



PRS 45

Cesium Primary Reference Source

KEY FEATURES

- Latest Cesium III Technology
- Autonomous Primary Reference Source
- No Antenna Installation Required
- Maintenance-Free (12-year warranty on Cesium tube)
- Plug & Play in < 45 Minutes
- DS1, E1, 2048 kHz G.703/13, 10 MHz, 1.544 MHz Outputs

INTRODUCTION

The PRS 45 is an autonomous Primary Reference Source based on the latest Cesium III technology from Symmetricom. It's designed for telecom network operators to generate superior and highly reliable Stratum 1 synchronization signals for advanced network services.

PLUG & PLAY IN < 45 MINUTES

The PRS 45's architecture uses the latest digital technology to provide superior performance and maintenance-free operation. The PRS 45 is easy to install and is fully operational in less than 45 minutes. Its plug & play architecture provides highly reliable operation over the lifetime of the system.

NETWORK APPLICATIONS

The PRS 45 is used to equip core network offices with Stratum 1 synchronization.

The deployment of PRS 45 sources across the network provides the following benefits:

- Flattens the sync distribution hierarchy
- Lowers the overall OAM&P (Operation, Administration, Maintenance & Provisioning) costs
- Reduces the number of network recovery clocks (TSG/SSU) operating in tandem
- Minimizes pointer adjustments caused by "frequency errors" in the SONET/SDH payload
- Prevents up-stream network clock errors from propagating across the network
- Enhances overall network performance
- Provides total control of network synchronization source

STANDARDS COMPLIANCE

The PRS 45 meets industry standards, including ITU-T, ETSI, ANSI, Telcordia, NEBS, and CE/AS.



PRS 45

SYMMETRICOM GLOBAL SERVICES

For services on your Symmetricom products including extended warranty, spares support, technical support, training, etc., please contact Symmetricom Global Services (SGS) at 1-888-367-7966 (USA toll-free) or 1-408-428-7907 (worldwide).

PRS 45 Specifications

PERFORMANCE

- Accuracy (25°C ± 5°C) $\leq \pm 2 \times 10^{-12}$
- Accuracy (over environment) $\leq \pm 3 \times 10^{-12}$

STABILITY

- Averaging time
 - 1 s 3.0 x 10⁻¹¹
 - 10 s 1.3 x 10⁻¹¹
 - 100 s 3.0 x 10⁻¹²
 - 1,000 s 9.5 x 10⁻¹³
 - 10,000 s 3.0 x 10⁻¹³
 - Warm-up Time (typical) 30 minutes

OUTPUTS

- Telecom Signals Two framed or unframed
- Framed (AMI) 1544 kbps ANSI T1.102 DS1 selectable framing: SF[D4] or ESF, with Stratum 1 Sync Status Message (SSM)
Format Framed all ones, B8ZS
2048 kbps ITU-T Rec. G.703/9 [E1] with G.704 framing and with Stratum 1 Sync Status Message (SSM)
Format Framed all ones, HDB3
- Unframed 1544 kHz G.703/13
2048 kHz G.703/13
- Connectors DB9 for balanced signal
T1, 100 ohms
E1, 120 ohms
BNC for unbalanced signals, 75 ohms
1 at 10 MHz, 0.5 V rms/50 ohms, BNC
- Sinusoidal Signals

GENERAL

- Power Requirements Dual redundant dc inputs
- Operating Voltage -48 V DC nominal (-36 to -62 V DC)
- Power (operating) 40 W
- Power (warm-up) 55 W
- Interface Connections
 - External DC inputs, A and B #6 screw terminal block
 - RS232 9 pin male D-connector
 - Chassis Ground, A and B #6 screw terminal block
 - Alarm - Critical and Minor #6 screw terminal block
- Fuses
 - External DC Input 2 A, 250 V, slow acting
- Dimensions
 - Width 18.2" [46.2 cm]
 - Depth 10.1" [25.7 cm]
 - Height 10.5" [26.67 cm]
 - Weight 36.5 lb [16.6 kg]
 - Mounting Mounting ears provided for 19" or 23" racks

ENVIRONMENT

- Temperature, Operating 0 to 50°C
- Temperature, Non-operating -40 to +75°C
- Humidity 95%, non-condensing



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