

Quality&Precise



MAXWELLON HRM080/180

9kHz~8GHz/ 18GHz

Signal Detection/Direction Finding System

2023

Maxwellon

The HRM series handheld monitoring receiver is a professional and intelligent multi-functional electromagnetic signal detection instrument that can quickly search, analyze, and locate potential illegal radio signals on wired lines and near field space in the target location. The system is composed of detection modules, broadband omnidirectional/directional antennas, multifunctional probes, detection software, tracking and positioning, and signal analysis and recognition modules. It has the characteristics of large bandwidth, high sensitivity, fast scanning, and excellent endurance. It is suitable for security detection in fields such as troops, governments, agencies, security, public security, and classified places.

■ Key Feature

- Frequency range: 9kHz~8GHz/18GHz (receiving mode), 20MHz~8GHz (direction finding mode)
- Adjustable digital intermediate frequency bandwidth, up to 40MHz panoramic intermediate frequency display
- High speed panoramic scanning (80GHz/s), signal recording and playback
- Detection of suspicious signals in near-field space
- Wired line inspection (power line, telephone line)
- Finding and Direction Finding of Interference Sources
- AM/FM/USB/LSB standard audio demodulation
- NTSC/PAL standard video demodulation
- WIFI (2.4G/5.8G) safety inspection
- ITU recommended panoramic, frequency band, and storage scanning functions
- Blind insertion direction finding antenna, sensitive direction finding indication and accuracy
- Lithium battery power supply can work for 3 hours, with a light push external replacement method

■ Specifications

Model	HRM080	HRM180
RF		
Frequency Range	9kHz~8GHz	9kHz~18GHz
Input impedance	50Ω	
Panoramic scanning rate	80GHz/s@100kHz	
VSWR (typical value, RF 10dB attenuation)	≤ 2.0:1	≤ 2.5:1
Amplitude accuracy	± 1.5dB	
Noise coefficient(Low noise mode)	Typical value 12dB	Typical value 18dB
Phase Noise(fc = 1.0GHz)	-98dBc/Hz@10kHz	-90dBc/Hz@10kHz
Image Rejection	9kHz~3.6GHz: 90dB 3.6 GHz~8GHz: 80dB	60dB
IF Rejection	9kHz~3.6GHz: 90dB 3.6 GHz~8GHz: 80dB	60dB
Inherent residual response	-110dBm	-95dBm
IF		
Spectrum Display Range	10kHz~40MHz	
IF Demodulation Bandwidth	1.5 kHz~40MHz (20 gears)	

Model		HRM080	HRM180
Audio			
Audio demodulation type		AM, FM, LSB, USB	
Filter bandwidth (18 levels)		1.5/2.4/6/9/15/30/50/120/150/200/300/500kHz/1/2/5/10/20/40MHz	
Audio output		Headphones, dual channel speakers	
Video			
Video demodulation format		PAL, NTSC	
Filter specifications		27MHz, 13.5MHz	
Multifunctional probe			
AUX connector		8-core aviation connector, 12V@1A	
RF OUTPUT	Power line	30kHz~85MHz	
	Telephone line	10kHz~10MHz	
	Coaxial line	5MHz~2GHz	
AC/DC voltage Measurement range		0 ~400V	
Resistance measurement range		0 ~40MΩ	
Capacitance measurement range		50pF~40uF	
Signal			
IF spectrum		2048 point fast Fourier transform (Blackman window)	
I/Q data		Bandwidth up to 40MHz	
Real time data storage		512MB	
Direction Finding Mode			
Direction finding method		Amplitude comparison direction finding	
Display resolution		1 °	
Direction finding sensitivity		8uV/m~10uV/m (typical value)	
Input / Output			
RF IN (Radio Frequency Input)		N-type	
REF IN (reference input)		SMA	
TRIG IN (external trigger)		SMA	
IF OUT (intermediate frequency output)		SMA, 145MHz	
GPS (antenna input)		SMA	
Headset		3.5mm	
AUX		8-core aviation connector	
USB		Type A	
LAN		RJ-45, 10/100 Base-T	
Lithium Battery			
Dimensions (length × Wide × High)		209mm×62mm×25mm	
Capacity		6400mAh	
Weight		470g	
Dimensions			
Host (long × wide × High)		334mm×242mm×68mm	
Packaging box (long × Wide × High)		510mm×380mm×170mm	
Whiplash antenna (long × Diameter)		335mm×Φ18mm	
Omnidirectional antenna (long × Wide × High)		200mm×60mm×13mm	
Overall weight (including battery)		3.8kg	
Working temperature		0℃ ~50℃	

■ Ordering Information

Configure	Describe		Order No.
Main Engine	Detection system host (9kHz~8GHz)		HRM080
	Detection system host (9kHz~18GHz)		HRM180
Standard	Whip antenna (1MHz~512MHz)		OA060
	Omnidirectional antenna (300MHz~7.5GHz)		OA750
	GPS antenna (GPS Beidou dual mode)		
	Power adapter (20V6A)		GST120A20-P1M
	Power cord (220VAC)		
	N/SMA-JK connector		
	Dual SMA cable (80cm)		
	Headset		GM180
Option	Near field detection function options		HRM-NEAR
	Multifunctional probe		WP300
	DF antenna	Directional antenna -1 (9kHz~30MHz)	SDA800
		Directional antenna -2 (20MHz~200MHz)	
		Directional antenna -3 (200MHz~500MHz)	
		Directional antenna -4 (500MHz~8000MHz)	
	Video Demodulation Options		HRM-VD
	WIFI inspection option		HRM-WIFI
	Direction finding and positioning options		HRM-TL



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