SOVERON AR AIRBORNE RADIO

For rotary and fixed-wing airborne platforms. The R&S®AR5000 airborne radio is a member of the SOVERON radio family.

Meets both civil and military avionic standards

Since airspace worldwide is used largely for civil purposes, military aircraft must also meet civil standards in order to pass this airspace without restrictions. The R&S®AR5000 can be used as a primary ATC radio. It is the only software defined airborne radio on the market that also meets civil safety avionic standards, providing full independence for unrestricted joint civil-military operations.

Designed for ease of integration

An essential part of the airborne radio development process is the continual and intensive exchange of expertise with industrial partners to eliminate platform integration risks. Like no other radio, the R&S®AR5000 was designed to ease the integration effort. It goes without saying that the radio has been qualified in line with MIL-STD-704F, MIL-STD-810F and MIL-STD-461F to minimize additional platform-specific qualification.

SOVERON AR airborne radio

Assured command and control (C2) superiority

Rohde&Schwarz offers state-of-the-art wideband waveforms to achieve information superiority. Applications range from pure voice to high-speed tactical data covering all airborne platform scenarios. The waveforms permit reliable and secure communications in a fast-moving, harsh environment. Fast frequency hopping, advanced encryption technologies, simultaneous voice and data transmission and embedded mobile ad-hoc networking (MANET) capability are just a few examples of superior technology.

Customized national data link solutions

Based on the internationally accepted SCA standard, the strict separation between radio platform and waveform application allows procurement authorities to fully modify this part of the radio in line with national requirements. Developing an indigenous national waveform, including the crypto algorithm, gives authorities true independence.

Key facts

- Frequency range from 30 MHz to 512 MHz
- Control via MIL-STD-1553B data bus or RS-485 interface
- Standard ARINC 600 housing, 3 MCU
- Suitable for jet and propeller aircraft as well as helicopters and unmanned aerial vehicles (UAV)

Flyer | Version 02.00

ROHDE&SCHWARZ
Make ideas real

SPECIFICATIONS IN BRIEF

Waveforms
- R&S®SECOS
- SOVERON WAVE
- Fixed frequency STANAGs: 4204, 4205
- Fixed frequency civil: ED23C (civil ATC), ITU-R M.489-2 (maritime VHF)
- EPM STANAGs: 4246, 4372 – on request

Frequency range
- 30 MHz to 88 MHz
- 108 MHz to 118 MHz (receive mode only)
- 118 MHz to 174 MHz
- 225 MHz to 512 MHz

Receiver sensitivity
- AM sensitivity: ≤ –103 dBm, 10 dB SINAD
- FM sensitivity: ≤ –108 dBm, 10 dB SINAD

Guard receiver
- Supported guard frequencies: 40.5 MHz, 121.5 MHz, 156.8 MHz and 243 MHz plus one user-defined frequency (dedicated monitoring or scan mode)

Transmit output power
- AM: ≥ 20 W
- FM/MSK: ≥ 30 W
- QAM: ≥ 40 W PEP (with typ. crest factor of 3 dB to 4 dB)
- Power modes: high, medium, low

GPS
- Time of day (ToD) interface as per ICD-GPS-060A (HAVE QUICK interface)

Environmental specifications
- Temperature range: –40 °C to +71 °C
- Storage temperature range: –54 °C to +90 °C
- Tests performed in line with MIL-STD-810F

Electromagnetical specification
- Tests performed in line with MIL-STD-461F

Power input
- 28 V DC nominal power supply
- In line with MIL-STD-704F, incl. floating power supply

Applicable civil standards
- Fixed frequency: ED-23C (classes 5 and H2), ICAO Annex 10
- Avionics development: DO-178C Level C, DO-254 DAL C

SOVERON WAVE
- Data rates
  - SOVERON WAVE AJ-NB: up to 110 kbps at 25 kHz
  - SOVERON WAVE AJ-WB: up to 639 kbps at 250 kHz
  - SOVERON WAVE WB: up to 2100 kbps at 500 kHz
- MANET capability for voice and data
- 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
- COMSEC
  - Embedded encryption using AES
- TRANSEC
  - Orthogonal fast frequency hopping
  - Hop rates independent of selected transmission mode

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SOVERON AR Airborne Radio
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