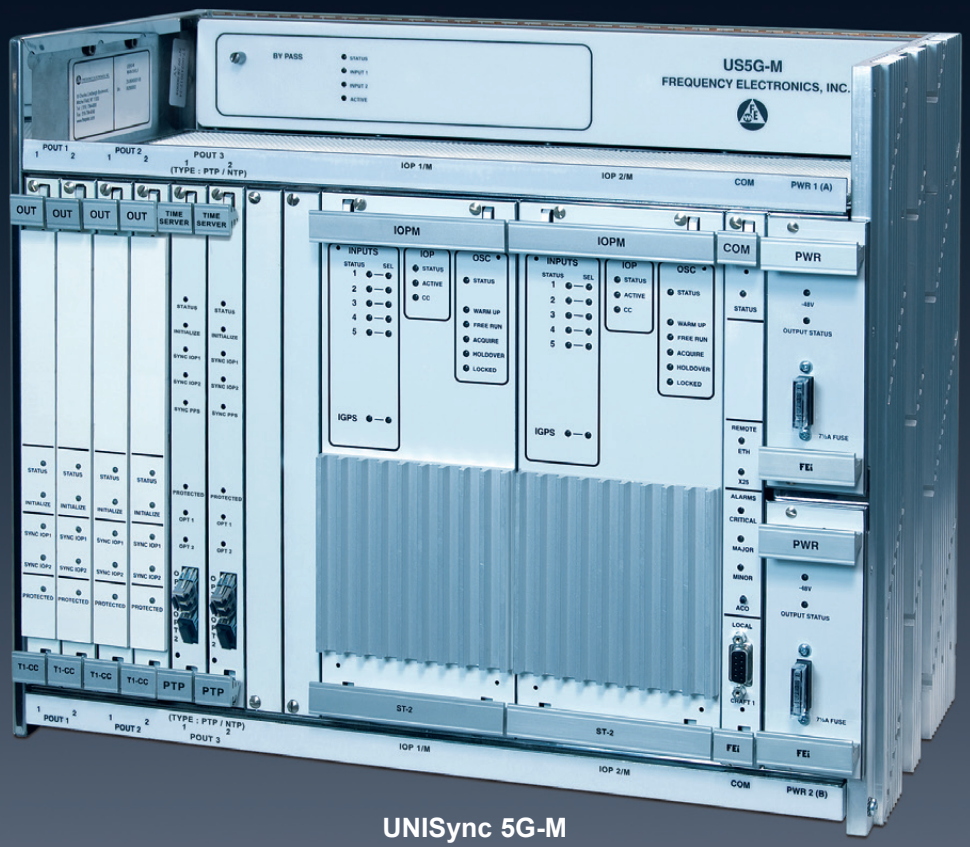
# UNISync 5G-M




UNISync 5G-M

## CARRIER CLASS SSU FOR SMALL CAPACITY CENTRAL OFFICE APPLICATIONS

- Main Shelf Outputs - 20, 40, 60, or 80 (max)
- T1, CC, or E-1 Outputs
- Optional NTP or PTP Server Blades
- Integrated GPS Option
- Back Panel WW Terminal Option
- 10 Port Output Groups Enable Easy Transition to Legacy DCD WW Panels

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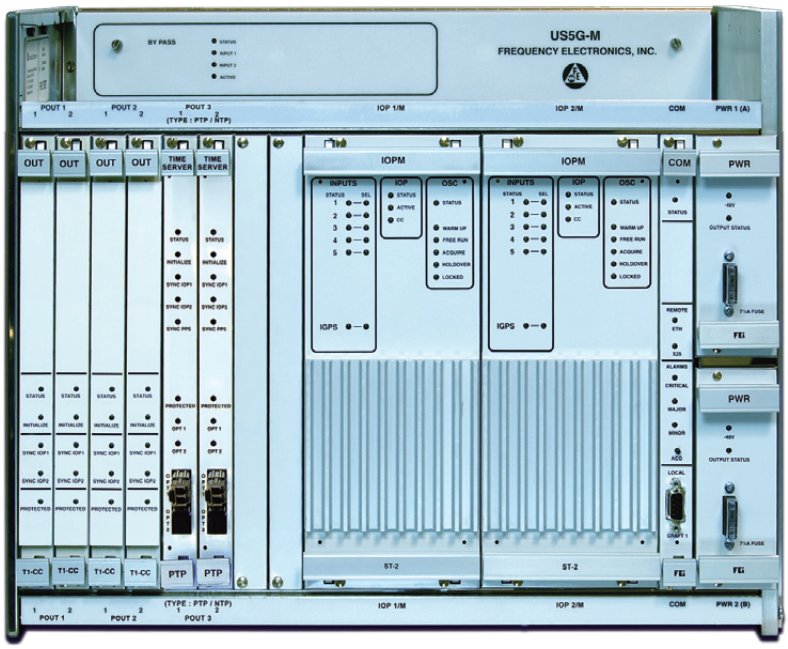
## FEATURES

