



## Advanced VHF/UHF Tactical Radio R&S MR3000U

The R&S MR3000U belongs to a new family of high-performance digital radios covering the VHF/FM and the VHF/UHF band in a single unit. Thanks to different high-speed data modes and protocols as well as different antijam modes for VHF/FM and VHF/UHF, it integrates perfectly into tactical communication networks.

The radio is software-configurable and reprogrammable including pre planned product improvement (P<sup>3</sup>I).

All members of the R&S M3TR family are based on one mechanical platform, with a common logistic concept and one man machine interface (MMI).

### Features

- ◆ Multiband capability (1.5 MHz to 512 MHz with external devices)
- ◆ Multiwaveform capability
- ◆ High data rate up to 64 kbit/s for data and video
- ◆ Software-configurable and upgradeable (P<sup>3</sup>I)
- ◆ Selective links in one net
- ◆ Low volume/weight
- ◆ Power saving mode
- ◆ Integrated GPS and position report
- ◆ Removable front panel for flexible use and integration
- ◆ User-friendly MMI

## General specifications

<b>Frequency range</b>	TX: 25 MHz to 512 MHz RX: (100 kHz), 1.5 MHz to 512 MHz
<b>Channel spacing</b>	5 kHz, 6.25 kHz, 8.33 kHz, 12.5 kHz, 25 kHz
<b>Frequency stability Presets</b>	standard: $\pm 0.5$ ppm 100 (10 available on rotary switch)
<b>Modulation</b>	J3E (USB, LSB), A3E (AM), F1B/F1D (FSK), A1A (CW), F3E (FM)
<b>Operating modes</b>	SSB/FM/AM, frequency hopping (VHF/FM), frequency hopping (VHF/UHF), clear voice/data transmission (FF mode), secure voice/data transmission (FH mode, DFF mode), test (BITE), remote control, GPS mode (time, position), erase
<b>Test (IBIT)</b>	module level manually initiated BIT continuous monitoring
<b>VHF/UHF transmitter specifications</b>	
RF output power	0.5 W, 1 W, 2 W, 5 W, 10 W, FM average, AM PEP
Power reduction protection	high VSWR, high temperature
Harmonics	-70 dBc, -60 dBc at 25 MHz to 30 MHz
Spurious emission	-70 dBc
<b>VHF/UHF receiver specifications</b>	
Sensitivity (1.5 MHz to 512 MHz) FM	-115 dBm (10 dB SINAD)
AM (70% mod.)	-109 dBm (10 dB SINAD)
Selectivity (25 MHz to 512 MHz) Squelch	>24 kHz (6 dB) syllabic squelch, 150 Hz tone squelch, signal squelch, RSSI (relative signal strength indication)
<b>Power supply</b>	
Input voltage	14 V to 30 V DC 19 V to 30 V fully specified
<b>Fast data modes (optional)</b>	
Fixed frequency	Rohde&Schwarz proprietary waveform up to 72 kbit/s
<b>Voice processor (R&amp;S SECOM only)</b>	
Vocoder bit rate	4800 bit/s
<b>EPM (optional)</b>	
Frequency hopping modes	R&S SECOM-V prepared for HaveQuick I+II, SATURN, R&S SECOS
Encryption	R&S SECOM embedded voice /data encryption

## Environmental conditions

Temperature range (to MIL-STD-810E methods 501.3 and 502.3)	
Operational	-40°C to +70°C
Fully specified	-25°C to +55°C
Storage	-40°C to +85°C
Temperature shock	to MIL-STD-810E method 503.3
Shock	to MIL-STD-810E method 516.4
Vibration	to MIL-STD-810E method 514.4
Waterproofness	1 m immersion during 2 hours, to MIL-STD-810E method 512.3
Sand and dust	to MIL-STD-810E method 510.3
Solar radiation	to MIL-STD-810E method 505.3
Icing and freezing rain	to MIL-STD-810E method 521.1
Salt fog	to MIL-STD810E method 509.3
Low pressure (altitude)	to MIL-STD810E method 500.3, proc. I+II 5000 m above sea level at $< +35^\circ\text{C}$
Humidity	to MIL-STD810E method 507.3 (cycle5), 33°C/63°C, 75% RH, 15 days
Fungus	to MIL-STD810E method 508.4
EMI	to MIL-STD-461 CE 102, CE106, CS101, CS103 to 105, CS 114, RE102, RS103, RS105
Bench handling	to MIL-STD810E method 516.4, proc.VI

## Dimensions (W x H x D)

199 mm x 74 mm x 309 mm  
(with battery pack)

## Weight

<5.6 kg (with battery pack Li-Ion)

## Accessories (optional)

Handset, headset, battery charger for manpack battery, loudspeaker with external 3 W audio amplifier

## External control units, data terminals

Data terminal (DT) for field use, fill gun, message handling PC software, mission planning PC software, remote control terminal, remote control software (installed on a PC) for remote control of the radio

## Antennas

VHF whip antenna 1.5 m, short rod antenna (VHF/UHF), long wire antenna, dipole antenna VHF, other antennas on request

## External amplifiers

50 W VHF/UHF power amplifier, 50 W VHF power amplifier, 150 W HF power amplifier

## External antenna tuning units

Vehicular antenna tuning unit HF 150 W

## Docking stations

Docking station for one or two radios, one or two 50 W VHF power amplifiers and a switchbox (DDS)<sup>1)</sup> or auxbox (SDS)<sup>2)</sup>

## External communication systems

Switching unit (SU)

## Batteries

Autonomy/capacity at +25°C

Li-Ion (5 W, FM)

LiSO<sub>2</sub> (5 W, FM)

Li-Ion (rechargeable) or LiSO<sub>2</sub> (primary)

(FF operation, duty cycle

TX/RX/Stdby= 1:1:8)

20 h

25 h

<sup>1)</sup> Double docking station.

<sup>2)</sup> Single docking station.



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