



Advanced HF/VHF Tactical Radio R&S®MR3000H

The R&S®MR3000H belongs to a new family of high-performance digital radios covering the HF and VHF/FM bands in a single unit. Owing to different high-speed data modes and protocols as well as different antijam modes for HF and VHF/FM, it perfectly integrates into tactical communications networks.

The radio is software-configurable and reprogrammable including preplanned 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 72 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: 1.5 MHz to 107.999999 MHz RX: (100 kHz), 1.5 MHz to 511.999999 MHz
Channel spacing	1 Hz, 5 kHz, 6.25 kHz, 8.33 kHz, 12.5 kHz, 25 kHz, 50 kHz
Frequency stability	±0.5 ppm, without aging
Presets	100 (10 available on rotary switch)
Modulation	J3E (USB, LSB), A3E (AM), F1B/F1D (FSK), F3E (FM)
Operating modes	SSB/FM/AM, frequency hopping (VHF/FM), frequency hopping (HF), clear voice/data transmission (FF mode), secure voice/data transmission (FH mode, DFF mode), test (BITE), remote control, GPS mode (time, position), erase
Antenna tuning	
HF	built-in, automatic, silent tuning
Test (IBIT)	module level; manually initiated BIT; continuous monitoring
HF transmitter specifications	
RF output power	0.5 W, 1 W, 2 W, 5 W, 10 W, FM average, AM PEP, 20 W PEP
Power reduction protection	high VSWR, high temperature
Carrier suppression	>50 dB below PEP (J3E)
Sideband suppression	>50 dB below PEP
Intermodulation products	>34 dB below PEP
Harmonic suppression	>40 dB
HF receiver specifications	
Sensitivity (1.5 MHz to 512 MHz)	SSB: -115 dBm (0.3 µV) for 10 dB (S+N)/N (2.4 kHz bandwidth)
Squelch	syllabic squelch, 150 Hz tone squelch, signal squelch, RSSI (relative signal strength indication)
VHF/FM transmitter specifications	
RF power output	0.5 W, 1 W, 2W, 5 W, 10 W, FM average, AM PEP
Power reduction protection	high VSWR, high temperature
Harmonic suppression	>-70 dBc
VHF/FM receiver specifications	
Sensitivity (30 MHz to 88 MHz)	FM: -115 dBm, 10 dB SINAD
Power supply	
Input voltage	16 V to 33 V with battery 19 V to 30 V with external supply
Fast data modes (optional)	
HF modes (FF) VHF mode (FF)	STANAG 4285 waveform up to 3600 bit/s; Rohde & Schwarz proprietary waveform up to 72 kbit/s
Automatic link establishment (optional for HF)	
Specifications	MIL-STD-188-141B, App. A
Voice processor (R&S®SECOM, optional)	
Vocoder	
Bitrate	HF: 1200/2400 bit/s VHF: 2400/16000 bit/s

EPM (optional)	
Frequency hopping modes	
HF	R&S®SECOM-H
V/UHF	R&S®SECOM-V
UHF	HQ I/II ¹⁾ , R&S®SECOS 516 TDMA ¹⁾
Encryption	R&S®SECOM embedded voice/data encryption
Environmental conditions	
Temperature range	to MIL-STD-810E methods 501.3 and 502.3
Permissible	-40 °C to +70 °C (max. +60 °C with R&S®IB3001 Battery Pack installed)
Operating	-25 °C to +55 °C
Storage	-40 °C to +85 °C (max. +60 °C with R&S®IB3001 Battery Pack installed)
Temperature shock	in line with MIL-STD-810E method 503.3
Shock	in line with MIL-STD-810E method 516.4
Vibration	in line with MIL-STD-810E method 514.4
Waterproofness	1 m immersion during 2 hours, in line with MIL-STD-810E method 512.3
Sand and dust	in line with MIL-STD-810E method 510.3
Solar radiation	in line with MIL-STD-810E method 505.3
Icing and freezing rain	in line with MIL-STD-810E method 521.1
Salt fog	in line with MIL-STD-810E method 509.3
Low pressure (altitude)	in line with MIL-STD-810E method 500.3, proc. I+II 5000 m above sea level at <+35 °C
Humidity	in line with MIL-STD-810E method 507.3 (cycle 5), +33 °C/+63 °C, 75 % RH, 15 days
Fungus	in line with MIL-STD-810E method 508.4
EMC	in line with MIL-STD-461E, CE 102, CE 106, CS 101, CS 103 to 105, CS 114, RE 102, RS 103, RS 105
Bench handling	in line with MIL-STD-810E method 516.4, proc. VI
Dimensions (W × H × D)	199 mm × 74 mm × 309 mm (with battery pack)
Weight	<6 kg (with Li-Ion battery pack)

Accessories (optional)

A wide range of accessories is available on request, for example: external control units, data terminals, antennas (HF, VHF, UHF multiband), external amplifiers (HF, VHF/UHF), external antenna tuning units, docking stations

Batteries	Li-Ion (rechargeable)
Autonomy/capacity at +25 °C	FF operation, duty cycle TX/RX/standby = 1 : 1 : 8, 50 Ω termination
Li-Ion	VHF (5 W, FM): 20 h, HF (10 W, SSB): 15 h

Ordering information

Designation	Type	Order No.
HF/VHF Tactical Radio	R&S®MR3000H	6137.3000.04
HF/VHF Tactical Radio	R&S®MR3001H	6137.9300.04
HF/VHF Tactical Radio	R&S®MR3002H	6137.9400.04
HF/VHF Tactical Radio	R&S®MR3003H	6137.9500.04

¹⁾ R&S®MR3001H, R&S®MR3003H with external V/UHF power amplifier only.



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