



## Popoto M2000

### Product Overview:

The Popoto M2000 is an advanced underwater acoustic modem which delivers superb performance, unique features, and flexible interfacing, allowing for use in nearly any application. Featuring a machined aluminum casing which can withstand depths of up to 2000 meters and a transmitter capable of transmitting at up to 100W, the M2000 is both versatile and robust.

### Features:

- Multiple modulation schemes from 80 BPS to 10240 BPS
- Python API for on-board user programming
- MATLAB API for data analysis
- Acoustic ranging (Accurate to <0.3m)
- High-capacity data logging (SD card or optional SATA drive)
- Baseband and passband waveform playback and recording
- JANUS (NATO ANEP-87) compliant version available
- Single Sideband Analog Voice



**\$7250 USD\***

\*includes 77wh Li-Ion battery, charger, and 1m lab cable





<b>Data Transfer</b>	
Data Rates	80 bps with Frequency Hopping FSK 10240, 5120, 2560, 1280, 640 bps with PSK
Storage	Up to 128 GB on uSD Expandable with optional SATA Drive
Range	1-8 km depending on conditions and modulation scheme selected.
Frequencies	22-35 KHz selectable 10-14KHz available (changes export classification)
Transducer Type	20-30 KHz Omnidirectional
<b>Voice Communications</b>	
Voice Features Included	Single Sideband Voice Adaptive Squelch and Vox Noise Cancellation
<b>Power</b>	
Operating Voltage Range	8.5-36V
Power Draw	GPIO Enabled Sleep: < 10uW Acoustic Wake Up Deep Sleep: <45 mW Acoustic Wake Up Sleep: 150 mW Active Receive: 1.5 W
Transmit Power	100 W
Battery	1 to 4 x 77Wh 22.2V Li-Ion
<b>Interface</b>	
Data Connections	Ethernet, RS-422, RS-232
External Interface Connections	SPI Bus, I2C Bus, GPIO, Analog
APIs	Python, C++, MATLAB, JSON
Linux Operating System	ARM9 Running Linux available for user applications
<b>Hardware</b>	
Size	430mm x 100mm x 100mm
Weight	Dry: 3.6 to 4.5Kg In Sea Water: 0.5 to 1.4Kg
Depth Rating	2000m
Export Classifications	5A991 Controlled for anti-terrorism only

