

SWAVE HH-E



Defence Communications Systems

SWAVE HH-E HANDHELD SECURE WIDEBAND SOLDIER RADIO



SWave Enhanced Handheld (HH-E) is the new frontier of soldier radios, providing the smallest reconfigurable radio based to the market. Its dimensions, light weight, power and versatility are all offered in an affordable device.

SWave HH-E is a body-worn radio for soldier and commander use at either Platoon or Section level. It offers simultaneous voice and data communications at the tactical edge of the battlefield network. The unit provides a single-channel reconfigurable radio delivering wideband secure voice/data services for current and future tactical communication needs.

Compliant with the US JTNC (former JTRS) Software Communications Architecture (SCA), SWave HH-E supports both legacy and new waveforms, thus providing interoperability with fielded radios and new generation C4ISR systems. It operates in the 30MHz to 512MHz frequency range with 5W peak RF output power.

Radio performance is best-in-breed and comply with state-of-the-art wideband networking WFs as the SelfNET® Soldier.

KEY BENEFITS

- Support of NB and WB Mobile Ad-hoc Network (MANET) waveforms
- Embedded security capability with fully programmable COMSEC and TRANSEC
- Seamless interoperability with legacy analog radios
- JTNC SCA/ESSOR SDR platform architecture
- Supports multiple mission plans
- Position Location Information (PLI) enables situational awareness and blue force tracking
- Small, ruggedized, lightweight chassis
- Embedded C2 applications
- Built-in speaker/microphone
- Portable and vehicle mounting flexibility

SWAVE HH-E



COMSEC protection is provided via an AES-256 crypto engine by dedicated cryptographic circuit. Continuous transmission of Position Location Information (PLI) enables situational awareness and blue force tracking. A built-in full IP stack allows seamless integration with external networks and IP-based applications.

Swave HH-E Hand-Held radio is the ancestor of a family of empowered hand-held products focused on achieving enhanced interoperability with manifold radios, waveforms, crypto modes/fill devices. Target interoperability waveforms are EZ-PRR Waveform, enhanced wideband MANET Waveform and NB-AW MANET waveforms.

An easy-to-use user interface, with backlit graphic display and keypad, provides full control for both operational and system administration duties. Ethernet or USB and serial interfaces are available. HH-E uses a Li-ion battery pack.

HH-E takes advantage of the dedicated NMS-2K management suite SW tool, tailored to exploit radio flexible configuration capabilities and versatility to support every fielded scenario.

NMS-2K encompasses Services Planning System, to design and configure SDR radio networks, Tactical Network Monitoring and Element Manager Systems, to keep each radio network and its performances under control.

HH-E supports remote management via SNMP interface. Key Management System and SDR Filler complete the management toolset.



DELIVERY PACKAGE

SWave HH-E is delivered in a basic soldier configuration in addition to the valuable options yielded by the dismantled accessories set and vehicle ancillaries.

Basic configuration

- Data Terminal/Smartphone
- Configuration and Control Tool
- SWave HH-E Radio
- SWave HH-E User Manual

SWave HH-E is supplied with user manuals, headset and data/remote-control cable.

A wide range of ancillary options is available to cope with soldier system requirements, including dual-channel PTT headset, ITE HP headset and a choice of antennas to meet different mission needs (VHF, UHF wideband). Vehicular kit for long-haul communication is also available.

Dismounted accessories

- Dual PTT Headset/(HPI-2005/01)
- Wireless PTT Interface
- ITE HP Headset (731-2434/02)
- Light Patrol Standard Headset (H-300-4856-01)
- Data cables kit (HPI-2007/01)



- Standard Rechargeable Battery (HPI-1311/01)
- High Capacity Li-ion Rechargeable Battery (HPI-2001/01)
- Tactical bag (HPI-2006/01)

- Multiple Battery Charger (HPI-2004/01)
- AC Depot Battery Charger (HPI-2003/01)



- Antennas
 - V/UHF whip antennas (2100768M0019)
 - body-worn UHF (2100824M0011)
- GPS antenna (2100047M0376)



Vehicle Configuration

The HH-E can be configured as vehicular radio system for long-range communications allowing reduction of radios held within a battle group, potentially saving weight and volumetric space inside vehicles, command-post and surface vessels.

Vehicular Accessories

- Vehicular Cradle - Mounting Base with Shock Absorber
- Avg 50 W HPA and Colocation Interference Mitigation Module in Long Haul Installation Mode



HH-E Vehicular Base



V/UHF HPA 50W

SWAVE HH-E



TECHNICAL SPECIFICATION

GENERAL	
Channels	One, half-duplex
Frequency range	30MHz to 512MHz V/UHF
Bandwidth	Narrowband in range 3kHz to 100kHz Wideband up to 1.25MHz
SDR core software	JTNC SCA 2.2.2 ESSOR architecture compliant
Simultaneous voice and data support	
Dual net PTT support	
Situational Awareness Software Support (C2-SA)	
TRANSMITTER	
Power output	5W (50W in vehicles)
SECURITY	
Modes	Embedded COMSEC (Up to NATO/National Restricted) and TRANSEC capabilities
Encryption	Embedded AES 256 Crypto Engine Support for Custom Crypto Algorithms
Cryptographic keys loading	Secure Key Fill/Store Device Anti-Tampering/OTAR support
INTERFACE	
RF antenna port	TNC Connector, 50 Ohm
GPS/WiFi antenna port	SMA Connector, 50 Ohm
Audio interfaces	Analogue audio port with dual PTT
Data/CTRL interfaces	Serial (RS-232/RS-422), USB, Ethernet
Data/CTRL interfaces (wireless)	2.4 GHz IEEE IEEE 802.11 b/g/n Bluetooth 2.1+EDR

POWER SUPPLY	
Battery type	Standard/High Capacity Li-ion, rechargeable
Battery operating time	>8hrs typical (wf dependent)
High-capacity battery operating time	>16hrs typical (wf dependent)
ENVIRONMENTAL	
Shock and vibration	MIL-STD-810F
Immersion	1m
EMI/RFI	MIL-STD-461E
Operating temperature	-30°C to +55°C
MECHANICAL	
Size (H x W x D)	155mm x 68mm x 42mm (without antenna)
Weight	≤ 630g (with standard battery)
INSTALLATION	
Dismounted soldier	
Wheeled/tracked/combat support vehicles	
Command Post	
Tactical logistics platforms and ships	
WAVEFORMS	
NB	VuLOS V/U AM/FM (STANAG 4204/4205)
Datalink IP	MIL-STD-188-220C
EPM/ECCM	SelfNET® EASY II
WB MANET	SelfNET® Networking SBW (Soldier Broadband Waveform)
NB MANET	SelfNET® Narrow Band Adaptive WF (NB-AW)

