

R&S®M3AR MR6000R/L

Software Defined Radio

VHF/UHF transceivers – excellent performance at low weight.

The R&S®MR6000R/L software defined, multiband-capable airborne transceiver is preferred under limited weight and space constraints in the R&S®M3AR product family. Despite weighing less than 4 kg, the R&S®MR6000R and R&S®MR6000L series offer outstanding reception and transmission performance. Its excellent characteristics make it suitable for applications in military and civil environments including all types of airborne platforms such as helicopters, transport aircraft, jets and unmanned aerial vehicles (UAV).



R&S®MR6000R.



R&S®MR6000L.

R&S®M3AR MR6000R/L At a glance

The R&S®MR6000R/L cover the frequency range from 30 MHz to 400 MHz and support the NATO frequency hopping methods (TRANSEC) HAVE QUICK and SATURN. Integrated encryption (SECOS) is available as an option to protect voice and data transmissions against eavesdropping.

The proprietary Rohde&Schwarz waveform R&S®SECOS combines TRANSEC and COMSEC functionality in a single waveform and can be installed in parallel with SATURN or HAVE QUICK.

These two transceivers, which come in ARC-164 housings, differ in that the R&S®MR6000R is designed for installation in the avionic bay and can only be remotely controlled, while the R&S®MR6000L is installed in the cockpit and can also be controlled by a local control panel. Both radios ensure a high transmit power of at least 10 W (AM) and 15 W (FM) at a low weight of maximum 4 kg.

The R&S®MR6000R or R&S®MR6000L can serve as a form, fit and function (F3) replacement for legacy AN/ARC-164 radios. The R&S®MR6000L front panel comes with a choice of white, red or green A NVG-compatible illumination.

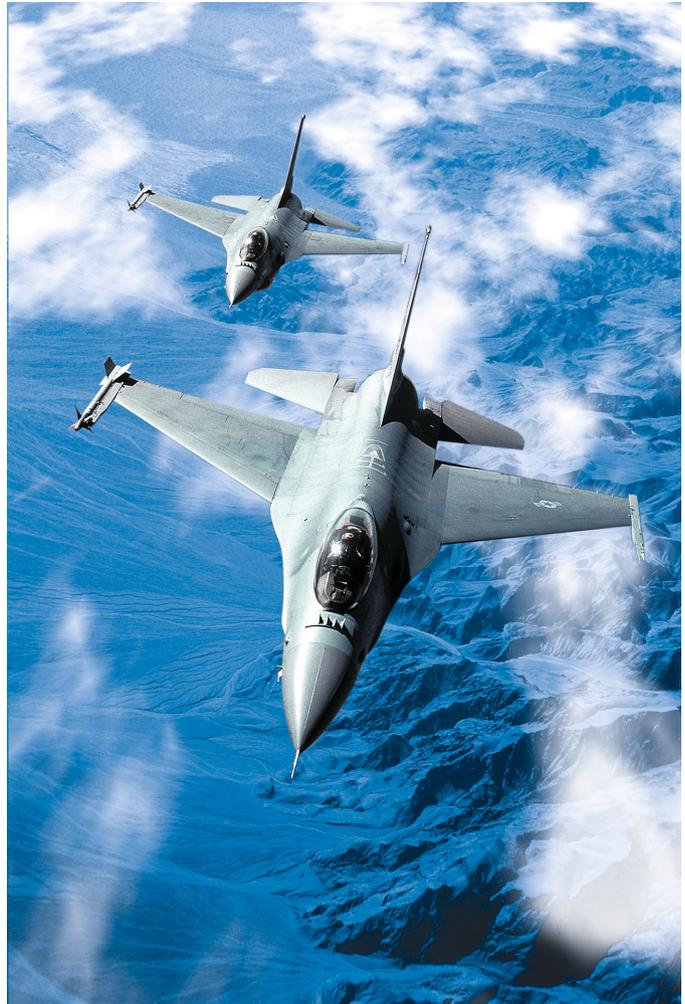
Key facts

- Frequency range from 30 MHz to 400 MHz
- Control via MIL-STD-1553B data bus or RS-485 serial interface
- Powerful built-in-test-equipment (BITE): power-up BIT, continuous BIT and initiated BIT
- Optional cockpit (NVIS compatible) or avionic bay installation
- Suitable for jet and propeller aircraft as well as helicopters and unmanned aerial vehicles (UAV)

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F-16 Fighting Falcon.



R&S®M3AR MR6000R/L

Benefits and key features

Reference platforms

- Fixed wing: Lockheed P-3 Orion, Embraer Super Tucano, Saab JAS-36 Gripen, F-16 Fighting Falcon
- Rotary wing: Airbus H135, Super Puma, Sikorsky H-3 Sea King, Mil-Mi-24, Mil-Mi-17, MDHI MD-530F

Waveforms

- HAVE QUICK I/II as per STANAG 4246
- SATURN as per STANAG 4372
- R&S®SECOS

Frequency ranges

- 30 MHz to 88 MHz
- 108 MHz to 118 MHz (receive only)
- 118 MHz to 174 MHz
- 225 MHz to 400 MHz

