

In the world of single frequency networks that offer Digital Video Broadcast, having multiple transmitters send exactly the same digital information on exactly the same frequency and at exactly the same instant is critical.

Symmetricon's GPS instruments are designed to ensure that all stations in a network achieve highly reliable and precise synchronization. Our robust synchronization products provide single frequency networks with highly accurate timekeeping (maintaining sub-millisecond levels), low phase noise for clearer reception, multiple 10 MHz and 1PPS outputs, redundant time sources to back up GPS such as T1 and E1 networks, and SNMP for configuration and monitoring.

4370A

DVB Sync Source

STANDARD FEATURES

- 12-Channel GPS Receiver
- < 50ns Accuracy to UTC
- Flash Memory for Remote Upgrades
- Modular/Hot Swap Design
- Primary and Secondary Reference Inputs
- Multiple 10MHz Outputs
- Multiple 1PPS Outputs
- Dual Hot Swap Power Supplies
- Low Phase Noise
- SNMP for Configuration and Monitoring
- RoHS Compliant
- Output Squelching
- Alarm Relay Contacts
- NTP

OPTIONAL FEATURES

- 2 MHz and 2 Mbit/sec Outputs
- 2 MHz and 2 Mbit/sec Input
- Redundant Chassis Configuration

The 4370A DVB Sync Source is a flexible timing system designed for Single Frequency Network (SFN) synchronization for DVB/DAB applications. These applications require a precision time and frequency reference to synchronize transmitters across multiple locations. Without synchronization, networks are not able to reliably deliver video and audio content to the end user.

The 4370A enables Terrestrial and Mobile networks to be deployed across varied landscapes by providing access to low cost, reliable precision time and frequency reference signals, in multiple formats ensuring a robust and reliable network.

REDUNDANCY AND RELIABILITY

The 4370A receives reference-timing signals from GPS, fiber optic and E1 inputs and translates them to generate the output signals. In case of a loss of GPS, the 4370A automatically switches to and locks to the auxiliary fiber optic or 2 MHz, 2Mbit/sec input to continually provide outputs that are traceable to a primary reference clock. The 4370As can be linked together via the optional fiber optic transceiver on the input, to provide a double redundant system with no single point of failure allowing for the utmost in system reliability. In this configuration, one 4370A is designated primary and one secondary. The primary 4370A synchronizes to the primary synch source—

GPS. The secondary 4370A synchronizes to the primary through the fiber. All RF and pulse outputs from the two units are therefore coherently maintained at the same frequency and phase.

The input synchronization sources are assigned a priority order of use. For example, GPS could be given the highest priority. If the GPS receiver in the primary 4370A unit fails, the secondary 4370A unit assumes the primary role, meaning that it starts to track its GPS receiver, which is still functioning properly. The 4370A with the failed GPS then tracks the new primary 4370A. Since each 4370A contains a flywheel oscillator, the necessary switching occurs without any discontinuity in the phase or frequency of the outputs. Should both GPS receivers fail; either 4370A can begin to track one of the secondary inputs while the other 4370A continues to track the primary. In this manner, all outputs of two interconnected 4370A can be derived coherently from any one of the references connected to either unit.

All of the 4370A outputs are provided on hot swappable modules so each one can be removed if needed or additional outputs can be added without the need for powering down your network.



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