GC-27 Ground CDL
High Data Rate Antenna Solutions for Mobile Communications

GC-27 is a high data rate, man-portable Tactical Common Data Link (TCDL) terminal featuring the Honeywell AC-27 Directional Antenna and the L-3 Mini-CDL 200 transceiver. This multi-function common datalink antenna system is designed to support high bandwidth military tactical video, voice and data by enabling real-time communication with an airborne data terminal while being deployed in a variety of battle situations.

GC-27 Key Advantages:
• Capable of symmetric data rates up to 45 Mbps
• Supports HD video, data and voice
• CDL Specification Annex B Compliant
• Supports Type 1, Triple-DES, and AES encryption
• L-3 Mini CDL 200 transceiver provides digital modern, RF electronics, encryption, video compression and networking in one enclosed unit
• High-gain directional antenna provides long range communications using an elevation over azimuth pedestal with absolute encoders for position sensing
• Omnidirectional antenna provides close range communications and acquisition
• Differential GPS system provides accurate location and heading information without lengthy setup time
• Integrated RF switch for switching between the directional and omnidirectional antennas
• Integrated power supply filtering allows for unfiltered 10-36 Vdc input
• Integrated rugged transit case and Radome to protect the directional antenna and other electronics
• Quick deploy adjustable tripod supports the entire system on uneven terrain

The Honeywell GC-27 directional antenna

Soldier Networks – Honeywell provides connectivity in theaters of operation

Honeywell High Rate Antennas provide the warfighter connectivity at the operational level
**GC-27 Ground CDL Antenna System Specifications**

### System Performance Characteristics

**RF**
- Integrated EMS AC-27 Directional Antenna and L-3 Omnidirectional Antenna
- Ku-band frequency ranges
  - Uplink 15.15-15.35 GHz
  - Downlink 14.40-14.83 GHz
- Integrated Mini CDL 200 Transceiver

**Data Rates and Waveforms**
- CDL Rev F Annex B
  - 200 kbps, 400 kbps and 2.0 Mbps spread & unspread
  - 10.71 Mbps Waveforms A and B
  - 21.42 Mbps and 44.73 Mbps
- Tactical
  - 1.6, 3.2 and 6.4 Mbps

**Range at 45 Mbps**
- Greater than 100 nmi with Directional Antenna

**Sensor Interface Options**
- RS-170 NTSC
- MPEG-2 and H.264 compression

**Encryption**
- AES and Type 1 encryption available

### System Physical Characteristics

<table>
<thead>
<tr>
<th>GC-27 Core – Including Transit Cover</th>
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<tbody>
<tr>
<td><strong>Size</strong></td>
<td>Approx. 19” x 21” x 22”</td>
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<tr>
<td><strong>Weight</strong></td>
<td>Approx. 50 lbs.</td>
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<tr>
<td><strong>Power</strong></td>
<td>200 watts max, &lt; 6.5 amp, 10-36 Vdc</td>
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<tr>
<th>Tripod – Including Transit Equipment</th>
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**Environmental**
- Humidity: 0-100% condensing
- Vibration: MIL-STD-810G
- Shock: MIL-STD-810G
- Temperature: -40 to +55°C (forced convection)
- Sand and Dust: MIL-STD-810G Method 510.5, Procedure I & II
- Salt Fog: MIL-STD-810G Method 509.5
- Rain: MIL-STD-810G Method 506.5, Procedure I
- EMI: MIL-STD-461F

### Antenna Performance Characteristics

**Directional Antenna**
- Antenna gain: >27 dBi
- Beam width: Azimuth >4.0°, Elevation >4.0°
- Polarization: RHCP
- Dynamic tracking accuracy radial: ±0.734 deg. Beam
- Maximum position error: 0.25 deg
- Azimuth axis travel: 360° Continuous
- Elevation axis travel: -30° to +90°

**Omnidirectional Antenna**
- Antenna gain: 3 dBi

### GC-27 External Dimensions (in)

![GC-27 Dimensions Diagram]