



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 (P³I).

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 (P³I)
- ◆ 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

Frequency range	TX: 25 MHz to 512 MHz RX: (100 kHz), 1.5 MHz to 512 MHz
Channel spacing	6.25 kHz, 8.33 kHz, 12.5 kHz, 25 kHz
Frequency stability	standard: ± 0.5 ppm
Presets	100 (10 available on rotary switch)
Modulation	J3E (USB, LSB), A3E (AM), H3E (AME), F1B/F1D (FSK), A1A (CW), F3E (FM)
Operating modes	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
Antenna matching	built-in matching filter
Test (IBIT)	module level manually initiated BIT continuous monitoring
VHF/UHF transmitter specifications	
RF output power	1 mW, 0.1 W, 0.2 W, 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
Spurious emission	-70 dBc
VHF/UHF receiver specifications	
Sensitivity (1.5 MHz to 512 MHz)	-113 dBm (10 dB SINAD)
FM	-109 dBm (10 dB SINAD)
AM (70% mod.)	>24 kHz (6 dB)
Selectivity (25 MHz to 512 MHz)	syllabic squelch, 150 Hz tone squelch, signal squelch, RSSI (relative signal strength indication)
Squelch	
Power supply	
Input voltage	14 V to 33 V DC 19 V to 33 V fully specified
Fast data modes (optional)	
Fixed frequency	Rohde&Schwarz proprietary waveform up to 64 kbit/s
Voice processor (R&S SECOM only)	
Vocoder	
bit rate	4800 bit/s
EPM (optional)	
Frequency hopping modes	R&S SECOM-V prepared for HaveQuick I+II, SATURN, R&S SECOM
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 $< +35$ °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 class A3
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	<5.8 kg (with battery pack)

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)¹⁾ or auxbox (SDS)²⁾

External communication systems

Switching unit (SU)

Batteries

Autonomy/capacity at +25 °C

Li-Ion (5 W, FM)

LiSO₂ (5 W, FM)

Li-Ion (rechargeable) or LiSO₂ (primary)

(FF operation, duty cycle

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

22 h

28 h

¹⁾ Double docking station.

²⁾ Single docking station.



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