for versatile deployment in a wide range of environments and industries. It provides host devices with dual time sources in a single, standard form-factor module with enhanced resiliency, reliability and precision.</p>
 <p><small>*optional hardware timestamping</small></p>	<p>OSA SoftSync</p>	<p>Precise timing delivery as a software application. SoftSync provides improved timing accuracy using IEEE 1588v2 Precision Time Protocol(PTP) to enhance the accuracy of time delivered by operating systems. Simple installation without the need to modify any host application and verified interoperability with Oscilloquartz PTP grandmaster portfolio. Leveraging Syncjack™ technology. Dynamic selection of best synchronization source, mitigating any time source outage, quality degradation or topology changes. Simple and transparent operations. Ease of operation with modern web-based GUI as well as telemetry data streaming.</p>
	<p>Mosaic Network Controller Mosaic SyncDirector</p>	<p>Advanced platform for reliable, secure and user-friendly management and surveillance of Adtran FSP and OSA networks, with full FCAPS support. Sync Director extension for timing delivery management and sync assurance.</p>
	<p>Professional sync services OSA Sync Survey</p>	<p>To identify existing and potential problems, helping you take control of your synchronization performance and make major savings.</p> <p>Sync Director GNSS Assurance provides analytic tools for monitoring and analysis of GNSS status and reliability.</p>

