

Joint radio system of the German Armed Forces

SOVERON® D is a member of the SOVERON® software defined radio family.

The key components of the German MoD programme SVFuA are a multi-channel next generation software defined radio (SDR), the full communications management system and the scalable security layer up to national and NATO SECRET.

SOVERON® D manages communication networks from the brigade down to the platoon level, with a special focus on joint and combined missions with multi-level security needs, supporting operations conducted by coalition forces. The system connects the vehicle IT infrastructure with the tactical Control and Command system. The benefits of SOVERON® D accompanied by a high-performance waveform family such as SOVERON® WAVE are:

- ▮ Simultaneous transmission of voice and data in each radio channel with up to two voice channels
- ▮ Higher throughput at same range compared with legacy waveforms
- ▮ Robustness against jamming attacks with TRANSEC fast frequency hopping measures
- ▮ Bandwidth efficient voice compression at high quality with MELPe codec
- ▮ Transmission of voice and data with confidentiality up to level SECRET
- ▮ Support for 'multi-level security' MLS

SOVERON® D – characteristics and benefits

▮ Network evolution

- The SOVERON® D radio platform supports legacy and modern waveforms addressing the migration from legacy radio networks towards IP based networks
- The SOVERON® D system allows migration in small steps with backwards compatibility to legacy radio systems

▮ Modularity

- Up to three radio modules in one SOVERON® D system provide a high flexibility for the entire frequency range
- Each radio channel can load and execute a waveform independently

▮ Security

- SOVERON® D acts as a central security anchor point for the vehicle network
- Approved by the German authority BSI including cross-certifications to multinational applications

▮ Future viable

- Certified for SCA 2.2.2, the SOVERON® D radio platform is prepared for porting future and legacy waveforms
- SOVERON® D 'software-defined-crypto' platform allows enhancing encryption methods

▮ Ruggedized

- SOVERON® D is built to operate under extreme conditions and complies with military standards
- SOVERON® D consists of various built-in tests enabling easy operations over the whole lifecycle



SOVERON® D – waveforms

SOVERON® D is a radio platform which allows the porting of waveform applications built for SCA 2.2.2

STANAG 4204	Unclassified fixed frequency NATO waveform for VHF
STANAG 4205	Unclassified fixed frequency NATO waveform for UHF
STANAG 4246	NATO HAVE QUICK waveform for UHF (classified voice operation)
SEM 80/90/93	VHF waveform, interoperable with legacy SEM radio devices
National Tactical Network waveform NTN (NB and WB)	V/UHF waveform application, scalable from VS-NfD to GEHEIM

SOVERON® D – flexibility

SOVERON® D is a modular platform and consists of two or three independent radio channels.



Two-channel configuration

The basic configuration consists of

- ▮ Central unit
- ▮ Mounting device for two radio modules
- ▮ Two radio modules
- ▮ Crypto ignition key (CIK)
- ▮ Token
- ▮ Radio control unit



Three-channel configuration

The extended configuration provides mechanical mounting devices to host up to three radio modules in two physically separated units to allow remote operation, e.g. in a turret.

SOVERON® D – system

Apart from the radio, SOVERON® D further consists of the following system components:

Network management system (NMS)	System for mission planning offline or online (over the air – OTAx)
Security management system (SMS)	System for management and distribution for platform software, waveform applications and policies
Application device (AGS)	Distribution of operational key material
Radio control unit (GB)	Local management station for one radio device
Service unit (SB)	Supports service cycles
CIK	Crypto ignition key – physical key to permit classified operations
Token	Supports import and export of operation data and authentication of users with SOVERON® D and SMS

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