



PSUB-45

The PSUB-45 is a state-of-the-art, multi-band satellite communication terminal engineered to meet the rigorous demands of modern subsurface operations, particularly for Autonomous Underwater Vehicles (AUVs) and submarines.

As a pivotal member of military naval SATCOM systems, this 0.45-meter terminal provides a critical, secure, and long-range communication link between submerged platforms—such as AUVs on covert or data-gathering missions—and the command centre ground station. It enables real-time data transmission, command relay, and situational awareness, even in the most remote maritime environments.

At its core, the terminal incorporates the most advanced and extensively tested two-axis stabilized antenna system. This ensures a stable and continuous satellite link despite the dynamic motion of the sea, allowing the AUV or submarine to maintain reliable, secure, and trustful communications.

Key Features

- Available in X, Ku and Ka Band
- Automatic pointing with or without GPS
- Web interface for integrated control
- Compliant with military standards
- Compatible with various satellite modems
- Supports integration of encryption devices
- Continuous overhead satellite tracking
- 3-Axes for stability, 4-Axes for tracking



GENERAL SPECIFICATIONS

| | |
|------------------------|---|
| Reflector Diameter | 0.45m |
| Stabilization Platform | 3-Axes for stability, 4-axes for tracking |
| Antenna Form | Circle against symmetrical reflector and cap feed |
| Antenna Material | Carbon-fiber |
| Power Input | DC18-32V |
| Power Consumption | ≤250W |

RF CHARACTERISTICS

| | | X-Band | Ku-Band | Ka-Band |
|----------------------------|----|-----------------------------|---------------------|--------------------|
| Frequency (GHz) | Tx | 7.9 - 8.4 | 12.75 - 13.75 | 29.0- 30.00 |
| | Rx | 7.25 - 7.75 | 10.70 - 11.70 | 18.7 - 20.20 |
| Antenna Gain (dBi) | Tx | 29.8+20lg(f/8.15) | 34.5+20lg(f/14.0) | 41.20+20lg(f/29.4) |
| | Rx | 29.1 +20lg(f/7.5) | 33.4+20lg(f/12.25) | 37.4+20lg(f/19.6) |
| Polarization Form | | LHCP/RHCP | Horizontal/Vertical | LHCP/RHCP |
| Antenna Pattern Compliancy | | ITU-RS-580 and ITU-RS-465-6 | | |
| G/T (dB/K) | | 1 | 8.2 | 12.0 |
| EIRP (dBw) | | 35.8 (10W BUC) | 45.5 (16W BUC)) | 50.0 (10W BUC) |
| Cross Polarization (dB) | | - | 30 (Axis) | |
| Axial Ratio (dB) | | 1.5 | | 1.5 |
| Pointing Accuracy | | ≤0.2° (R.M.S) | | |
| Initial Acquisition Time | | ≤2min | | |
| Blockage Recovery Time | | ≤5s (Cover for 5min) | | |

MECHANICAL / POWER SPECIFICATIONS

| | Azimuth | Elevation | Pol | Roll |
|--------------------|---------------------------|-----------|------------------------|--------|
| Motion Range | 360° continuous | -5°- 95° | ±110° (Ku), 90° (Ka/X) | ±20° |
| Antenna Revolution | 100°/S | 100°/S | | 100°/S |
| Weight | ≤7.8Kg (excluding Radome) | | | |

ENVIRONMENTAL SPECIFICATION

| | |
|-----------------------|-------------|
| Operation Temperature | -40 ~ +55°C |
| Survival Temperature | -55 ~ +70°C |
| Vibrations | MIL-STD-167 |
| Pressure | >60 bars |

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