



## Multiband Manpack

*The WAVpac is part of Linkabit's next generation family of high performance tactical radios. Designed to provide reliable high quality voice and data communications over the full 1.6 to 108 MHz frequency band, the WAVpac is a true multiband radio system.*

In addition to its extensive HF capabilities, the radio's extended frequency range allows replacement of dual HF and VHF radio systems with a single radio. The WAVpac is a software defined radio featuring a DSP-based design and incorporating key features that include advanced data waveforms, digital voice, ALE, GPS, ECCM and encryption.

The WAVpac is available as a 20W manpack, or as the core of 150W vehicular or base station system. Engineered for reliable operation in extremely harsh situations, the WAVpac is a rugged, completely immersible unit that meets the demanding environmental specifications of MIL-STD-810F.

Using its embedded GPS receiver, accurate position location and time-of-day capability is a standard feature of the WAVpac. Automatic Link Establishment (ALE) compliant to MIL-STD-188-141B is also standard and provides automatic "best channel" selection.

Multiple data waveforms, including MIL-STD-188-110B serial tone and Appendix C (QAM) and STANAG 4415, allow high-speed and robust data transfer. Wideband FSK is available to provide 16 kbps data transfer in the VHF frequency band.



Digital Voice is possible through the implementation of a multi-rate STANAG 4591 (MELPe) vocoder and 16 kbps CVSD. Frequency hopping and AES encryption options offer a high level of jamming resistance and transmission security for both digital voice and data communications.

In order to host the most desirable waveforms available today and ensure ease of future upgrades, the WAVpac is a DSP based software defined radio. In addition, the WAVpac design also incorporates a state of the art Wide-band Digital Front End for future expandability and maximum flexibility. The WAVpac design translates to higher performance, lower weight, longer battery life and smaller size, allowing for extended operations with enhanced capabilities.



- **COMPLETE 1.6 TO 108 MHZ COVERAGE**
- **20 WATTS, WITH EMBEDDED AUTOMATIC ANTENNA TUNER -1.6 TO 108 MHZ**
- **SMALLEST & LIGHTEST MULTIBAND MANPACK AVAILABLE**
- **SOFTWARE DEFINED DSP-BASED**
- **HF ECCM**
- **VHF ECCM (OPTIONAL)**
- **DIGITAL ENCRYPTION (AES)**
- **HIGH SPEED DATA WAVEFORMS**
  - HF: 75 TO 9600 BPS (110B)
  - HF ECCM - 20 HPS
  - VHF: 16 KBPS
  - VHF ECCM - 300 HPS (OPTIONAL)
- **DIGITAL VOICE (HF MELPe, VHF CVSD)**
- **REMOTE CONTROL - FULL FUNCTION**
- **RUGGED AND WATERPROOF - DESIGNED FOR MIL-STD-810F**



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## WAVpac SPECIFICATIONS

General Specifications	
Frequency Range	1.6 to 107.99999 MHz
Resolution	10 Hz
Net Presets	101, programmable
Frequency Stability	1 ppm
Modes of Operation	J3E (USB, LSB, suppressed carrier telephony); H3E (compatible AM - SSB plus full carrier); A1A (CW); J2A (SSB compatible CW); A3E (AM); F3E (FM); J1D (serial tone data); F2D (FSK data)
Power Input	26 VDC; operational range of 20 to 32 VDC
Battery Types	Standard: BA-5590/U, BB-590/U, BB-490/U, BB-390/U, BB-2590
Data Interface	RS-232, MIL-STD-188-114A (synchronous, asynchronous) Ethernet
Transmitter	
Power Output	1/5/20 watts, selectable (1.6 – 107.99999 MHz)
Carrier Suppression	Better than -60 dB referenced to PEP (J3E)
Undesired Sideband	Better than -60 dB referenced to PEP
Harmonics	-46 dB, referenced to PEP
Spurious	-50 dB, referenced to PEP
Audio Levels	1.5 mV at 150 ohms, or 0 dBm at 600 ohms for rated output
Receiver	
Sensitivity	0.5 uV for 10 dB SINAD (SSB, AME – 3 kHz, CW – 350 Hz); 3.0 uV (AM – 6 kHz); 0.4 uV (FM – 22 kHz)
Image, IF Rejection	better than -80 dB
Squelch	Digital, front panel selectable
Audio Output	Adjustable from –30 dBm to 0.0 dBm for a 1000 ohm load
Antenna Tuner	
Type	Internal, automatic
Antennas	Whips, long wires, dipoles, & NVIS (HF); AT-271A/U 10 ft whip (1.6 to 40 MHz); AT-892/U 1 meter tape (30 – 107.99999 MHz)
Memory Channels	101
Mechanical	
Size	3.2 in. x 11.1 in. x 10.1 in. (H x W x D), includes battery
Weight	12.75 lbs., includes BA-5590/U battery
Color	OD, CARC Green 383 per FED-STD-595
Environmental	
Temperature	-40° to +70°C (Operating)
Vibration	Ground Mobile/Loose Cargo
Immersion	Waterproof (1m for 30 Minutes)
Test Methods	MIL-STD-810F
Features	
Data	HF: MIL-STD-188-110B serial tone (to 2400 bps), Appendix C, QAM (to 9600 bps) STANAG 4415 (robust 75 bps) VHF: WB FSK ( 8, 16 kbps)
Digital Voice	HF: MELPe (600, 1200, 2400 bps) VHF: CVSD (16 kbps)
ALE	MIL-STD-188-141B, Appendix A
Frequency Hopping	Serial tone ECCM (HF 20 HPS, VHF 300 HPS - Optional)
Encryption	AES, voice and data, (key length of 128, 192, or 256 bits)
GPS	Internal GPS receiver (with external GPS antenna)

Note: all specifications subject to change without notice

Cleared by DoD/OSR for public release under  
OSR Case Number 07-S-2962 on November 29, 2007.



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