

GEOLUT-600

Search & Rescue Local User Terminal

GEOLUT-600 from Honeywell Global Tracking is a local user terminal (LUT) that processes 406 MHz distress beacon alerts over geostationary satellites, and provides rapid notification to SAR authorities worldwide. The GEOLUT-600 is part of an integrated and comprehensive search and rescue (SAR) solution from Honeywell Global Tracking.



Advanced signal processing technology and custom designed software allow the GEOLUT-600 to offer 24-hour automatic monitoring and reporting of distress alerts over large territories. The GEOLUT 600 is fully configurable and exceeds COSPAS-SARSAT data analysis requirements, providing fast position confirmation in emergency situations.

The GEOLUT-600 can be used in conjunction with data from low earth-orbit (LEO) satellites in a dual mode LEO-GEO system that provides unrivalled processing capabilities and reduces SAR response times.

The GEOLUT-600 makes it possible for SAR operators to quickly collect key information about beacons. This initial process can often identify false alarms prior to the retrieval of precise beacon location data from the LEOSAR system, and ensures that SAR resources will only be used for actual emergencies.

A new motorized antenna system with an aluminium reflector and a controller is able to utilize the AGC feedback from the RF subsystems and actively stay in beam, maximizing the signal reception from all GEOSAR satellites even when they are in an elliptical orbit. The controller also can be programmed to switch from one satellite to another at the click of a button or using the remote web interface. Customised RF solutions available for optimal tracking of all GEOSAR satellites (GOES/Electro/MSG/Louch).

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.

FEATURES AND BENEFITS



Reliability: The GEOLUT-600 offers exceptional uptimes, accuracy and reliability, and has been at the heart of worldwide SAR operations for decades



Fast Detection: GEOLUT-600 systems detect emergency alerts within seconds in each coverage area, making it possible to start SAR efforts immediately



Advanced Signal Processing: Using noise-reducing signal processing, GEOLUT systems can minimize alert errors, 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

GEOLUT-600 Technical Specifications

PHYSICAL

Width: Standard 19" (48.3 cm) rack enclosure

Height: 22U in standard configuration. Custom configurations available.

SATELLITE CONNECTIVITY

Satellite Type: Geostationary

Satellite Frequency: 1544.5 MHz downlink signal

Alert Beacon Frequency: 406 MHz

TERRESTRIAL CONNECTIVITY

Ethernet: 10/100/1000 Mb/s

Data Communication to Mission Control Centre (MCC): Beacon alerts, status data, including alarm and warning messages, calibration data

Data Communication from MCC: Orbit data, calibration data, operator commands

SERVERS

Number of Servers: 2 per system. One for data collection and one for signal processing and alert generation

Operating Systems: Windows Server

Processor(s): Intel Xeon-Gold 5218

RAM: 32 GB in standard configuration. System supports up to 192 GB.

SIGNAL PROCESSING

Block Down Converter: Convert raw satellite downlink signal to 4.5 MHz intermediate frequency, out-of-band noise filtering

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

Decoding: 406 MHz beacon signal detection, signal demodulation and decoding, message integration and validation, message archiving

Data Analysis: Spectrum analysis, signal enhancement

Spectrum Data Display: Spectrum plots (power vs frequency at a given time), spectrogram plots (time vs frequency, with amplitude shown as grey-scale density), dot plots (real time and playback)

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

SYSTEM MONITORING

Environmental: Rack temperature, room temperature

Security: Rack door open sensors (front and back)

ANTENNA

Type: Fixed

Size: Standard antenna: 3.8 m (12.5 ft) diameter. A 5 m (16.4 ft) antenna is also available.

Beamwidth: 1.4° degrees (Standard antenna), 1.1° degrees (5 m antenna)

Environmental: Can withstand winds of up to 300 km/h (186 mph)

Control Unit and Motor Drive: Yes (optional)

COMPLIANCE

COSPAS-SARSAT: Meets all current COSPAS-SARSAT requirements

For more information

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