



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 Accurasy		≤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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