



## VHF/UHF Airborne Transceiver Family R&S® M3AR

### R&S®MR6000R

The R&S®MR6000R transceiver of the R&S®M3AR family is software-reprogrammable and is one of the world's smallest and most lightweight VHF/UHF airborne transceivers. It is possible to download several EPM (ECCM) waveforms for both NATO and non-NATO countries and use them alternately.

The R&S®MR6000R is designed for installation in the avionics bay, and its architecture ensures form, fit and function replacement for existing AN/ARC-164 radio systems.

The transceiver can be controlled by the Remote Control Unit R&S®GB6500 or a MIL-BUS according to MIL-STD-1553B.

- ◆ VHF/UHF, AM/FM, voice/data
- ◆ EPM (ECCM): HAVE QUICK I/II, R&S®SECOS, SATURN
- ◆ 30 MHz to 400 MHz extended frequency range
- ◆ Channel spacing 25 kHz and 8.33 kHz
- ◆ 10 W AM/15 W FM RF output power
- ◆ Modular design, SMD technology
  - BITE down to module level
  - High reliability

- ◆ Remote control
  - RS-485
  - MIL-BUS (acc. to MIL-STD-1553B)
  - ARC-164 serial (option)
  - ARC-164 parallel (option)
- ◆ Weight less than 3.5 kg
- ◆ VHF FM immunity
- ◆ Demodulation of DF/homing signals (ADF support)
- ◆ P<sup>3</sup>I (pre-planned product improvement), e.g. software upgrade to future waveforms



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## Specifications

<b>EPM (ECCM) (options)</b> HAVE QUICK I/II SATURN R&S®SECOS	acc. to STANAG4246 acc. to STANAG4372
<b>Frequency range</b>	30 MHz to 87.975 MHz 108 MHz to 173.975 MHz 225 MHz to 399.975 MHz
<b>Channel spacing</b>	25 kHz (all bands), 8.33 kHz (VHF ATC band)
<b>Frequency accuracy</b>	±0.5 ppm (-40°C to +55°C)
<b>Modulation</b>	A3E, F3E, MSK
<b>Preset channels</b>	2 × 100 3 × GRX
<b>COMSEC</b>	external: VINSON KY-58/100 compatible embedded: R&S®SECOS
<b>Interfaces</b> RF ports Radio control (options)  Data input/output (option) Filter/tuned antenna serial bus	single port TX/RX, TNC type RS-485 MIL-STD-1553B ARC-164 serial ARC-164 parallel MIL-STD-1553B Manchester coded frequency information 1 MHz data rate
<b>Transmitter</b> RF output power (50 Ω load) AM FM/FSK Duty cycle Distortion Broadband noise ±25 kHz from carrier ±10 MHz from carrier ≥±20 MHz from carrier	≥10 W ≥15 W TX/RX ≤ min/5 min ≤0%, m = 0.8, f <sub>mod</sub> = 1 kHz  ≤70 dBm (1 Hz) ≤115 dBm (1 Hz) ≤120 dBm (1 Hz)
<b>Main receiver</b> Sensitivity (10 dB S+N/N) AM FM Selectivity ICAO 8.33 kHz ICAO 25 kHz Wideband Squelch	-101 dBm, m = 0.3 -104 dBm, 2.4 kHz dev. 6 dB 60 dB >7 kHz <11 kHz >22 kHz <50 kHz >50 kHz <60 kHz 8 dB to 15.5 dB, adjustable
<b>Guard receiver</b> Frequency FM AM AM Scanning possibility Sensitivity (10 dB S+N/N)  Selectivity At 28 kHz At 80 kHz Squelch	40.5 MHz 121.5 MHz 243.0 MHz yes ≤101 dBm, m = 0.3 (121.5 MHz, 243 MHz) ≤104 dBm, 2.4 kHz dev. (40.5 MHz)  ≤6 dB ≥60 dB 8 dB to 15.5 dB, adjustable
<b>Power supply</b>	+28 V DC (MIL-STD-704A) 16 V to 32 V DC
<b>Power consumption</b> Transmit Receive Standby	<190 W, typ. 120 W <30 W, typ. 25 W <100 mW

<b>Environmental conditions<sup>1)</sup></b> Operating temperature range Permissible temperature range Storage temperature range Shock/vibration EMC <sup>2)</sup> Altitude	-40°C to +55°C -54°C to +71°C -54°C to +90°C MIL-STD-810E MIL-STD-461D/462D 70 000 ft
<b>Dimensions of body (W × H × D)</b>	127 mm × 121 mm × 176 mm (body only)
<b>Weight</b>	<3.5 kg
<b>Accessories supplied</b>	Remote Control Unit R&S®GB6500 Base Station Adapter R&S®BA6000 Mounting Tray R&S®KR6000 Mating Connector R&S®ZR6000

<sup>1)</sup> Acc. to MIL-HDBK-5400 (class 2, modified).

<sup>2)</sup> Acc. to MIL-HDBK-217F.

## Ordering information

Designation	Type	Order No.
<b>Basic module</b>		
ARC-164 housing; RF 10 W AM/15 W FM Plain – no EPM (ECCM)	R&S®MR6000	6113.5505.02
<b>Mandatory options</b>		
Control Interface (optional remote fill gun) RS-485 MIL-BUS direct coupling + RS-485 MIL-BUS trafo coupling + RS-485 ARC-164 parallel ARC-164 serial	R&S®CI6000F	6111.3605.xx .02 .03 .04 .05 .06
Control Interface (acc. to MS25212) RS-485 MIL-BUS direct coupling + RS-485 MIL-BUS trafo coupling + RS-485 ARC-164 parallel ARC-164 serial	R&S®CI6000R	6111.3534.xx .02 .03 .04 .05 .06
Audio Output 150 Ω impedance 600 Ω impedance	R&S®AI6000	6111.3557.xx .02 .03
Frequency Range VHF tact. (30 MHz to 88 MHz) VHF (108 MHz to 174 MHz) UHF (225 MHz to 400 MHz)	R&S®FR6000	6111.3563.xx .02 .03 .04
<b>Available options</b>		
EPM (ECCM) Hardware HPP-164	R&S®GP6000	6112.9007.02
EPM (ECCM) Software HAVE QUICK I HAVE QUICK I/II SATURN/HAVE QUICK I/II R&S®SECOS Voice R&S®SECOS Voice & Data (TDMA)	R&S®GS6000	6113.0503.xx .02 .03 .04 .06 .07



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