

Product Overview

The OSA 5548C Synchronization Supply Unit is a scalable synchronization solution ranging anywhere from 20 unprotected outputs up to a thousand protected outputs by adding up to four expansion shelves to the core unit. Its ultra-compact footprint makes it ideal for telecom operators to provide scalable network synchronization in over-crowded exchanges. The distributed intelligence message passing system of the OSA 5548C SSU eliminates single points of failure and guarantees reliable uptime. Core unit and expansion shelves share the same modules, minimizing overall administrative complexity and enabling reduced homologation activity.

Versatile In- and Output Interface Modules

The OSA 5548C SSU comes with universal input cards accepting a wide range of input signals and is designed to reduce the amount of spares. Each input card can accept up to four signals, optionally protected by an identical, adjacent card. The architecture supports configurations ranging from four unprotected inputs up to eight protected inputs. The unique output card design of the OSA 5548C SSU provides 20 software-configurable output interfaces. Ten universal output groups can be configured flexibly to support configurations ranging from 20 unprotected outputs up to 200 protected outputs on one shelf. Mixing of protected and unprotected outputs is supported. In addition, the OSA 5548C SSU can be equipped with an NTP Stratum 1 server and IEEE 1588-2008 Version 2 PTP Grandmaster modules for timing distribution over packet networks.

Flexible Input Selection

Optional GNSS modules supporting both GPS and GLONASS are available to meet ITU-T G.811 requirements without the need to install and manage external receivers or Cesium Primary Reference Clock sources. The synchronization distribution hierarchy can therefore be flattened, resulting in reduced overall provisioning, operations and maintenance costs. The active reference input can be selected based on SSM value, a priority table or performance threshold masks. Jitter and wander on the reference input is filtered by a high-quality oscillator and DDS technology utilizing Rubidium or Double Oven Quartz (OCXO) technology.



Management and Performance Assurance

The SyncView™ Plus management software provides powerful fault, configuration, inventory, performance and security management of the OSA 5548C SSU through an intuitive graphical user interface either locally or from a remote location. Active inputs are constantly measured against the current output reference with 1ns resolution. MTIE, MRTIE, TDEV and Ym curves are compiled and used for input selection. Results can be compared to standard masks and trigger alarms when limits are exceeded. All results are forwarded to SyncView™ Plus for display, user validation and storage. Local alarm indication is provided by means of an internal buzzer, electrical relay contacts and status LEDs on the front panel.

Features & Benefits

- Latest generation of SSU with 6U, 19" or ETSI shelves
- Intuitive and modular architecture adapted to all telecom node sizes
- Expandable system to provide up to 1000 protected outputs
- ITU-T G.811 PRC with optional dual GPS and/or GLONASS cards and ITU-T G.812 Type I, II or III SSU holdover
- Universal output and input card design
- Fully manageable with intuitive Graphical User Interface
- Optional NTP and PTP modules
- 1:1 protection for every card and function

Technical Information

OSA 5548C SSU-E200 – 200 outputs

- ETSI 6U main shelf: 8 inputs plus 2 GLONASS/GPS receivers

OSA 5548C SSU-E60 – 60 outputs

- ETSI 6U/19" main shelf: 4 inputs plus 2 GLONASS/GPS receivers

OSA 5548C Expansion Shelf

- Up to 4 Expansion Shelves per main shelf, 200 outputs each for 1000 outputs total (dedicated redundant communication bus between master and expansion shelves)

Inputs

- Up to 8 line inputs in OSA 5548C SSU-E200 (4 with SSU-E60), optionally 1:1 protected, 4 inputs module
- Input types: E1, 2.048 MHz, 5 MHz, 10 MHz individually SW-selectable
- Up to 2 GNSS inputs, active L1 antenna, 1575.42 MHz
- Two GNSS module types: GPS and GLONASS/GPS
- E1 inputs can be "terminated" (75Ω) or "bridged" (high impedance, kΩ)

Input Selection

- SSM value
- Priority table
- Performance threshold mask
- Manual selection

Tracking and Holdover

- DDS-based tracking and holdover functionality
- G.8272 PRTC when locked to GNSS
- G.811 PRC reference with embedded GNSS (or external Cesium) source
- G.812 Type II SSU based on Rubidium holdover < 5.0E-11/Month (at 25°C)
- G.812 Type I & III SSU based on OCXO SC-P3 holdover < 1E-10/day (at 25°C)

Outputs

- 20 outputs per module (2 groups of 10)
- Up to 200, optionally 1:1 protected, on 5548C SSU SSU-E200
- Output type configurable by group of 10 outputs
- E1, 2.048 MHz, 1PPS

Time Code Outputs

- Up to 10 TCC (Time Code Card) on SSU
- NTP (RFC 1305), SNTP v4 (RFC 4330)
- PTP-IEEE 1588-2008

Standards Compliance

- IETF RFC 4330 (SNTP v4), RFC 1305 (NTP)
- ITU-T G.703, G.811, G.812, G.704, G.781
- ETSI EN 300 462-6, -4
- CE approved

Re-Timing

- 8 E1 traffic carrying signals per OSA 5242 Re-Timer
- Configurable alarm thresholds in slips per hour/day/week
- Traffic protection with by-pass relay

Management

- Status LEDs on front panel
- Contact relay alarm closures (2x3 N.O. or N.C. contacts)
- Electrical alarm collection inputs (10)
- 2 x local RS232C ports, TL1 protocol on front and rear panels
- Remote 10/100BaseT
- Remote management via SyncView™ Plus
- Synchronization network management software supporting full FCAPS capability

Performance Measurement

- Phase measurement on all inputs, GLONASS/GPS included
- 1ns resolution
- MRTIE, MTIE, TDEV, Ym curves computed locally
- User settable, alarm thresholds

Expansion Shelves

- Up to 200 outputs per shelf, optional 1:1 protection
- Up to 4 Expansion Shelves for a total of 1000 outputs
- Dedicated redundant communication bus between master and expansion shelves

Power

- Dual -48VDC power input (-40 to -60VDC)
- Power consumption: max. 220W (fully equipped) 200 outputs

Simplified Maintenance

- Universal input and universal output cards
- Upgrade of all cards via SW download/shelf release
- Dynamic inventory data accessible via management SW
- All cards software included in the same system release

Mechanical

- OSA 5548C SSU-E200: 266 x 483 x 265mm (H x W x D)
- OSA 5548C SSU-E60: 266 x 535 x 240 mm (H x W x D)



For more information please visit us at www.oscilloquartz.com

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