



## Missouri State Highway Patrol Radio System Maintenance, Repair, and Upgrades



### Location:

State of Missouri



### Business Needs:

The MSHP needed a refresh to their existing P25 Public Safety Network.

## Customer Profile

The Missouri State Highway Patrol is comprised of nine Troops and over 1,300 troopers spread across the state's 33,000+ miles of highway roads. Utilizing a P25 voice network, the state has multiple antenna tower sites throughout the states 69,000+ square miles. The state needed a trusted systems integrator to update and maintain their infrastructure.

## Customer Challenge

The Missouri State Highway Patrol operates an Astro P25 voice network through the use of dozens of radio broadcast sites around the State. A subset of these sites, approximately 20, are interconnected via wireless data processing devices known as microwave backhaul radios and computer network switches. The MSHP needed multi-year support for the state-wide P25 network to support the convergence of multiple systems to include maintenance, repair, replacement, and software upgrades of the emergency communications network.

## CommDEX Solution

- Multi-year support for MSHP's digital emergency communications network.
  - Including maintenance, repair, replacement and software upgrades



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# Commdex Roles

Commdex provided maintenance repairs of previously installed microwave links that were under performing due to alignment issues; equipment replacement for microwave radios that showed critical alarms after heavy thunderstorm and tornado activity and provisioning of new sites via the installation of microwave links, MPLS hardware, and migration from T1 to wireless services. Commdex deployed technicians to diagnose failure or outages and repair them in a timely manner with spare equipment from inventory. These technicians are equipped with test equipment such as computer terminals. Frequency counters, power meters, spectrum analyzers, and digital multimeter to improve the resolution time frame. Commdex tower technicians have also performed system improvements performed to the antenna system that have reduced the need for service calls at those sites.



## Site Maintenance

Commdex employees periodically mobilize to sites to perform health checks on computer system software for network switching and wireless transmission. The work they perform includes:

- Annual auditing of wireless computing devices for system health
- Check for system faults
- Power cycle devices with coordinated outages
- Compare performance from on-board diagnostics to specification sheets
- On-site dispatch to correct faults found
- Configuration of wireless data processing devices
- Loading of software onto computer networking devices and testing
- Configuration of computer networking devices
- Troubleshooting and testing of faulty devices on-site and remotely
- Utilizing IT testing tools such as HyperTerminal, FTP, Wireshark, and Throughput testers to ensure performance to specifications

## Warranty Support

Commdex Consulting is also the warranty partner and subscription software services provider for Missouri State Highway Patrol for all computer switching devices (network switches) and wireless transmission devices. This includes:

- Supplying, installing, configuring software onto network switching and wireless devices
- Ensuring latest software versions are downloaded and installed into the network
- Performing continuity health checks

By providing these services, the network is guaranteed to always support the latest software releases from the manufacturer. Commdex coordinates delivery and download of these updates into the network on an annual basis. Commdex supplies a project manager to coordinate field efforts for the Highway Patrol as well. This allows the Missouri State Highway Patrol to concentrate on their mission while comfortably knowing their infrastructure is taken care of by a proven expert in this field.

The Missouri State Highway Patrol relies on Commdex field technicians to maintain and upgrade their critical microwave communications infrastructure. Our engineers, project managers, field crews have audited, delivered and executed repairs and continued to expand these network consistently meeting performance objectives. The highest system operational readiness of 99.999% has been maintained through the project life cycle. Throughout this project existing site and tower conditions as well as microwave transport systems have been evaluated, recommended maintenance has been presented and performed.

## About Commdex:

Commdex provides network solutions to telecommunications service providers and manufacturers for the deployment of telecom networks, facilities and supporting systems. Commdex specializes in designing and implementing mission critical voice and data networks over Wi-Fi, microwave, land mobile radio and other technologies. Commdex offers a broad, rich portfolio of proven telecom solutions. Its solutions, services and methodologies have been tested and proven in hundreds of customer environments. Its customer base ranges from state, local and federal customers, to large enterprises and equipment manufacturers.

## Connect With Us:



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