UVS.Dynamics

DATASHEET

UVS Detector

A field SDR radio-monitoring station that sweeps, detects, classifies, identifies and decodes — autonomously, with no network.

KEY FEATURES

- The full cycle in one station: sweep, detect, classify the modulation, identify the emitter and decode, all from one operator-grade UI.
- A threat library built for this war: 360+ emitter profiles, 105 of them hostile — Russian tactical radios and EW stations, Shahed, Lancet, Orlan, ZALA, Mohajer; a friendly signal is not automatically flagged as hostile.
- Recognises drone links: ExpressLRS, TBS Crossfire, FrSky, FlySky, DJI O3/O4, Walksnail, HDZero, analogue FPV; DJI DroneID alarm with 10 s of pre-event recording.
- Direction finding: MUSIC, correlative interferometer, Watson-Watt and pseudo-doppler on a coherent array of 2–6 SDRs, TDOA between stations.
- Unattended watch: scheduled missions and trigger recording with pre-roll; with a GNSS receiver attached, GNSS spoofing detection from four indicators combined into one alarm.
- You control what leaves the station: Isolated / LAN / Full modes; the shared database exchanges only anonymised fingerprints, never raw IQ; the model retrains on the station itself.

SPECIFICATIONS

Type	Software SDR radio-monitoring platform for the tactical-level operator
Frequency coverage	70 MHz – 6 GHz or 325 MHz – 3.8 GHz, depending on the SDR model
Supported SDRs	HamGeek E310, LibreSDR, PlutoSDR (USB or IP); RTL-SDR Blog V4 (receive-only)
Sweep plans	Full · Targeted · Stare · FollowFHSS; FHSS tracker
Classification	24 modulation classes: deterministic rules + ML model
Identification database	360+ emitter profiles, 105 of them hostile
Drone links	ExpressLRS · TBS Crossfire · FrSky · FlySky · DJI O3/O4 · Walksnail · HDZero · analogue FPV
Decoding	PAL · NTSC · SECAM · NBFM/WFM/AM/SSB · ADS-B · AIS · APRS · POCSAG · DMR · NXDN · YSF · LoRa · LTE · Wi-Fi
Direction finding	MUSIC · correlative interferometer · Watson-Watt · pseudo-doppler · TDOA
Deployment profiles	single (1 SDR) · dual (2 SDRs) · dual_coherent (2–6 SDRs, shared 10 MHz + PPS)
Network modes	Isolated · LAN · Full
UI	40+ panels, 4 layout presets
Host	x86_64 mini-PC, Ubuntu 26.04 LTS, TPM 2.0; reference 8 cores / 32 GB / NVMe + separate IQ NVMe; minimum 2 cores / 4 GB (lite mode)
Delivery and protection	Signed .deb (systemd) and AppImage; hardware licence key + EULA

COMPOSITION

From UVS: UVS Detector software (signed .deb and AppImage packages), the UVS hardware licence key (USB, 1.54" e-ink display, RGB indicator, three buttons for on-key confirmation), technical documentation under NDA. Off-the-shelf hardware supplied by the customer: an x86_64 mini-PC with TPM 2.0 per the reference configuration, one or more SDRs from the supported list, antennas; optionally a GNSS receiver and a shared 10 MHz / PPS source for a coherent array.

INTERFACES

SDR over USB or IP; hardware key over USB; optional GNSS receiver (GNSS spoofing detection); shared 10 MHz + PPS reference for coherent direction finding; local network (Ethernet) for station federation and TDOA; integration API in Full mode (signals, alerts, trigger recording) with token-based access; IQ capture export and import in SigMF format.

AVAILABILITY Early access for partners by separate agreement (NDA): describe your task via the contact form — we verify the counterparty and provide builds, a demo and documentation; supply outside Ukraine is subject to export control.