



GPS-1 Synchronizer Module

Description

The GPS-1 is the newest member of the BlackMax™ series of modular electronics. Employing GPS (Global Positioning System) satellite technology, the GPS-1 utilizes the highly accurate GPS signal to provide a very precise transmitter frequency. This allows multiple highway advisory radio (HAR) stations, with overlapping signals, to synchronously broadcast the same audio message with superior sound quality. The combined coverage area is limited only by the number of HARs in the network, and listeners moving through the network will hear the same message as if it were being generated from a single transmitter.

A synchronous broadcast from multiple HARs requires two key ingredients: (1) transmitters that operate at precisely the same operating frequency, and (2) a single audio source.

1. The GPS-1 module provides the ability to precisely tune the operating frequency of the transmitter. The radio frequency (RF) signals are synchronized by phase locking them to the precise timing signals derived from GPS satellites.
2. The single audio source is typically accomplished by establishing one HAR as the “master” and the remaining HARs in the network as “slaves”. This is commonly done by using Radio Transmission circuits (special telephone lines provided by the local telephone service provider).



GPS-1 Module

Features

- BlackMax™ modular design for easy installation and maintenance
- Four front-panel status LEDs indicating:
 - Power
 - GPS receiver operation
 - GPS satellite lock
 - HAR Transmitter frequency lock
- Front-panel adjustment for fine tuning the RF phase angle in degrees
- Compatible with DR2000 Central Control HAR Software (sold separately)



BlackMax™ with GPS-1 Module Installed