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SATRAD: Mobile Satellite Radio

DISPATCH SATELLITE RADIO

Choicecomm SATRAD allows work crews, drivers, search and rescue teams, firefighters, and others to stay in touch and get their jobs done virtually anywhere in North America.

Providing two-way group communications capability, SATRAD allows one user to talk to multiple users, or users can conduct private one to one conversations. The SATRAD service is a cost-effective alternative to installing, maintaining, and relocating land-based two-way radio communications systems.

The SATRAD network acts much the same as a radio tower, turning the entire continent into a single cell and transmitting signals to and receiving signals from subscribers on the ground.

SATRAD relies on establishing talk groups - sets of users who share a common radio channel. Each SATRAD MSAT terminal can support up to 15 talk groups. While users can belong to more than one talk group, each talk group can include as many as 10,000 members. When establishing talk groups, priority levels can be predetermined in order to define who will be permitted to listen and speak during each session.

Users also have the ability to dial-in to a talk group from the PSTN or dial-out from a talk group to the PSTN.

SATRAD BENEFITS

- **Priority 1 Interrupt** - During emergencies, a user can override other users within the same talk group. You can set a talk group to one of three different priority levels, which allows users to filter out conferences on low-priority talk groups unless that talk group is selected. High-priority talk group conferences are always heard no matter which talk group is selected.
- **Network Flexibility** – SATRAD MSAT Terminals can be interfaced with existing terrestrial fleet communications infrastructures.
- **Interoperability** – Talk groups can be configured to allow for interagency communications between local, regional, and national emergency response organizations.
- **Coverage Adaptability** – The footprint allows subscribers to expand or reduce dispatch radio coverage as their needs change.
- **Network Reliability** – Satellite networks perform during emergencies when land-based communications are not available.
- **Secure Communications** – the network employs the IMBE (Improved Multi-Band Excitation) voice codec approved by the Association of Public Safety Communications. Digital coding and scrambling prevents casual eavesdropping or monitoring of calls.



SATRAD MSAT-G2 FEATURES

Designed for use on the MSAT Network, the SATRAD MSAT-G2 supports North America-wide Push-to-Talk Dispatch Radio and Circuit Switched Voice communications. In addition, the MSAT-G2 provides GPS capability and flexible interconnectivity to a variety of 3rd party interoperability interfaces, extending the reach of traditional Mobile Radio technology. Options are available for Land mobile (NI-SR-MB), Land fixed (NI-SR-FX) and Maritime (NI-SR-MR).

Dual-Service Handset

- Continent-Wide Dispatch Radio (PTT) and Circuit Switched Voice service capability.
- GPS Display Feature
- Keypad & Display Backlight Control
- Headset Port

Radio Transceiver Unit

- Compact Form Factor
- Handset Port (RJ-45)
- Ethernet Port (RJ-45)
 - GPS Output
 - Software Upgrades
- DB9 Serial Port
 - GPS Output
 - Interconnectivity to 3rd Party Interfaces
- External Speaker Port
- Power Connector

L-Band Antenna

- Low profile Land Mobile 2-Axis Platform or;
- Maritime 3-Axis Platform
- 16 Channel GPS Receiver (inside L-band antenna)



SPECIFICATIONS

Communication Modes

- Dispatch Radio half-duplex digital
- Voice full-duplex digital

Frequencies

- Transmit = 1626.5-1660.5 MHz
- Receive = 1525.0-1559.0 MHz

Channel Spacing

- 6 KHz

Weight & Dimensions

- Transceiver Unit = 0.8 lbs, 6.5" x 1.1" x 5.6"
- Handset = 0.6 lbs, 2.9" x 1.4" x 6.8"
- 220 Antenna = 4.6 lbs, 9.8" x 3.9"
- 320 Antenna = 10.3 lbs, 11" x 11"

Operating Environment

- Antenna = -22°F(-30°C) to +109°F(+43°C)
- TU = -22°F(-30°C) to +131°F(+55°C)
- Humidity: 98% at 100.4°F (38°C)
- Dust: In Accordance with SAE J1455 section 4.7
- Rain: Antenna = Precipitation rate of 2"/hour

Power

- Primary Voltage = 12V DC Nominal