- Up to 80 Main Shelf Frequency Outputs
- DS-1/CC Combo Output Modules
- Port Level Output Programmability
- NTP/PTP Server Blades
- E-1/2048 KHz Protected Output Modules
- Up to 5 Inputs each IOP Module
- Provision Input Signal Formats in Software
- Input Performance Monitoring
- Optional Clock BYPASS Module
- Fast, Easy System Installation and Provisioning

**UNISync 5G-M**




### The Most Versatile Clock Shelf Ever - The UNISync 5G-M

Microprocessor controlled smart SSU with integrated GPS, carrier class system features enable totally redundant operation, T1/CC output modules with programmable outputs, E-1/2048 KHz outputs, NTP blade and PTP (IEEE-1588) blade - all in one integrated unit. The UNISync 5G-M is perfect for smaller office applications where a high capacity BITS clock is just too much.

### Standard Remote Management

All software management interfaces are remotely accessible via TCP/IP LAN allowing full utilization by the Central Network Operating Center for alarm management and system management.

### Microprocessor Control & Memory Features

The UNISync 5G-M operation echoes features found on the high capacity UNISync 5G-A with Intel microprocessors on the COM and both IOP modules. The COM module is the primary home for all system databases, but database's are backed up on both IOP modules. Microprocessors on the output modules enable provisioning and alarm management to each output port.

### The UNISync 5G-M Value Proposition

The UNISync 5G-M beats the competition - a small to medium capacity TSG with superior operating features:

- Output port capacity - 80 outputs to the competition's 64
- Output port utilization: port programmability reduces or eliminates stranded ports
- Source diversity with matching 20/40 port capacity on 2 card groups
- Superior efficiency in managing office cuts with output groups of 10 corresponding to the DCD TOCA and TOTA modules
- Exceptional input flexibility - all inputs may be software provisioned for a variety of signal formats
- Reference diversity with integrated GPS receivers
- POUT - 3 slots can be equipped with either 2 PTP server blades OR 2 NTP server blades OR with a single PTP OR a single NTP server blade
- Easy software conversion to subtending (remote master) operation

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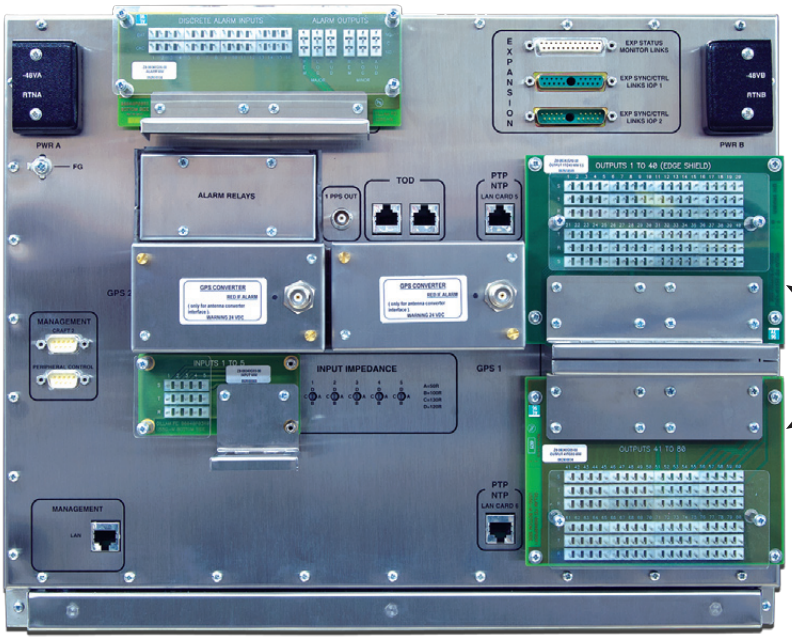
### UNISync 5G-M Dual GPS Rearview




