



# RFHUNTER®

Manpack RF Intelligence in the field

**SignalGeneriX**  
ADVANCED SIGNAL SOLUTIONS 



# Product Description

**RFHunter®** is a lightweight, compact, scalable and easily deployable system designed for highly mobile, but extremely accurate localisation of communication signals emissions. The system which can be carried in a manpack or mounted on a vehicle, can be quickly deployed in any combat environment to provide real-time passive situational awareness to a wide range of tactical defence and security operations.

**RFHunter®** is extremely efficient as a manpack portable system operated by a single operator, but also as an autonomous stationary system when mounted on a tripod to enable short-term remote surveillance of a specific area of interest.










**RFHunter®** employs reconfigurable software defined radio technology capable of covering the entire frequency range (30MHz to 3800MHz), allowing it to intercept signals and perform intelligent direction finding. The system comprises a ruggedized SDR with various antenna arrays formations suitable for any operation scenario.

**RFHunter®** is a fully waterproof, combat ready system with a robust mechanical design. It is built for easy and rapid deployment under extreme environmental conditions. The solution is compliant with the latest military standards. Additionally, the system can be used as a passive signal receiver and can be easily integrated into other systems. The system's modular and flexible design allows for various configurations to satisfy demanding tactical defence and civilian operations.

# Main Features

- Highly mobile Direction Finder and Receiver solution
- Reconfigurable Software Defined Radio (SDR) Technology
- Combination of both RF Receiver and DF operation modes
- Operator ruggedised tablet for monitoring and control
- Multiple target geolocation on an interactive map
- Wide operating range of 30MHz to 3800MHz
- Shortest Detectable Signal is 2.2ms burst signal
- Detectable Hopper Signal Rate up to 450 hops/second
- Up to 2048 signals DoA detectable simultaneously
- Detectable Signal Types CW, AM, FM, SSB signals
- Single device DF Accuracy  $\leq 3$  degrees RMS
- Integrated self-orientation digital compass sensor
- Integrated GNSS self-positioning sensor
- Extensive power autonomy >10h of continuous operation
- Integrated wireless mesh network, for coordination of multiple devices operating together
- Different antenna configurations according to operation
- Easy integration with third party systems
- Tripod mounting for autonomous remote surveillance

# Use Cases

-  DF/COMINT Operations
-  Special Forces Operations
-  Coastal/Border Surveillance
-  RF Target Geolocation
-  Illegal Interference Detection
-  Automatic Threat Detection
-  Search and Rescue Operations
-  Intelligent Spectrum Monitoring
-  Drone Direction Finding



# Situational Awareness Information System

RFHunter® can be used as a standalone EW system (manpack on the march, stationary on tripod, mobile vehicle mounted) to provide both full spectrum surveillance and radio emission source direction finding. When multiple devices are inter-connected through their built-in wireless mesh network, they can provide precise target geolocation of using Angle of Arrival (AOA) and triangulation techniques.

A ruggedised tablet allows the user to operate the RFHunter® situational awareness information system for mission planning, execution, and system control.

## Main Features include:

- DF surveillance mission planning
- Full Spectrum real time signal analysis
- Multiple target identification and direction finding
- Multiple target geolocation and dynamic map display
- Operator automatic self-geolocation and orientation
- Ethernet cable connection for manpack operation
- Wireless mesh network for remote operation
- Hot swappable battery operation >10h



## Key Technical Features

DF Receiver Characteristics	
Detection Frequency Range	30MHz to 3800MHz
Direction Finding Method	Correlative Interferometer
Scan Rate and Receiver Tuning resolution	0.5 GHz/s with 1.8kHz resolution
DF Accuracy	<= 3 degrees RMS
DF Bandwidth	Selectable from 30.72MHz, 15.36MHz, 7.68MHz or 3.84MHz
Detectable Signal Types	CW, AM, FM, SSB signals and also burst and hopper signals
Shortest Detectable Signal	2.2ms burst signal
Detectable Hopper Signal Rate	450 hops/second
Number of Signals Detectable	DoA of up to 2048 signals simultaneously
Number of Channels	3 complex (I&Q) RF channels
ADC Sample rate	61.44 MSPS
ADC Resolution	12 bits
Sensitivity	-85 dBm @ 10 MHz Bandwidth
Spurious free dynamic range	62 dBc
AGC Dynamic Range	31 dB
Features	
Self-Orientation Sensing	Integrated tilt-compensated digital compass
Self-Positioning Sensing	Integrated multi-constellation GNSS receiver
GNSS time Synchronisation	GNSS board clock synchronisation
Wireless Communication	Mesh network for up to 5 Km range
Wired Communications	Ethernet 10/100 Mbps
Power consumption /Autonomy	7W, 10-12hrs continuous operation
Weight	< 5kg fully ruggedized (without antennas)
Dimensions (length x width x height)	200x165x90mm
Antenna Characteristics	
Number of antennas	Antenna array of 5 (4 switched, 1 fixed)
Antenna for covering the whole frequency range (optional)	Triple antenna array setup (low, mid & high band configurations)
Azimuth coverage	360°
Environmental Data	
Operating Temperature Range	-10°C to +50°C
Ingress Protection Rating	IP67



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