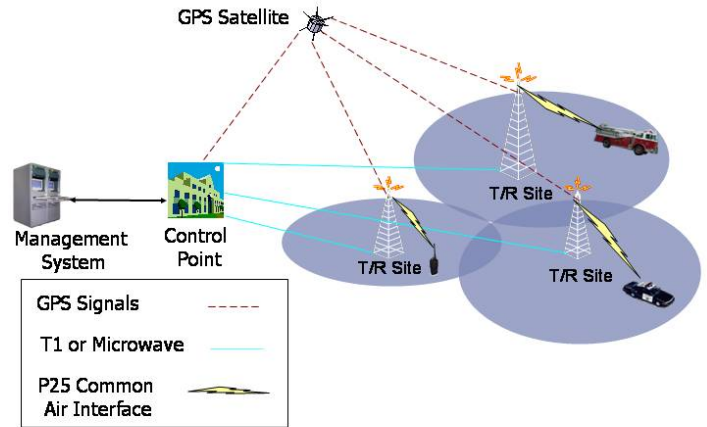


P25^{IP} GPS Simulcast provides efficient and cost-effective wide-area communication system solutions using the Global Positioning System (GPS) precise timing signal for simulcast synchronization. If users are restricted by limited frequencies yet have a need for wide-area coverage, P25^{IP} Simulcast can fulfill these demands by transmitting the same information from multiple transmit sites on the same frequency set utilizing the P25 Common Air Interface (CAI). GPS Simulcast has reduced the high costs previously demanded by simulcast systems through lower setup expense, minimal maintenance demands, and the potential of utilizing leased lines between sites.



Product Overview

The M/A-COM P25^{IP} Simulcast system is specifically designed for users requiring the secure digital voice and data capabilities of Project 25 (P25), with all the benefits of Simulcast technology. The P25^{IP} Simulcast infrastructure uses the industry standard Internet Protocol (IP) and Ethernet backbone to provide fast, highly reliable, and fault-tolerant management and control communications. P25^{IP} Simulcast is a highly reliable trunked radio communications system with a unique architecture that ensures continued operation even under failure conditions, meeting the communications requirements of public safety, public service, and first responders.

Reliable Communications

The synchronization of transmitted information is critical for effective simulcast communications. By utilizing GPS, P25^{IP} Simulcast receives the same high-precision timing reference at the control point and each transmit site. This arrangement allows the system to recognize and compensate for any

variations in the intersite links in real time to maintain proper system timing and frequency synchronization. The result is reliable communications performance and less periodic maintenance.

Fault Tolerance

During emergency and potential failure situations, systems must continue to provide superior functionality. The P25^{IP} fault-tolerant architecture continues to trunk, even with the loss of links between sites. With configurable transmission or message trunking, P25^{IP} is capable of more efficient transmissions than competitive systems.

P25^{IP} provides clear audio and accurate data messages through its patented Pro-Sync algorithm, precise GPS timing signals, and modular MASTR[®] III Base Stations.

Links

In simulcast systems, the control point must be connected to the transmit sites. Traditionally, this link required a dedicated microwave system. The

P25^{IP} GPS Simulcast design also allows the option of using leased T1 circuits. Substantial cost savings are realized by leasing T1 links relative to purchasing a dedicated microwave system. Furthermore, with P25^{IP} GPS Simulcast, 24 RF channels are supported by a single T1 link.

Data and Voice Together

Data messages are simulcast, thus speeding transfer by simultaneously transmitting from all sites. Since every channel can support both voice and data, the next available channel processes a call. A separate dedicated data network is not needed.

For More Information

For more information about this or any other M/A-COM Wireless Systems product, call toll free in the U.S. 1-800-368-3277. From outside the U.S. call 1-434-455-9223 (Asia Pacific), 1-434-455-9229 (Latin America and Middle East), and 1-434-455-9219 (Europe).

Graphical User Interface (GUI) for Operations and Maintenance

P25^{IP} GPS Simulcast also uses the Network Sentry Alarm and Control computer system. The Network Sentry computer provides a powerful human interface for system operations and maintenance. The Windows[®] XP embedded platform uses colored icons to represent each item maintained in the system. Each icon is richly detailed in easy-to-access tabular displays containing configuration, status, event, and notes information. Hierarchical displays allow each site and its unique equipment to be observed and located quickly so that faults can be addressed promptly by the user. The modular, scalable design allows customer-specific equipment to be easily added and integrated into the system. P25^{IP} GPS Simulcast is a great tool to effectively manage a system.

Simplified Installation and Optimization

Optimization is greatly simplified for P25^{IP} GPS Simulcast. Alignment for each site and channel is controlled from the graphical user interface of the Network Sentry computer and is performed with a few simple commands to substantially reduce optimization time. Installation time is noticeably reduced by shrinking the system footprint at the control point and transmit sites via the innovative repackaging and integration of system components. The effect is lower maintenance costs due to greater operator control over system operation and less system hardware to support.

Five Levels of Fault Tolerance

Level	Failure Type	P25 ^{IP}
1	Working Channel	Failed channel is removed from service.
2	Control Channel	Failed channel is removed from service. New channel is automatically assigned as the control channel. Any available channel can serve as a control channel.
3	T1 Link	System automatically chooses an alternative route or reconfigures itself by isolating the remote site from the balance of the simulcast system. Isolated site continues to trunk (Bypass Operation).
4	GPS Receiver/Reference Oscillator	Second receiver or oscillator becomes effective.
5	GPS Signal Affected at the Transmit Site	Landline backup from the control point allows simulcast operation to continue.

General Specifications

Enclosures

83-inch cabinets
86-inch racks

Power

110/220 VAC @ 50/60 Hz
24/48 VDC

Frequency

800 MHz
VHF
UHF

Bandwidth

12.5 kHz

Intersite Links

1.544 Mbps (T1)
Max. No. of Channels per T1:
24
Max. No. of Sites: 18