MEOLUT-600 from Honeywell Global Tracking is a local user terminal that processes 406 MHz distress beacon alerts over next-generation Medium Earth Orbit (MEO) satellites and provides rapid notification to SAR authorities worldwide. The MEOLUT-600 is part of an integrated and comprehensive search and rescue (SAR) solution from Honeywell Global Tracking.

The MEOLUT-600 automatically monitors alerts coming from a growing constellation of MEO satellites orbiting the earth (70 planned to be installed by 2017). Using advanced signal processing the MEOLUT-600 can pinpoint the location of an alert signal in its coverage zone, even if the beacon is not equipped with Global Positioning System (GPS).

The MEOLUT 600 is fully configurable and exceeds COSPAS-SARSAT data analysis requirements, providing fast ambiguity resolution in distress situations.

The MEOLUT-600 is used in conjunction with data from geostationary (GEO) satellites. This multi-mode GEO-MEO system provides unrivalled processing capabilities to optimize beacon location accuracy and drastically reduce 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 30 years.

Features

- **Reliability:** The MEOLUT-600 offers exceptional uptimes, 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 ambiguity resolution 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
- **Standards compliant:** Meets and exceeds COSPAS-SARSAT requirements
- **Seamless integration:** Ease-of-integration into existing SAR systems saves time and money
# 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)
- **Satellite Frequency**: 1544.5 MHz downlink signal
- **Alert Beacon Frequency**: 406 MHz

## Terrestrial Connectivity
- **Ethernet**: 10/100/1000 Mb/s
- **Network**: Able to share 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 alarm and warning messages
- **Data Communication from MCC**: Orbit data

## Servers
- **Number of Servers**: Scalable: One for data collection per antenna, one for signal processing per four antennas, one for beacon localization
- **Operating Systems**: Windows Server 2008
- **Processor(s)**: 2 x Intel Quad-Core Xeon
- **RAM**: 4 GB in standard configuration; system supports up to 192 GB

## Signal Processing
- **Low Noise Amplifier/Down Converter (LNA/DC)**: Converts raw satellite downlink signal to 4.5 MHz intermediate frequency, out-of-band noise filtering
  - Can transmit a received satellite signal with no loss in RF performance over long distances
- **Data Collection**: Data input control, phase unwrap and demodulation, spectrum analysis
- **Beacon Signal Decoding**: 406 MHz beacon signal detection, signal demodulation, message validation, message archiving
- **Data Stream Decoding**: Bit synchronization, frame synchronization, message extraction, message formatting
- **406 MHz Data Validation**: Time, frequency, beacon message
- **Data Analysis**: Spectrum analysis, signal enhancement
- **Orbit & Pass Scheduling**: Automatically updates satellite orbit data after every satellite 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 temperature; room temperature will be available in a future release
- **Security**: Rack door open sensors (front and back)
- **Power**: Rack power supply sensor

## Antenna
- **Type**: Mesh radome
- **Size**: 2.3m (7.5 ft) diameter
- **Beamwidth**: 7.9° degrees
- **Environmental**: Can withstand winds of up to 200 km/h (124 m/h)
- **Control Unit and Motor Drive**: Yes
- **Antenna Control Software**: Antenna device control, positioning the antenna, tracking a satellite pass, antenna diagnostics

## Certification
- **COSPAS-SARSAT**: Meets all current COSPAS-SARSAT requirements

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For more information:
[www.gt.honeywell.com](http://www.gt.honeywell.com)

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