



SWAVE™ HH **SECURE WIDEBAND MULTI-ROLE SINGLE-CHANNEL HANDHELD RADIO**

The SWave™ Handheld (HH) is a single-channel software defined handheld radio that provides wideband secure voice/data services for demanding tactical needs. Based on the Software Communications Architecture (SCA), the SWave™ HH can support both legacy and new waveforms, thus providing interoperability with fielded radios and C4I systems.

The radio operates in the 30MHz-512MHz frequency range, with 5W peak RF output power. Radioelectric performance complies with state-of-the-art EPM waveforms (WF), such as the Selex ES proprietary FFH WF SelfNET™EASY II. In addition, wideband networked WFs, such as the Selex ES SelfNET™ Soldier Broadband (SBW) WF, are supported.

The SWave™ HH features an embedded commercial-grade GPS receiver and can be interfaced to an external GPS receiver. The human-machine interface, with backlit graphic display and keyboard, provides full control for both operational and system administration duties. Voice, data and control traffic can be remoted via a cable interface. Ethernet, USB and serial interfaces are available. The SWave™ HH uses a Li-ion battery pack. COMSEC protection is provided via an AES-256 crypto engine. A built-in full IP stack allows seamless integration, with external networks and IP-based applications.

Mechanisms for radio configuration, including SNMP remote management and key management, are provided. The SWave™ HH can be supplied for vehicle applications when mounted on its vehicular adapter, SWave™ VM-3. The SWave™ HH is supplied with manuals, headset and data/remote-control cable. A wide range of ancillary options is available, including a choice of antennas to meet different mission needs (VHF, UHF, wideband), a dual-channel headset and a battery charger.

SUPPORTED WAVEFORMS

SelfNET™ SBW

The SelfNET™ Soldier Broadband Waveform (SBW) is a multi-hop Mobile Ad-hoc Network UHF (225MHz-512MHz) waveform, designed for squad/platoon operational needs. The SelfNET™ SBW can automatically establish a network of up to 50 nodes, with a depth of up to 5 hops. Network topology is automatically built and dynamically adapted for mobile operations. Voice and data services, including broadband traffic such as video streaming, can be provided simultaneously, with voice prioritization and configurable QoS policies for data. Groups are supported, so that a node can be part of two closed Voice Groups (Dual Net feature) and Data Groups (V-LAN) at the same time. Commander Priority and Emergency Call features are provided.

SelfNET™ EASY II

The SelfNET™ Enhanced Anti-jamming System II WF is a fast frequency-hopping WF, with voice and data communications capabilities.

The SelfNET™ EASY II can operate in both VHF (30MHz-88 MHz) and UHF (225MHz-512MHz). TRANSEC synchronization can be achieved with or without GPS support. Digital voice (CVSD) at 16kbps or asynchronous data at up to 16kbps can be provided over a 25kHz channel bandwidth. Voice-over-data priority and break-in mechanism are available. IP data communication is supported by means of the additional MIL-STD-188-220C waveform.

TECHNICAL SPECIFICATION

General

Channels	1, half-duplex
Frequency range	30MHz-512MHz
Channel bandwidth	NB: 25kHz
WB	1.25MHz (up to 5MHz)
Channel spacing	NB: 25kHz
WB	2MHz
Audio interfaces	1 analog audio channel with dual PTT
Data interfaces	serial (RS-232), USB, Ethernet
Control interfaces	HW: Ethernet SW: SNMP
SW environment	SCA 2.2.2 compliant IPv4 Bridging and routing capabilities Text messaging SA (Situational Awareness) support
GPS receiver	Embedded (commercial), Interface for external GPS receiver

Physical and environmental

Size	220mm x 79mm x 53mm w/o antenna
Weight	< 1kg w/ battery pack
Temperature range:	30 °C/+55 °C (operational)
Shock and vibration	IAW MIL-STD 810F
Immersion	IAW MIL-STD 810F
Rain	IAW MIL-STD-810F
Wind	IAW MIL-STD-810F
Sand and dust	IAW MIL-STD-810F
EMI/EMC	IAW MIL-STD-461E

Security

Modes	COMSEC and TRANSEC
Encryption	AES 256 (Type3)
Key fill	Yes



Power

Power input	12.6VDC
Battery type	Li-ion, rechargeable
Battery life	Waveform-dependent. Eight hours at 5W, std. duty cycle (8:1:1:)

Transmitter

Power output	5W (max peak), adjustable (Full, ½, ¼, 100mW) 2.5W rms typical with SBW
Harmonics suppression	better than -50dBc

Receiver

Noise figure	≤ 8dB
IF rejection	Better than -58dBc

Waveform support

NB	VULOS V/UHF AM/FM (STANAG 4204/4205)
WB	SelfNET™ SBW (Soldier Broadband Waveform), UHF MANET broadband WF with native IP support
EPM	SelfNET™ EASY II, EPM VHF/UHF narrowband WF (IP support via MIL-STD-188-220C option)

Ancillaries

- Headset
- Operating manual, reference guide
- VHF whip antenna
- UHF whip antenna
- Wideband whip antenna
- Body-worn UHF antenna
- Interface (data/control) cable
- Tactical battery charger
- Desktop battery charger