CYDRA
DEFENSE

COUNTER-UAS PLATFORM

// CAPABILITY BRIEF
V0.1 · 2026
OPERATIONAL PILOT

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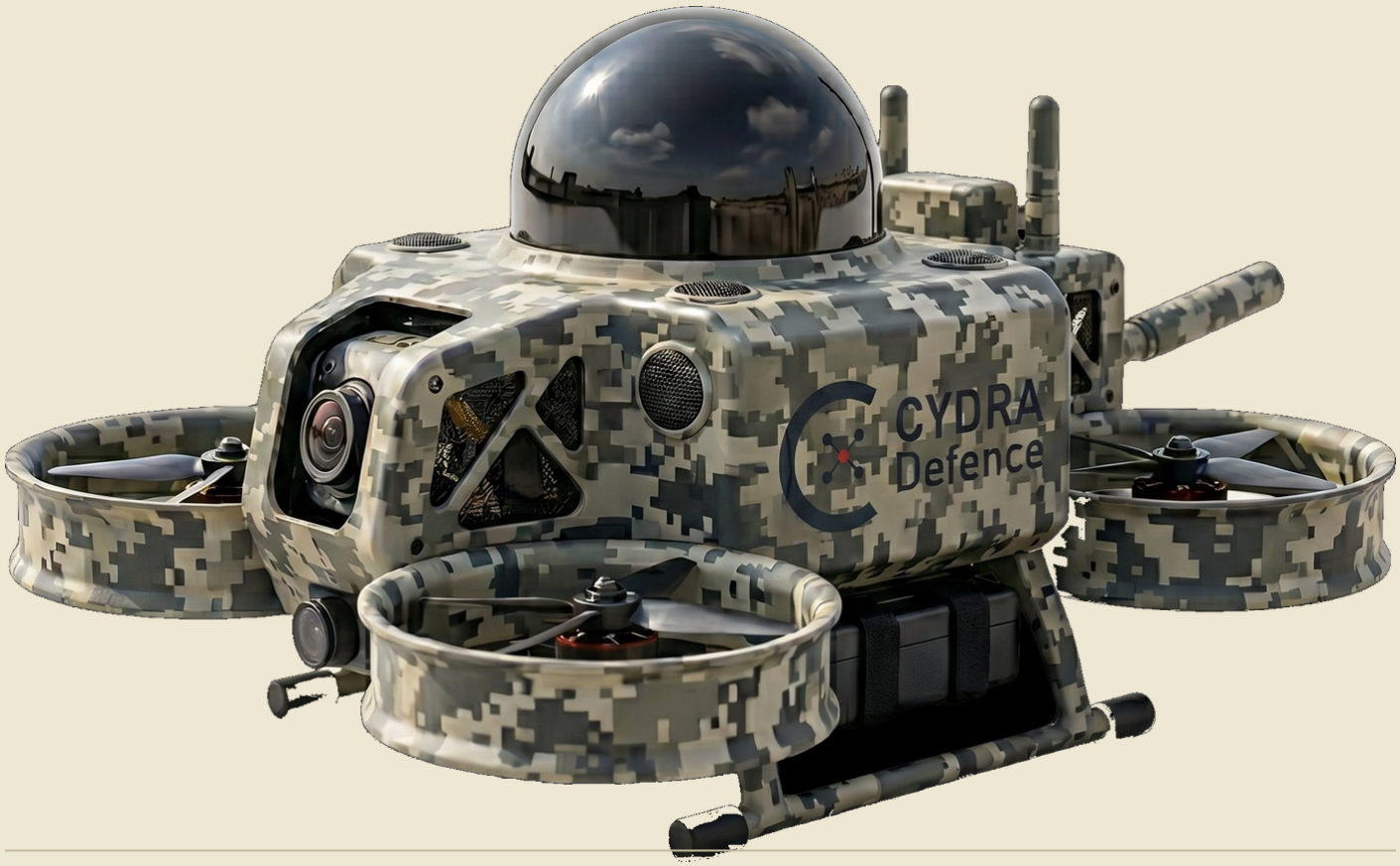
It listens like a cicada. Hunts like a dragonfly.

