Tough sensors for an insensitive planet

McQ Terrestrial Network (TNet)

Connecting Your Sensors to the World

McQ developed a terrestrial RF wireless network designed specifically for unattended ground sensor applications. This network relays the sensor information over terrain that precludes an RF line of sight path from the sensor to the user. TNet is a self-forming RF network that makes it easy for the user to quickly set up in the field. TNet is designed to maintain very low power consumption of the battery powered sensors and repeaters.

TNet Base Station

TNet Repeater

- Sensor Information Relay Easily Set Up in the Field
- Self Forming Network
- Automatic Recognition and Reporting of “Neighbor” Sensor or Repeater Units
- Guaranteed Delivery of Messages
- Low Power Consumption with Solar Recharging Options
- Long RF Link Distances with Multiple Repeater Architecture
- Very Fast Delivery of Target Alarms and Images
- Internet Protocol (IP) Network Connectivity
- Outdoor Rugged Environment and Rack Mount Units
- Cell LTE Modem

TNet DESIGN

McQ designed TNet to optimize sensor communications. Sensor target detections and images must be delivered to the user fast and very reliably. Sensors and communication units also need to receive command and control information from the user as well as message acknowledgement for guaranteed delivery. The TNet design ensures inbound target detections messages are delivered instantaneously through the Repeater chain and outbound messages are delivered in a timely manner. Because the Sensors and Repeaters are battery powered, low power consumption has been designed into the network. The Repeaters and Base Stations keep track of every component they can communicate with, “neighbors”, and route message traffic automatically to all units. The Base Station provides an IP connection to the User Interface. TNet is a very flexible and efficient sensor network solution.

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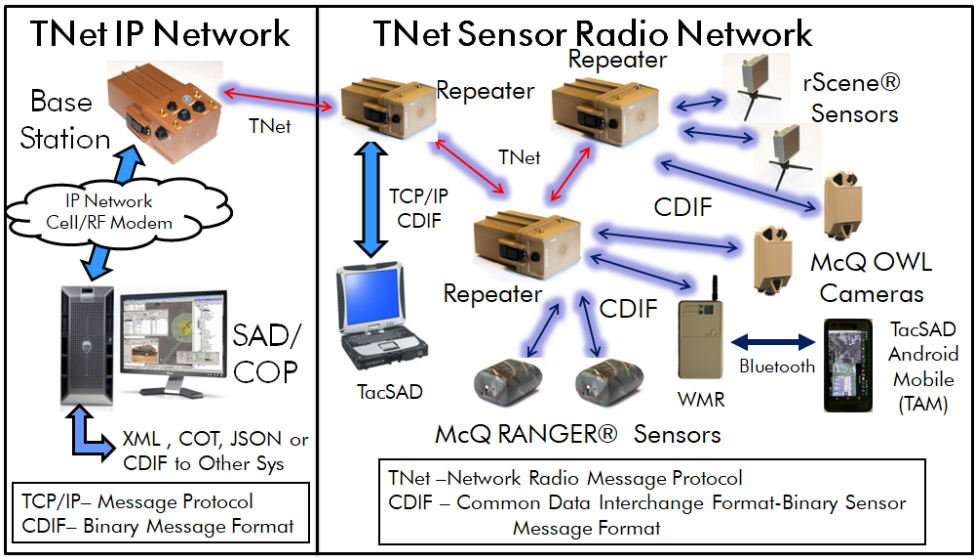
Specifications

TNet OPERATIONS

TNet allows a user to quickly set up the sensor network in the field. The user can select one of ten network channels for each sensor network. The Base Station unit can act as a Repeater or as a Base Station. The Repeater only relays sensor information to another Repeater or to the Base Station. The Base Station and one or more Repeaters communicate with the sensors to extend the sensor range. The TNet units recognize other units on the network channel, automatically route the message traffic to the Base Station, and manage the command and control messages so they are delivered to the intended recipient. The Base Station unit connects via Ethernet to any IP network for distribution to the map based sensor system user interfaces. The Cell LTE modem is built into the Base Station to provide IP connection to User interfaces.



Rugged Station Unit:

- Size: 8 x 6 x 3 ¾ inches (One BA Series Battery)
- Weight: 5 1/2 lb. Including One BA Series Battery
- RF Data Modem: UHF 900 MHz Spread Spectrum
- Channels: 10 Separate Channels
- Encryption Available
- Input/Output: Ethernet TCP/IP Serial Connector/Cell LTE Modem Built In
- External Power Connector, RS-232 Serial Connector, AC or Solar Panel
- GPS: Internal GPS Receiver and External Antenna
- Tamper: Selectable Tamper Report Configurations
- Operation: Configured Over the Network or Locally
- Built In Solar Power Charge Controller

Rugged Repeater Unit:

- Size: 8 x 6 x 3 ¾ inches (One BA Series Battery)
- Weight: 5 1/2 lb. Including One BA Series Battery
- RF Data Modem: UHF 900 MHz Spread Spectrum
- Channels: 10 Separate Channels
- Encryption Available
- External Power Connector, RS-232 Serial Connector, AC or Solar Panel
- GPS: Internal GPS Receiver and External Antenna
- Tamper: Selectable Tamper Report Configurations
- Operation: Configured Over the Network or Locally
- Built In Solar Power Charge Controller

Specifications may change due to product enhancements.

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