

SOVERON® VR

Vehicular Tactical Radio

For vehicular and semi-mobile platforms

The R&S®VR5000 vehicular tactical radio is a member of the SOVERON® software defined radio family.

The R&S®VR5000 has been designed for use in vehicles and for integration into semi-stationary and stationary applications. Its ruggedized hardware meets applicable MIL-STD environmental and EMC requirements, enabling the radio's use under extreme conditions such as in armored wheeled vehicles and tracked vehicles.

The core of the SOVERON® VR vehicular radio is an SCA 2.2.2 radio platform (SCA, software communications architecture). The SCA radio platform supports standardized, legacy and Rohde&Schwarz proprietary waveforms and makes it easy to port waveforms. In addition, it allows customized waveforms and cryptology to be implemented.

SOVERON® WAVE is a waveform suite based on state-of-the-art technology and forms a viable, future-ready foundation for Rohde&Schwarz radiocommunications systems. These waveforms permit reliable communications in an anti-access and area-denial environment. Powerful frequency hopping and highly advanced encryption technologies are used to compensate for the influence of jammers and interception.

The waveform suite provides the best options for transmitting secure high data rates in a jammed environment in various ground, air and combined ground-air-ground scenarios. Simultaneous voice and data capability significantly reduces the need for additional radios. The waveforms provide increased situational awareness through adaptive high bandwidth IP networking. An embedded mobile ad hoc networking concept enables continuously stable communications within agile networks.



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Specifications in brief

Frequency range

- ▮ 30 MHz to 512 MHz

Receiver sensitivity

- ▮ F3E sensitivity: ≤ -112 dBm
- ▮ A3E sensitivity: ≤ -112 dBm

Transmit output power

- ▮ All modes (PEP, CW), 50 W (+1.5 dB/-0 dB)
- ▮ A3E carrier, 12.5 W (+1.5 dB/-0 dB)

Cosite filter option

- ▮ Additional embedded filter for multiline platforms with antenna distances of down to 1.5 m

Temperature range

- ▮ Operating: -25°C to $+55^{\circ}\text{C}$
- ▮ Permissible: -40°C to $+71^{\circ}\text{C}$
- ▮ Storage: -46°C to $+90^{\circ}\text{C}$

Environmental specifications

- ▮ Tests performed in line with MIL-STD-810G

Electromagnetical specifications

- ▮ Tests performed in line with MIL-STD-461F

Power supply

- ▮ In line with MIL-STD-1275D
- ▮ Nominal operating voltage: 26.5 V DC
- ▮ Operating voltage range: 18 V to 33 V DC

Security

- ▮ Strict red/black separation
- ▮ Crypto ignition key support

Waveforms

- ▮ Standardized waveforms in line with STANAGs
- ▮ SOVERON® WAVE
- ▮ R&S® SECOS

SOVERON® WAVE

- ▮ Data rates
 - SOVERON® WAVE AJ-NB up to 110 kbps at 25 kHz
 - SOVERON® WAVE AJ-WB up to 630 kbps at 250 kHz
 - SOVERON® WAVE WB up to 2100 kbps at 500 kHz
- ▮ MANET capability
- ▮ Data and up to two voice streams simultaneously
- ▮ Dynamic parameter adaption
- ▮ Different medium access schemes
 - Static and dynamic TDMA
 - CSMA/CA
- ▮ IPv4 transparent IP interface
- ▮ TCIP/IP traffic optimizer
- ▮ COMSEC
 - Embedded encryption using AES
- ▮ TRANSEC
 - Orthogonal fast frequency hopping
 - Hop rates independent of selected transmission mode

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