



SQMP-II SYNCHRONISATION QUALITY METER PLATFORM

PRODUCT OVERVIEW

The only fully integrated and rubidium based synchronization measurement set-up available on the market today.

The SQMP is a high precision portable field instrument embedded with a high quality Rubidium oscillator. It is designed for easy installation, operation and maintenance of synchronization Networks.

The SQMP is composed by three modules :

- **PHM** : Phase Hardware Measurement module includes a high quality internal Rubidium oscillator, a high performance numerical phase comparator and the interfaces.

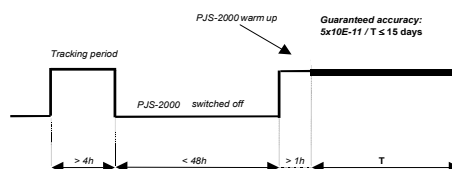


- **SQM** : Synchronization Quality Meter, stores, analyses and computes the measurements. The SQM software runs on external PC with Microsoft Windows (from Win95 to WinXP) operating system, connected through the SQM Bus interface (Serial COM port RS232/V24-V28).

- **GPS (option)** : The GPS receiver additional module enables the S.Q.M.P. equipment to behave a high performance frequency reference. This reference offers performance that complies with standard ITU-T G.811 regarding long-term accuracy. Associated with the PHM (S-001 module) it offers a high long-term accuracy (from the GPS source) and a short-term frequency quality (linked to the DPLL performance of the PHM). One T1 additional feature (option) is available for T1 hierarchy interfacing. This featured module integrates two frequency converters (1544 kHz to 2048 kHz and 2048 kHz to 1544 kHz). These converters are used as intermediate interfaces between PHM measurements board and the T1 network synchronization frequency access points.

MAIN FEATURES

- Best Price-Performance ratio solution
- Stand-alone equipment
- High quality internal Rubidium oscillator G.812-T (ageing: $5 \cdot 10^{-11}$ /month)
- High performance numerical comparator (10 ps resolution), large pull-in range (>60 UI)
- GUI Multitasking and multiwindowing SQM software (multiple parallel data analysis)
- Retrace function



- External Reference Input for Rubidium accurate locking (ie : GPS, Cesium)
- SSU (or SASE) functions



PHASE MEASUREMENT MODULE

OUTPUTS SIGNALS

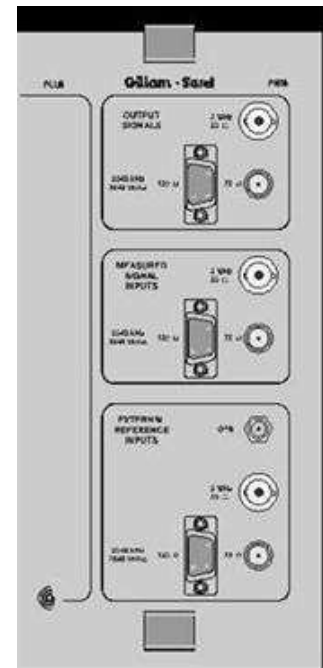
- 2048 kHz (ITU-T G.703/13 ; 75/120 ohms)
- 5 MHz / 10 MHz (50 ohms)
- T1 GR378 and GR1244

MEASURED SIGNALS INPUTS

- 2048 kHz (ITU-T G.703/13 ; 75/120 ohms)
- 2048 kbit/s framed/unframed (ITU-T G.703/9)
- T1 GR378 and GR1244

EXTERNAL REFERENCE INPUTS

- 2048 kHz (ITU-T G.703/13 ; 75/120 ohms)
- 2048 kbit/s framed/unframed (ITU-T G.703/9 ; 75/120 ohms)
- 5 MHz or 10 MHz



GPS

Based on the PICOSYNC FEi technology, for improved performance and fast startup.

Option : T1 intermediate interface : ITU-T G703/5, 100 Ω, BNC connectors.

SYNCHRONIZATION QUALITY METER SOFTWARE

- One full featured application program running on the external PC to interface the PHM Module :
 - PHM Monitoring / TIE Acquisition / File Viewing and Computing
- One complementary application program running on a desktop PC with file viewing and computing capabilities
- Graphical virtual instrument panel to control PHM Hardware
- Multiple windows user interface to visualize :
 - « Strip chart » (TIE + frequency offset)
 - TIE recorded data files with zooming capability
 - Computed parameters (MTIE, TDEV, ...) with standard mask comparison
- Complete range of computed parameters : TDEV, ADEV, MADEV, MTIE, TIErms
- Complete range of conformance check mask :
 - ITU-T : G.811—G.812—G.812—G.823
 - ETSI : EN 300462-3-1 to EN 300462-5-1 ; DEN/TM 300462-7-1, DEN/TM03067
 - GR378 and GR1244

