MEOLUT-600

Search & Rescue Local User Terminal

The MEOLUT-600 is a Local User Terminal that processes 406 MHz distress beacon alerts over next-generation Medium Earth Orbit (MEO) satellites providing rapid notification to Search and Rescue Authorities worldwide. It is part of an integrated and comprehensive Search and Rescue (SAR) solution from Honeywell Global Tracking.

MEOLUT with mesh antenna

The MEOLUT-600 automatically monitors alerts from a growing constellation of MEO satellites and uses advanced signal processing to pinpoint the location of an alert signal in its coverage zone, even if the beacon is not equipped with an integrated Global Positioning System (GPS).

The system is fully configurable and exceeds COSPAS-SARSAT data analysis requirements, providing fast position confirmation in distress situations.

The MEOLUT-600 can be used in conjunction with alert data from geostationary (GEO) satellites providing unrivalled processing capabilities to optimize beacon location accuracy and drastically reduce critical SAR response times.

Honeywell Global Tracking is a global leader in the development of search and rescue technology, and has been a pioneer in the field for over 40 years.

DBF antenna

FEATURES AND BENEFITS

Reliability: The MEOLUT-600 offers exceptional uptime, accuracy and reliability for SAR operations worldwide

Fast New Medium-Earth Orbit Technology: MEOLUT-600 bridges existing geostationary and low-earth orbit infrastructure and can confirm the location of an emergency alert within seconds

Efficient: Provides fast position confirmation of alert beacon signals, especially in geographies where fewer satellites may be seen, leading to more efficient use of SAR resources

Flexible: Fully configurable, making it possible to precisely match the needs of customers

COSPAS-SARSAT Standards Compliant: Meets and exceeds the official COSPAS-SARSAT requirements

Capabilities: Supports ELT(DT) and RLS beacons; Supports First and Second Generation beacons

Seamless Integration: Ease-of-integration into existing SAR systems saves time and money

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MEOLUT-600 Technical Specifications

PHYSICAL

Width: Standard 19" (48.3 cm) rack enclosure

Height: 42U in standard configuration - custom configurations available

SATELLITE CONNECTIVITY

Satellite Type: Medium Earth Orbit (MEO) S and L Band

Satellite Frequency: 2226.5 and 1544.0 - 1545.0 MHz downlink signal

Satellite Constellation: Beidou, GPS, Galileo, Glonass

Alert Beacon Frequency: 406MHz

TERRESTRIAL CONNECTIVITY

Ethernet: 10/100/1000 Mb/s

Network: Able to share Time of Arrival/ Frequency of Arrival (TOA/FOA) measurement data with other MEOLUTs over network connections

Supports COSPAS-SARSAT XML and CSV recommended formats

Can share data in real-time and/or using a node-forwarding mechanism

Data Communication to Mission Control Centre (MCC): Located and unlocated incident solution data, status data, including alarms and warning messages

SERVERS

Number of Servers: Front End Processors, redundant Signal Processors, redundant Location Processors and one Interference Processor

Operating System: Windows Server

Processor(s): Intel Xeon-Gold 5218

RAM: 16GB, 32GB and 64GB configurations

Storage: RAID redundancy – processor based on server application

SIGNAL PROCESSING

Beacon Signal Decoding: 406MHz beacon signal detection, signal demodulation, message validation, message archiving

Data Stream Decoding: Bit synchronization, frame synchronization, message extraction, message formatting

406MHz Data Validation: Time, frequency, beacon message

Data Analysis: Spectrum analysis, signal enhancement

Orbit & Pass Scheduling: Automatically updates satellite orbit data after every pass, orbit updates are provided by a GNSS receiver

Status Monitor & Display: Data collection status, data collection environment, system status, snapshot status, environmental data trends

SYSTEM MONITORING

Environmental: Rack and room temperature

Security: Rack door open sensors (front and back)

Power: Rack power supply sensor

ANTENNA CONFIGURATION

OPTION 1: S&L Tracking Antenna

  Type: Mesh - Radome Encapsulated

  Size: 2.3m (7.5 ft) diameter

  Beamwidth: 7.9° degrees

  Environmental: Withstand winds up to 250 km/h (155mph)

  Control Unit and Motor Drive: Integrated within the Radome providing exceptional security and protection from adverse environmental conditions

  Antenna Control Software: Antenna device control, positioning the antenna, tracking a satellite pass, antenna diagnostics

  Low Noise Amplifier/Down Converter (LNA/DC): Converts raw satellite downlink signal to 4.5MHz Intermediate Frequency, out-of-band noise filtering

  Can transmit a received satellite signal with no loss in signal performance over long distances

  Data Collection: Data input control, phase unwrap and demodulation, spectrum analysis

OPTION 2: L-Band Phased Array

  Type: DBF (Refer to MEOSAR DBF Datasheet)

COMPLIANCE

COSPAS-SARSAT: Meets all current COSPAS-SARSAT requirements

For more information

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THE FUTURE IS WHAT WE MAKE IT

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