



## SWAVE™ VQ1 TYPE 1 WIDEBAND MULTIROLE – MULTICHANNEL VEHICLE RADIO

The SWave™ VQ1 is a four-channel software defined vehicular radio that provides wideband secure voice/data services for current and future tactical communications needs. Compliant with the Software Communications Architecture (SCA) and the ESSOR architecture, the SWave VQ1 can support both legacy and emerging waveforms, supporting enhanced interoperability in NATO and coalition environments, for communications up to EU/NATO SECRET.

The SWave VQ1 features a modular HW architecture that allows up to four radio channels to be configured within a common chassis with a shock mounting base.

Each channel can operate in the 2-2000MHz frequency range with embedded 5W (30-470MHz) peak RF output power. 50W (30-470MHz) and 20W (470-2000MHz) RFPAs modules can be fitted within the same chassis, by replacing transceiver (XVER) modules, or managed as external units. Control features are provided to interface external ancillaries such as HF RFPAs/ATU.

Radioelectric performance is compliant with state-of-the-art EPM waveforms such as STANAG 4372 and the proprietary FFH WF SelfNET™ EASY II.

In addition, wideband networked WFs, such as ESSOR High Data Rate WF and SelfNet™ Soldier Broadband (SBW) WF, are supported. VQ1 embedded capabilities allow it to be used in demanding networking scenarios, as a key element for advanced communications, managing both voice and data.

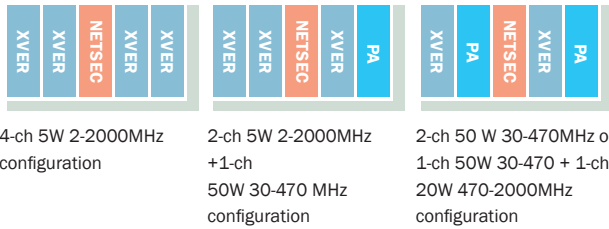
The SWave VQ1 embeds a commercial-grade GPS receiver and can be interfaced to an external GPS receiver. The NETSEC module provides Multiple Independent Levels of Security over the radio channels. This allows maximum flexibility in the configuration and operation of the available communication resources.

The SWave VQ1 is controlled remotely via SNMP and locally via a Web interface tool. It is supplied with manuals and SW administration and configuration tools, allowing for easier management before and during operational use.

An extensive set of optional ancillaries is available, including a 125W HF coupler (HFPA with embedded ATU and shock mounting base), and a choice of antennas suitable for different mission needs (whips, both VHF, UHF or wideband, TACSAT antenna, dualchannel stacked UHF antenna).

## HARDWARE CONFIGURATIONS

Many configurations can be achieved combining embedded modules (transceivers and PAs) and external ancillaries, to suit different communications schemes.



## GENERAL

Channels	4, half-duplex
Frequency range	2-2000MHz
Channel spacing	NB: 5kHz, 12.5kHz, 25kHz SATCOM: 5kHz, 25kHz WB: 1.25MHz (up to 5MHz)
Audio interfaces	4 analogue audio channels
Data interfaces	serial (RS-232/RS-422), Ethernet
Control interfaces	HW: serial (RS-232/RS-422), Ethernet RS-485 / Ethernet for ancillaries ctrl SW: SNMP, Web Interface
SW environment	SCA 2.2.2 compliant ESSOR Architecture compliant IPv4 Routing capabilities SA (Situational Awareness) support
GPS receiver	Embedded (commercial) Interface for external GPS receiver

## SECURITY

Modes	COMSEC + TRANSEC 4 independent secure channels
Encryption	Programmable (Type1)
Key fill	Yes
CIK	Yes, removable

## POWER

Power input	MIL-STD-1275-compliant
Power consumption	≤ 400W (Tx 4ch. 5W) ≤ 350W (Rx 4ch.)

## PHYSICAL AND ENVIRONMENTAL

Size	404x373x231mm (WxHxD)
Weight	≤ 45kg (4ch. w/ shock mounting base)
Temperature range	-40°C to +55°C (operational)
Shock and vibration	IAW MIL-STD-810F requirements (wheeled/tracked vehicles)
Immersion	1m/30 min IAW MIL-STD-810F
Sand and dust	IAW MIL-STD-810F
EMI/EMC	IAW MIL-STD-461E

## TRANSMITTER

Power output	5W (max peak) 30-470MHz embedded 100mW 2-30/470-2000MHz embedded 50W (max peak) 30-470MHz w/RFPA 20W (max peak) 470-2000 MHz w/RFPA
Harmonics suppression	Better than - 50 dBc

## RECEIVER

Noise figure	≤ 8dB
IF rejection	Better than - 80dBc
Sensitivity	≤ -115dBm (Narrowband FM @ 10dB SINAD)

## WAVEFORM SUPPORT

NB:	V/UHF AM/FM (STANAG 4204 / 4205 HF suite (STANAG 4203, STANAG 4285, MIL-STD-188-110B, MIL-STD-188-141B, STANAG 4538, STANAG 5066)
NB Datalink IP	MIL-STD-188-220C
EPM	SINCGARS HQ I/II (STANAG 4246) SATURN (STANAG 4372) EASY II (proprietary)
WB	SelfNET™ SBW (Soldier Broadband Waveform) ESSOR HDR (future availability)
SATCOM	DAMA ( MIL-STD-181B, MIL-STD-182A, MIL-STD-183A, MIL-STD-184 ) IW ( MIL-STD-181C, MIL-STD-182B, MIL STD-183B, MIL-STD-184 ) (future availability)

## ANCILLARIES

- Operating manual, Reference Guide
- HF antenna kit
- VHF antenna kit
- UHF antenna kit
- SATCOM antenna
- Data cable kit
- 50W V/UHF power amplifier
- 125W HF couplifier
- 20W High UHF (470-2000MHz) power amplifier

## SDR PRODUCT LINE

