

Portable / Handheld X•SAR Equipment

Portable Handheld Wi-Fi, Bluetooth & Radio Signal RDF – Search and Rescue System

When every second counts, the X•SAR Portable Handheld System provides rapid and reliable direction finding and localization of missing persons — even in the most demanding environments.

This lightweight, field-ready unit combines Wi-Fi detection and Bluetooth scanning, with the option to extend capabilities to radio signal scanning; Radio Direction Finding. It can pinpoint emergency beacons, trackers, push-to-talk, mobile phones and wearables — whether active or transmitting intermittently.

Designed in a rugged, ergonomic and easy carryable housing with interchangeable antennas, X•SAR operates for hours in the field and is engineered for portability, ease of use, and seamless integration into rescue operations.

As add-on to manual visual search missions and camera-based systems, X•SAR uses advanced Radio Direction Finding (RDF) to locate signals without requiring line of sight. It works effectively through obstacles such as debris, vegetation, or rugged terrain.



Covering BLE - WIFI and RF Radio Direction Finding

Portable, field-ready technologies are becoming an essential asset in modern (SAR) search and rescue operations.

In response to this need we have developed the X•SAR Portable Handheld System — an intelligent emergency response tool designed for mobility and ease of use in the field. Engineered for Wi-Fi and Bluetooth detection, and optionally expandable with radio signal-based direction finding (RDF), the X•SAR provides rescuers with precise situational awareness to accelerate operations and save lives.

- Lightweight — 0.5 up to 1.5 kg for maximum drone compatibility
- Long Endurance — Several hours of operation with external powerbanks
- Hot-Swappable — Optionally change batteries without interrupting operations



RDF Handheld solution that combines durability, and operational flexibility.

Housed in a rugged, weather-resistant enclosure, the X•SAR Portable Handheld System is equipped with multiple interchangeable antennas — including both omnidirectional and high-gain directional options.

This versatility enables rapid detection and localization of missing persons across diverse environments such as rural areas, dense forests, open water, or other remote and challenging terrains.

X•SAR — Core Detection Capabilities

Wi-Fi Detection

- Supports 2.4 GHz and 5 GHz bands and all WIFI channels
- Configurable scanning per channel, switching every 0.2 seconds
- Detects both connected and idle devices with Wi-Fi enabled
- Captures device identification in combination with signal strength

Bluetooth Detection

- Supports all Bluetooth and BLE generations, including v1.x to v5.x
- Continuous frequency hopping for rapid, comprehensive scanning
- Passively identifies connected, scanning, and listening devices
- Captures device identification in combination with signal strength

Radio and Beacon Detection (Optional Extension)

- Operating within a frequency range of 100 KHz to 6,000 MHz (6 GHz)
- Scans multiple pre-set beacon and Radio frequency sets per second
- Radio Receiver can be additionally mounted to the UAV or drone
- With a minimum signal strength setting to minimize signal noise
- Real-time frequency recognition alerts are shown on the dashboard

This module is suitable for cases where the subject has only a wireless beacon or push-to-talk radio, with no cellular or smart device.

Cellular Radio Detection (Optional Extension)

- Passive signal monitoring for 2G GSM, 4G LTE, and 5G
- Scans all available cellular frequency sets in under a second
- Detects all cellular devices, GPS trackers, and signal bursts in range
- Reports minimum, maximum, and average signal power levels
- Real-time cellular detection alerts are visible inside the dashboard

This module is essential when the missing person is carrying only a cell phone or GPS tracker, or when vehicles have a built-in eCall system.

X•SAR — Fast, Accurate Localization

When the X•SAR passively detects a device signal, it:

- Uses the operator's Mobile App GPS to pinpoint the handheld operations.
- The X•SAR Mobile App comes with in-app logging and alerting capabilities.
- Allows the operator to approach while monitoring increasing signal strength.



X•SAR Key Benefits

- Ruggedized and weather-resistant
- Rapid, multi-signal detection (Wi-Fi, Bluetooth, Cellular, Radio)
- Works in poor visibility or camera-limited conditions
- Delivered including a mobile app for tracking and (voice) notifications, and many other features

Go beyond optical-only search methods with X•SAR — detecting Radio Signals even when terrain, foliage, or weather obscure visual contact, closing critical detection gaps.

Web: www.X-Sensor.net/SAR

Mail: info@X-Sensor.net

Tel: +31-85-877-1767