

HUGIN & MUNIN

Tactical Multi-modal Sensor Cluster
C-UAS, Situational Awareness



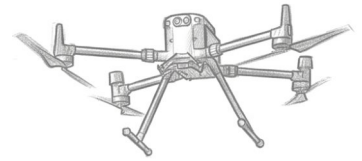
nibpi Acoustics
& Optics

See The Unseen Hear The Unheard

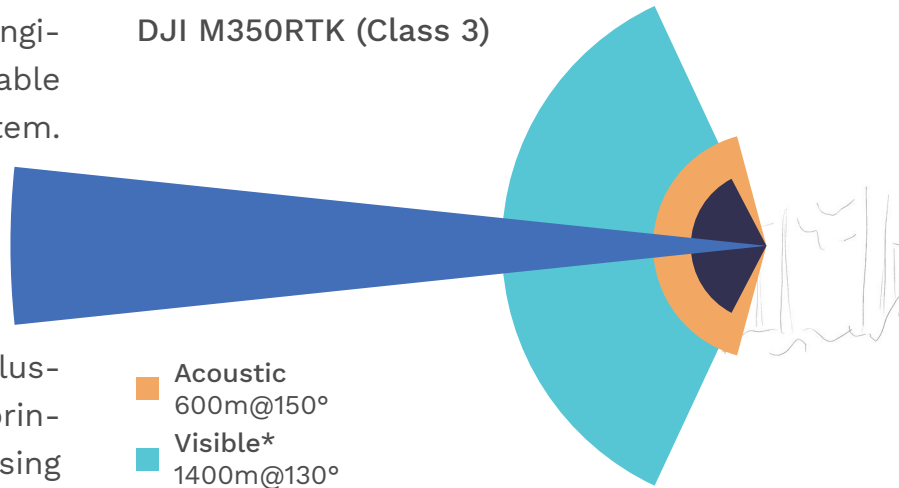
Vision and Hearing, Day and Light **Absolute Vigilance**

Inspired by the ancient watchers who stood guard over fortified perimeters with unmatched senses, we have engineered an ultra-low SWaP, man-portable situational awareness and CUAS system. For the dismounted soldier, individual C-UAS detection capabilities are critically limited.

Our Tactical Multi-Modal Sensor Cluster(TMMSC) embodies this ancient principle of **absolute vigilance** by fusing acoustic detection with multi-spectral visual tracking. It acts as the ultimate perception node, **securing both your airspace and ground perimeter without exposing your position.**



DJI M350RTK (Class 3)



- Acoustic
600m@150°
- Visible*
1400m@130°
- Visible**(360°)
4000m@12°
- IR
400m@125°

500m
1000m

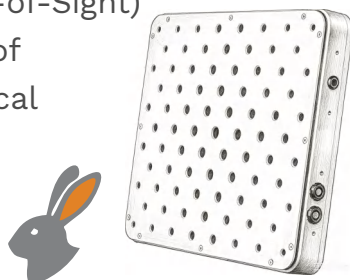
||| Acoustic Detection (**HUGIN**):

AI-driven Microphone Array

Advanced 48-cell MEMS microphone

Provides a 150° directional detection sector. **Edge-AI** directly detect, classify, and track the signatures of rotary-wing UAS, combustion engines, and loitering munitions within noisy environments.

True **NLOS** (Non-Line-of-Sight) detection regardless of weather, fog, or physical obstructions.



||| Optical Detection (**MUNIN**):