## System Software Control Features

The UNISync 5G-M operates with a standard TL-1 software management interface. All modules auto-provision during installation and initialization. In the event a module is replaced by a maintenance spare, the system automatically performs both hardware and software compatibility checks, downloads any needed software, and provisions the module identically to the module it replaced. Record keeping is simplified by entering output port assignments and input reference sources in assignable data fields. Software storage of CLEI codes and Mfg Serial numbers aid field servicing and PCN administration.

## Operation

Any UNISync 5G-M main shelf system can be used as a master or subtending clock merely by altering the provisioning in software of input 1 & 2. SSM's can be transmitted to downstream NE's through the subtending clock if needed. The subtending clock has its own IP address for both remote management and alarm surveillance and may be optionally equipped with a clock BYPASS module to ensure survivability.

## Alarm Reporting Modes

The UNISync 5G-M reports system and module alarms via visual LED indicators, TL-1 Autonomous Output (AO) messaging, and through contact closure terminals.

## Oscillator Options

UNISync 5G-M IOP modules are operated with either the Standard Quartz ST-3E or the Rubidium ST-2 oscillators. The system supports both mixed stratum operation (ST3E/ST2) as well as matched stratum levels.

### UNISync 5G-M Rubidium IOP Module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# UNISync 5G-M PRODUCT SPECIFICATIONS

## UNISync 5G-M SHELF MODULES

### *Power Supply Modules*

- Dual load sharing
- Each receives power from a dedicated back panel power input
- Automatic redundancy in case of module failure
- Front panel fuses and power status LED's

### *Communications Module*

- UNISync 5G-M System CPU
- COM Module manages internal AND external system communications
- Provides System TL-1 Agent
- Manages all system security processes
- Manages all database storage, access, and synchronization with IOP back up

### *Input/Output/Processor Module*

- Dual Clock Modules
- Dual Input Modules - Up to 5 inputs
- Single or Dual GPS Receiver Modules (Optional)
- Dual System database Back Up to the COM module

### *Output Modules*

- DS-1/CC, E-1, PTP/NTP
- Paired in adjacent slots for 1 to 1 output protection
- Outputs are software assignable for DS-1/CC
- Inventory Port Assignments in software
- Alarm visibility to the port level
- Optional 20 or 40 Port NON-Protect Output Modules

## PERFORMANCE MONITORING

- Simultaneous Data Collection on all Inputs
- Data Metrics - Frequency Offset, TIE, MRTIE, TDEV, LMRTIE
- Average Periods - from 10 to 100,000 seconds
- Threshold crossing Actions - Switch, Alarm, Report, Ignore
- User Selectable Priority Options - Priority 1 to 5 or 0

## INPUT/OUTPUT CAPACITY

### *UNISync 5G-M Inputs*

- Termination - Wire wrap on back panel
- Bridged - Each input to both IOP modules
- Variable Impedance Setting Adjacent to WW terminals
- Inputs are software assignable CC, DS-1 (SF/ESF), E-1, 1, 5, or 10 MHz
- Up to 5 Inputs each IOP module
- Selectable SSM activation - Gen 1 or Gen 2

### *UNISync 5G-M Outputs*

- 40 Outputs per Module - optional protect or non-protect operation
- Optional 20 port output modules
- Main Shelf Capacity - min 20, max 80
- Dedicated Main Shelf slots for paired PTP or NTP server blades
- 1 PPS and TOD Outputs

## COMMUNICATION AND MANAGEMENT

### *Craft/Local Ports*

- 1 on front (COM Module), 2 on Rear Panel

### *Remote Management*

- 1 RJ-45 Ethernet
- 8 2-pin terminations for discrete input alarms
- 3-pin terminations for output alarms - 3 Major, 3 Minor (NC/NO)

### *Software Interface*

- Standards compliant TL-1 agent
- GUI interface

### *Standards Compliance*

- NEBS Level III - testing and evaluation by Telcordia Labs
- All Telecordia GR standards covering TSG'S, oscillators and network equipment - validated by Telcordia Labs

Tested by Telcordia


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