

Data Sheet

# VIAVI

Specifications for the

## ALT-8000

FMCW/Pulse Radio Altimeter Test Set

### General

| User Interface                |   |
|-------------------------------|---|
| Display                       | 12" color LCD, sun light readable with back light               |
| Controls                      | Touch-screen  |
| Antenna Couplers              | TX and RX   |
| Coupler Loss Compensation     | 0 to 19.9 dB  |
| TX/RX Direct Connection Ports |   |
| Impedance                     | 50 $\Omega$   |
| SWR                           | TX 2.5:1<br>RX 3:1  |
| Connector                     | TNC x 2 (single TX/RX channel)                                  |
| Receiver                      |   |
| RF Input Frequency            | Range: 4.20 to 4.40 GHz (ITAR Limited)                          |
| FMCW/CDF FMCW                 |   |
| Frequency Measurement         | Range: 4.20 to 4.40 GHz (ITAR Limited)<br>Accuracy: $\pm 5$ MHz |

| RF TX Power Input Tracking | Range: 10 mW (+10 dBm) to 2 W (+33 dBm)                              |
|----------------------------|--|
| RF TX Power Measurement    | Range: 4 mW (+6 dBm) to 2 W (+33 dBm)<br>Accuracy: $\pm 2$ dB        |
| FM Sweep Rate Measurement  | Range: 50 to 400 Hz<br>Accuracy: $\pm 5$ Hz                          |
| FM Deviation               | Range: 20 to 100 MHz   |
| Pulse                      |  |
| Frequency Measurement      | Range: 4.20 to 4.40 GHz (ITAR Limited)<br>Accuracy: $\pm 10$ MHz     |
| Power Measurement          | Range: 1 W (+30 dBm) to 300 W (+54 dBm) peak<br>Accuracy: $\pm 2$ dB |
| TX Pulse Width Measurement | Range: 20 ns to 400 ns<br>Accuracy: $\pm 10$ ns                      |
| TX Pulse PRF Measurement   | Range: 0 to 30 KHz<br>Accuracy: $\pm 5\%$                            |

| Generator                  |  |
|----------------------------|--|
| FMCW                       |  |
| Linear Altitude Simulation | Range: -20 to 5500 ft<br>Resolution: 1 ft. increments<br>Accuracy: (-20 to 5500 ft) $\pm 1.5$ ft or 2% RMS, (whichever is greater) |

| Pulse                      |   |
|----------------------------|---|
| Linear Altitude Simulation | Range: -20 to 5500 ft*<br>Resolution: 1 ft increments<br>Accuracy: $\pm 1.5$ ft or 2% RMS, (whichever is greater) |

\* Note: lower altitude limit determined by connecting RF coax cable length



| Generator (continued)                      |   |
|--|---|
| <b>Linear Altitude Rate</b>                | Range: 1 to 10,000 fpm                                  |
|  | Resolution: 1 ft. increments                            |
| <b>Test Cable (automatic compensation)</b> | Test Cable Length: 1 to 100 ft                          |
|  | Test Cable Loss: 0 to 9.9 dB                            |
| <b>AID (direct connect)</b>                | Fixed Selectable: 0, 20, 40, 57 or 80 ft                |
|  | User Entered: 0 to 99 ft                                |
| <b>Altitude Offset</b>                     | -25 to 100 ft   |
| RF Level                                   |   |
| Manual Mode (FM/CW)                        | Range: -84 to +9 dBm<br>(varies with cable loss)        |
|  | Accuracy: ±4 dB   |
| Manual Mode (Pulse)                        | Range: -76 to +17 dBm                                   |
|  | Accuracy: ±4 dB   |
| Auto Mode                                  | TX Power – Height Path Loss-<br>Scattering Loss- Offset |
| RF Level Offset (auto)                     | -20 to +20 dB   |
| <b>RF Path Loss Simulation</b>             | 0 to 5,500 ft   |
| <b>Frequency Stability</b>                 | ±1 ppm  |

## Environmental

|                         |                                   |
|-------------------------|-----------------------------------|
| Operational Temperature | -20° to 55°C<br>(-4° to 131°F)    |
| Storage Temperature     | -51° to 71°C<br>(-22° to 159.8°F) |
| Altitude                | ≤4,600 meters                     |

## Physical Characteristics

|            |                                   |   |
|------------|-----------------------------------|---|
| Dimensions | Test set only                     | 10.6 x 13.9x 3.4 in<br>(H x W x D) (27.0 x 35.5 x 8.7 cm) |
|            | w/ standard accessories           | 12 x 30.5x 22.5 in<br>(30.5 x 77.5 x 57.2 cm)             |
| Weight     | 15.5 lbs (7.03 kg) test set only  |   |
|            | 62 lbs (28.12 kg) shipping weight |   |

## Certifications

| Test Set                 |  |
|--------------------------|--|
| Operational Humidity     | MIL-PRF-28800F, Class 2  |
| Storage Humidity         | MIL-PRF-28800F, Class 2  |
| Vibration Limits         | MIL-PRF-28800F, Class 2  |
| Shock, Functional        | MIL-PRF-28800F, Class 2  |
| Transit Drop             | MIL-PRF-28800F, Class 2  |
| Drip Proof               | MIL-PRF-28800F, Class 2  |
| Dust                     | MIL-PRF-28800F, Class 2  |
| Salt                     | MIL-PRF-28800F, Class 2  |
| Explosive Atmosphere     | MIL-STD-810F, Method 511.4,<br>Procedure 1                           |
| Safety Compliance        | UL-61010:2001  |
|                          | CSA 22.2 No 1010.1   |
| WEEE                     |  |
| RoHS                     |  |
| EMC                      |  |
| Emissions                | MIL-PRF28800F Class 2  |
|                          | EN 61326:1998 Class A  |
|                          | EN 61000-3-2   |
|                          | EN 61000-3-3   |
| Immunity                 | MIL-PRF28800F Class 2  |
|                          | EN 61326:1998 Class A  |
| External AC-DC Converter |  |
| Safety Compliance        | UL 1950 DS   |
|                          | CSA 22.2 No. 234   |
|                          | VDE EN 60 950  |
| EMI/RFI Compliance       | FCC Docket 20780 Curve "B"<br>EMC EN 61326                           |
| Transit Case             |  |
| Drop Test                | FED-STD-101C Method 5007.1<br>Paragraph 6.3, Procedure A,<br>Level A |
| Falling Dart Impact      | ATA 300 Category I   |
| Vibration, Loose Cargo   | FED-STD-101C Method 5019   |
| Vibration, Sweep         | ATA 300 Category I   |
| Simulated Rainfall       | MIL-STD-810F Method 506.4,<br>Procedure II of 4.1.2                  |
|                          | FED-STD-101C Method 5009.1<br>Sec 6.7.1                              |
|                          | MIL-STD-810F Method 512.4  |
| Immersion                | MIL-STD-810F Method 512.4  |



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