RADIO COMMUNICATIONS

Communications applications to integrate with your network requirements

P25

Project 25 (P25) is the North American radio communication standard developed primarily for use by public law enforcement and safety agencies.

Standardised under the (North American) Telecommunications Industry Association, the standards enable easy communication between public safety professionals with other agencies and response teams in emergency situations. It is still the mostly commonly used radio standard around the world today.

Any manufacturer can create a compatible P25 product and make it flexible and versatile to comply with P25 radio standards. There are two modes with the systems can operate in:

- **Conventional-** provides an infrastructure system that repeats radio calls from one frequency to another.
- **Trunked-** an inside controller provides intelligence to manage the call set up, subscribers roaming across the system, channel assignment, etc.

P25 can use rugged and high-powered portable 5 watt handsets which give a wide radio coverage making them ideal for emergency services, mine sites and other demanding applications or environments.

DMR

Developed by the European Telecommunications Standards Institute in 2005, DMR is a relatively new standard for digital radio systems created for professional mobile radio users.

DMR is an excellent replacement for ageing systems and is especially suited to large areas with relatively low traffic application, and where simulcast is ideal. A DMR system offers;

- Real time GPS tracking
- Bluetooth integration with a wide range of devices
- Two channels on one frequency
- The ability to send short text messages through a radio handset or via a computer
- Superior noise cancellation for noisy environments
- The ability to call specific groups of users - or individuals for private conversations

Analogue

Since the 1940s, Analogue radio has traditionally been the primary communication platform for most commercial and industrial uses. It's still a very reliable and straightforward method of communication, even in a digital age.

Analogue is low cost and offers a large selection of portable, in-vehicle and base station radio products and accessories, making it an attractive option where a simple, reliable radio network is required.

Mesh Networks

MST's wireless Breadcrumb units are installed on vehicles, mobile assets and fixed infrastructure like offices, crushers, and seven solar powered trailers. The units interface with vehicles' on-board data systems to continuously transmit information back to a Fleet Management System (FMS). The units act as a wireless bridge, connecting any authorised Wi-Fi device to form a mesh network, which also provides access to services like VoIP and video streaming.

The network continuously and instantaneously routes wireless and wired connections. A Breadcrumb node is simple to install and is self-configuring, allowing maintenance personnel to provide the first-line support and maintenance.

If there are a large number of vehicles, a mesh network ensures that data on the Breadcrumb network is just a hop or two to the nearest infrastructure node. Wherever the vehicles go, they form the mesh network, ensuring coverage is constantly maintained.

For more information, contact us by email on enquiries@mstglobal.com
or visit our website at www.mstglobal.com

MST

Transmitter Links

Transmitter Links utilising microwave technology is extensively used for point to point telecommunications such as along railway lines to transmit communications across long distances. Microwaves are suitable for this use since they are more easily focused into narrower beams than radio waves, allowing frequency reuse; their comparatively higher frequencies allow broad bandwidth and high data transmission rates. Antenna sizes are smaller than at lower frequencies because antenna size is inversely proportional to transmitted frequency.

MST provide fit for purpose transmitter link solutions to relay radio communications from mine site to mine site, along railway lines, between sub-networks and remote operations centres.

Console and Dispatch

MST can design and install complex, multi screen control consoles for remote operation centres or dispatch facilities.

Utilising IP-based technology, real-time data can be immediately delivered to anyone within a work site, regardless of their location. Using a Radio Interface Unit (RIU), the technology allows you to connect radio handsets and terminals with a range of other users:

- Mine workers and managers throughout a mine
- From operations control rooms
- From public utilities control room
- Head office to mine operators
- Field supervisors and workers
- From a haul pack driver to the excavator operator loading his vehicle

The RIU can connect to radios, PTT phone, mobile phone or company PBX and is extremely easy to configure.

GPS Tracking & Monitoring

Keeping track of vehicles and assets in remote areas can be difficult. It is not uncommon for personnel to be working alone in remote & hazardous terrain. Unfortunately there are risk of accidents and incidents involving vehicles and equipment leading to injury, damage, high maintenance costs and fatality.

GPS Tracking provides real-time information and mapping allowing you to easily locate and monitor your vehicles and assets at any given time. Know where your staff are in the case of an emergency and allow faster response times to emergency situations. Real-time tracking can also improve operation efficiency and reduce costs.

In conjunction with our partners, MST offers a number of GPS tracking solutions that can be customised to suit your needs.

Solutions are rugged in design and can include devices fitted with weatherproof casing to ensure protection within harsh environments, solar powered technology ensuring constant power to non-powered trailers or assets, and satellite or NextG compliant options for total coverage in remote areas.

Telephony & Accessories

Please call our friendly staff for any information on the following products:

- VHF, UHF & HF Radios
- Repeater & Area Wide Systems
- Telephone Systems
- Car Kits – including installations
- Satellite Phones
- GPS Vehicle Monitoring
- Fixed Cellular Terminals
- Aerials (UHF; VHF; Mobile)
- Accessories (Connectors; Cable; Bullbar Mounts; Patchleads; Batteries; Chargers; Din Mounts)

Nixon Communications carries a large range of **equipment for hire** for many different applications**.**

Off Road and Recreational Touring

- HF
- Satellite Phones
- UHF Handhelds and Mobiles
- GPS Vehicle Monitoring

Sporting Functions

- UHF Handhelds
- PA Systems
- Marquees

Contractors

- UHF Handhelds and Mobiles
- VHF Handhelds and Mobiles
- Commercial Satellite TV and Phone Systems
- Fixed Cellular Terminals (Mobile Phone Modem)

Boating

- VHF Handhelds
- Satellite Phones

Construction Radio Systems