Receiver sensitivity

- Sensitivity AM : ≤ -101 dBm, 10 dB (S+N)/N
- Sensitivity FM: ≤ -104 dBm, 10 dB (S+N)/N

Guard receiver

- Supported guard frequencies: 40.5 MHz, 121.5 MHz and 243 MHz (dedicated or scan mode)

Transmit output power

- AM: ≥ 10 W
- FM/MSK: ≥ 15 W
- Power modes: high, medium, low

GPS

- Interface as per ICD-GPS-060

Environmental specifications

- Temperature range: -54°C to $+71^{\circ}\text{C}$ (R&S®M3AR MR6000R)
- Temperature range: -40°C to $+71^{\circ}\text{C}$ (R&S®M3AR MR6000L)
- Storage temperature range: -54°C to $+90^{\circ}\text{C}$
- Installed in jets, helicopters, propeller aircraft and UAVs
- Tests performed in line with MIL-STD-810B/D/E

Electromagnetical specifications

- Tests performed in line with MIL-STD-461D, MIL-STD-462D

Power input

- 28 V DC nominal power supply
- Transient, ripple, steady state, DC voltage, in line with MIL-STD-704A, cat. B

Reliability, calculated in line with MIL-HDBK-217F, N2

- R&S®MR6000L
 - AIF, $+40^{\circ}\text{C}$: > 3000 h
 - AIC, $+25^{\circ}\text{C}$: > 6000 h
 - ARW, $+25^{\circ}\text{C}$: > 2400 h
- R&S®MR6000R
 - AUF, $+40^{\circ}\text{C}$: > 2200 h
 - AUC, $+25^{\circ}\text{C}$: > 4600 h
 - ARW, $+25^{\circ}\text{C}$: > 2700 h

For further information please refer to data sheet PD 5214.3223.22.

Designation	Type
R&S®MR6000L or R&S®MR6000R (extract of available equipment)	
ARC-164 housing – local control (alternative illumination on request) or remote control	
Frequency bands: 30 MHz to 88 MHz, 108 MHz to 174 MHz, 225 MHz to 400 MHz; EPM (ECCM): fixed frequency; interfaces: RS-485, MIL-STD-1553B trafo coupling; audio output: 150 Ω /600 Ω	R&S®XM6012 R&S®XM6013
Frequency bands: 30 MHz to 88 MHz, 108 MHz to 174 MHz, 225 MHz to 400 MHz; EPM (ECCM): HAVE QUICK I/II; interfaces: RS-485, MIL-STD-1553B trafo coupling; audio output: 150 Ω /600 Ω	R&S®XM6112 R&S®XM6113
Frequency bands: 30 MHz to 88 MHz, 108 MHz to 174 MHz, 225 MHz to 400 MHz; EPM (ECCM): R&S®SECOS 5/16 voice and data, HAVE QUICK I/II; interfaces: RS-485, MIL-STD-1553B trafo coupling; audio output: 150 Ω /600 Ω	R&S®XM6412D R&S®XM6413D
Frequency bands: 30 MHz to 88 MHz, 108 MHz to 174 MHz, 225 MHz to 400 MHz; EPM (ECCM): R&S®SECOS 5/16 voice and data; interfaces: RS-485, MIL-STD-1553B trafo coupling; audio output: 150 Ω /600 Ω	R&S®XM6512D R&S®XM6513D
Frequency bands: 30 MHz to 88 MHz, 108 MHz to 174 MHz, 225 MHz to 400 MHz; EPM (ECCM): SATURN/HAVE QUICK I/II; interfaces: RS-485, MIL-STD-1553B trafo coupling; audio output: 150 Ω /600 Ω	R&S®XM6912 R&S®XM6913
The following control panel illumination is available for the R&S®MR6000L:	
<ul style="list-style-type: none"> NVG (green A); display: green White; display: red Red; display: red 	

Service that adds value

- | Worldwide
- | Local and personalized
- | Customized and flexible
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- | Long-term dependability

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The Rohde & Schwarz electronics group offers innovative solutions in the following business fields: test and measurement, broadcast and media, secure communications, cybersecurity, radiomonitoring and radiolocation. Founded more than 80 years ago, this independent company has an extensive sales and service network and is present in more than 70 countries. The electronics group is among the world market leaders in its established business fields. The company is headquartered in Munich, Germany. It also has regional headquarters in Singapore and Columbia, Maryland, USA, to manage its operations in these regions.

Sustainable product design

- | Environmental compatibility and eco-footprint
- | Energy efficiency and low emissions
- | Longevity and optimized total cost of ownership

Certified Quality Management
ISO 9001

Certified Environmental Management
ISO 14001

Certified Quality Management
EN 9100

Rohde & Schwarz GmbH & Co. KG

www.rohde-schwarz.com

Regional contact

- | Europe, Africa, Middle East | +49 89 4129 12345
customersupport@rohde-schwarz.com
- | North America | 1 888 TEST RSA (1 888 837 87 72)
customer.support@rsa.rohde-schwarz.com
- | Latin America | +1 410 910 79 88
customersupport.la@rohde-schwarz.com
- | Asia Pacific | +65 65 13 04 88
customersupport.asia@rohde-schwarz.com
- | China | +86 800 810 82 28 | +86 400 650 58 96
customersupport.china@rohde-schwarz.com

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