



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 among the smallest and most lightweight VHF/UHF airborne transceivers worldwide.

It is possible to download several EPM waveforms and use them alternately.

The R&S MR6000R is designed for installation in the avionic 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 control system.

- ◆ Multiple EPM waveform options
 - SATURN
 - HAVE QUICK I/II
 - SECOS
- ◆ Software-reprogrammable
- ◆ 30 MHz to 400 MHz frequency coverage
- ◆ Voice and data
- ◆ 10 W AM to 15 W FM
- ◆ 8.33 kHz and 25 kHz channel spacing
- ◆ Weight less than 4.0 kg



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Specifications

| | |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------|
| EPM (electronic protection measures) (options) | |
| Have Quick I + II | (STANAG 4246) |
| SATURN | (STANAG 4372) |
| SECOS | |
| Frequency range | 30 MHz to 87.975 MHz 108 MHz to 173.975 MHz 225 MHz to 399.975 MHz |
| Channel spacing | 25 kHz, 8.33 kHz |
| Frequency accuracy | ±0.5 ppm (−40 °C to +55 °C) |
| Modulation | AM, FM, FSK |
| COMSEC | external/VINSON KY-58 compatible, proprietary embedded |
| Interfaces | |
| RF ports | single port TX/RX |
| Radio control (options) | MIL-STD-1553B RS-485 ARC-164 parallel ARC-164 serial |
| Data input/output (options) | MIL-STD-1553B RS-232-C |
| Filter/tuned antenna serial bus | Manchester coded frequency information 1 MHz data rate |
| Transmitter | |
| RF output power | |
| AM | ≥10 W |
| FM/FSK | ≥15 W |
| Duty cycle | TX/RX ≤1 min/5 min |
| Distortion | ≤10%, m = 0.8, f _{mod} = 1 kHz |
| Broadband noise | |
| ±25 kHz from carrier | ≤−70 dBm (1 Hz) |
| ±10 MHz from carrier | ≤−115 dBm (1 Hz) |
| ≥±20 MHz from carrier | ≤−120 dBm (1 Hz) |
| Main receiver | |
| Sensitivity | |
| AM | −101 dBm, m = 0.3 |
| FM | −104 dBm, 2.4 kHz dev. |
| Selectivity | 6 dB 60 dB |
| ICAO 8.33 kHz | >7 kHz <11 kHz |
| ICAO 25 kHz | >22 kHz <50 kHz |
| Wideband | >50 kHz <60 kHz |
| Squelch | 8 dB to 15.5 dB adjustable |
| Guard receiver | |
| Frequency | |
| FM | 40.5 MHz |
| AM | 121.5 MHz |
| AM | 243.0 MHz |
| Sensitivity | ≤−101 dBm, 30% modulation (121.5 MHz, 243 MHz) ≤−104 dBm, 2.4 kHz dev. (40.5 MHz) |
| Selectivity | |
| at 28 kHz | ≤6 dBm |
| at 80 kHz | ≥60 dBm |
| Squelch | adjustable to 8 dB to 15.5 dB (S+N)/N |
| Power supply | +28 V DC (MIL-STD-704 D) |
| Power consumption | |
| Transmit | <190 W (120 W typ.) |
| Receive | <30 W (25 W typ.) |
| Standby | <100 mW |

| | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental conditions | |
| Rated temperature range ¹⁾ | −40 °C to +55 °C |
| Operating temperature range ¹⁾ | −54 °C to +71 °C |
| Storage temperature range ¹⁾ | −54 °C to +90 °C |
| Shock/vibration | MIL-STD-810 E |
| EMC | MIL-STD-461 D |
| Dimensions of body (W x H x D) | 127 mm x 121 mm x 175.8 mm (max.) |
| Weight | <4 kg |
| Accessories supplied | remote control unit frequency indicator agile VHF/UHF Filter power amplifier UHF 30 W/45 W mounting tray EPM management system |

¹⁾ To MIL-HDBK-5400, class 2, modified.

Ordering information

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

Certified Environmental System
ISO 14001
REG. NO 1954

Certified Quality System
ISO 9001
DQS REG. NO 1954



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