Edge-AI Tri-Mode Camera

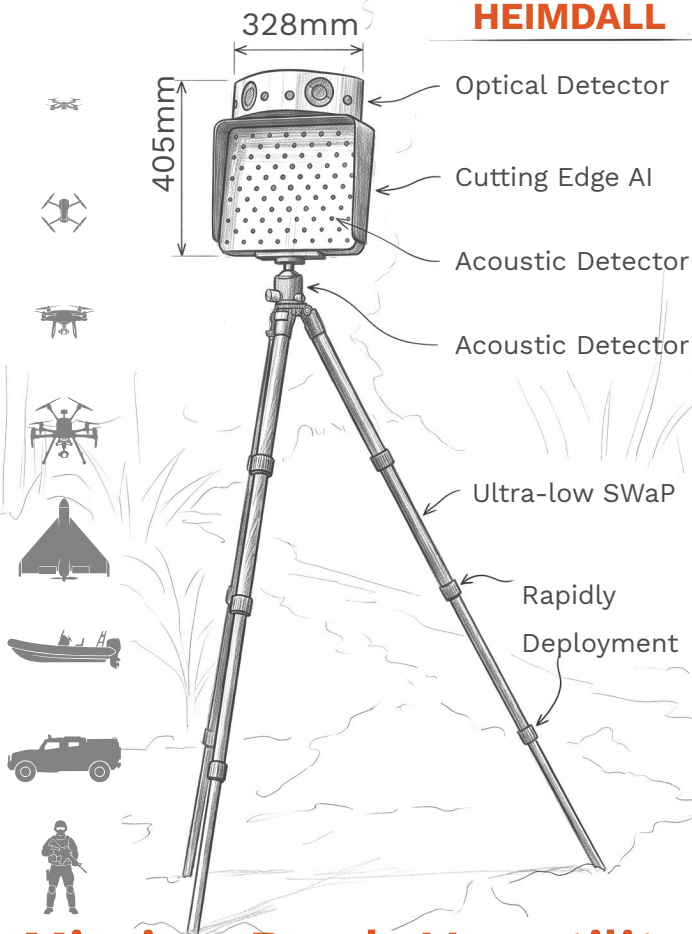
HD tri-mode EO/IR panoramic vision, coupled with a telephoto/zoom camera.

Edge-AI driven autonomous scanning, target verification across daytime, IR, and magnified visual spectrums.

Acts as the visual confirmation layer. It locks onto the precise coordinates provided by Hugin and panoramic vision, utilizing its optical zoom to identify threats.



HEIMDALL



Mission-Ready Versatility

Frontline C-UAS (Counter-UAS): Integrates with portable kinetic interceptors to form a low-altitude defense dome.

Maritime & Coastal Security: Ideal for professional transport vessel escorts and anti-piracy situational awareness.

Critical Infrastructure Protection: Serves as the forward sensory nerve for perimeter security networks.

Forward Operating Base (FOB) Security: Deploy continuously without the risk of attracting anti-radiation missiles or giving away base coordinates to enemy signal intelligence (SIGINT).

Tactical Features

- Passive Detection
- Immunity to EW
- Fast Deployment
- Fusion Sensor
- Ultra-low SWaP
- Cutting Edge AI
- Superior LSS Detection
- Flexible Modular Design
- Easy to Integrate in C2
- Open-architecture Framework
- All-Weather Reliability



Man-portable Counter-UAS (C-UAS) Situational Awareness

Fusion Passive Detection



Specifications

HEIMDALL			
HUGIN		Number of Microphones	48
Acoustic Node		Sensor Type	MEMS
		Dynamic Range	30dB~120dB
		Horizontal FOV	150°
		Detection Range FPV/Class 3	600m/1950ft
		Detection Range Shahed 136	5000m+/16400ft
MUNIN		Resolution	7680*2160
Optical Node	Visible*	Fusion FOV	130°*42°
	IR	Resolution	2560*512
		Fusion FOV	125°*26°
	Visible**	Resolution	1920*1080
		FOV	3.2°~58.3°
		Detection Range Class 2	800m*/ 250mIR/2000m**
		Detection Range Class 3	1400m*/400mIR/4000m**
SYSTEM		Operational Temperature	-30°C~65°C
Sensor Cluster		Network	TCP/IP, 4G/5G
		Ingress Protection	IP65
		Standard	MIL-STD-810G
		Dimensions	505mm*326mm*150mm
		Weight	6.4kg
		Platform	