AI counter-drone defense designed to cost less than the drone it stops. Passive acoustic detection. Predictive autonomous interception.



/ CYDRA-01 · INTERCEPTOR

PROTOTYPE · 2026

// 01 · THE PROBLEM

Mass-produced drones **are winning** the cost war.

The modern battlefield is being reshaped by hostile sUAS. Shahed-class loitering munitions, Mohajer-series drones, and weaponized commercial quadcopters arrive in swarms. They're cheap. They're plentiful. They're getting smarter.

The Threat Profile

Commercial-grade quadcopters, fiber-optic-controlled FPV drones, and mass-produced loitering munitions cost $400–$50,000 per unit. They are launched in volume against hardened targets — vehicles, ships, infrastructure, personnel. RF jamming defeats some. Many no longer use RF at all.

The Defender's Dilemma

Today's counter-drone systems rely on legacy missiles and gun systems engineered for cruise missiles and aircraft. A single round can cost $100,000+. The cheap solution — RF jamming — fails against fiber-optic-controlled drones, which carry no radio link to disrupt. They must be physically obstructed, which forces defenders back to high-cost kinetic intercepts. When the attacker spends $500 and the defender spends $500,000, the math fails before the engagement begins.

// THE COST EQUATION

// LEGACY MODEL

$500 attack

$500,000 defense

Unsustainable.

Defender bankrupts before attacker runs out of drones.

// CYDRA MODEL

$500 attack

< $500 defense

Sustainable.

Defender's cost equals or undercuts the attacker's. The math reverses.

// 02 · MODE 01 · CICADA

Listen. **Locate.**

Cydra begins in passive acoustic mode. Distributed units deploy across an area and listen for the rotor harmonics of hostile quadcopters — the 100–300 Hz blade-pass tones and their high-frequency overtones that drones can't hide.

- → **No active emissions.** Cydra is silent in detection. No radar signature. No RF transmission.
- → **Effective against low-RF and fiber-optic drones** that defeat conventional jamming.
- → **Distributed acoustic grid** with low cost-per-node — protect more area, fewer dollars.

// ACOUSTIC ENVELOPE

How far **it hears.**

Each Cydra carries a calibrated, high-end microphone array tuned to small-quadcopter rotor harmonics. The numbers below are realistic detection ranges for small consumer quadcopters in passive Cicada mode.

// QUIET · OPEN TERRAIN	// URBAN · MIXED	// HIGH WIND · NOISE
200–300 m	80–150 m	40–100 m
Rural, low wind, clean sightlines.	Near roadways, structures, machinery.	Wind, rain, ambient noise reduce signal.

// SINGLE UNIT

Bearing, instantly.

One Cydra returns precise **azimuth and elevation** — the threat is "northeast, 25° up" before a person hears anything. Direction, not distance.

// MESH OF THREE+

Full 3-D position.

Three or more units cross-correlate the same signature and **triangulate to a point in space**. Cicada is built for the mesh — one drone hears, the network locates.

// 03 · MODE 02 · DRAGONFLY

Predict. **Intercept.**

Once Cydra detects a threat, it shifts from listening to hunting. Like a dragonfly, Cydra does not chase the target — it predicts where the target is going. AI fuses microphones, optical dome, and onboard autonomy to forecast the target's path and calculate the optimal interception approach. The attacking drone becomes the prey.

- → **Predictive interception** — AI projects target trajectory and intercepts at the future point, not the current one.
- → **200 km/h closure** from a 750 g platform — fast enough to catch FPV-class drones, light enough to be expendable.
- → **Onboard autonomy** — works in GPS-denied environments and against fiber-optic drones.

// CYDRA-01 · SPECIFICATIONS

MASS	TOP SPEED	CICADA MODE	DRAGONFLY MODE	MESH RANGE
750 g	200 km/h	100 days	22 min	4 km

Dual-mode endurance: 100 days passive listen on standby; 22 minutes active flight time during pursuit. The same unit serves both phases.

// FEATURE INVENTORY

// FT-01

Acoustic Array

High-end microphone cluster tuned to small-quadcopter rotor harmonics. The sensor that drives Cicada Mode.

// FT-02

Optical Dome

Wide-FOV vision system feeding the Dragonfly Mode pursuit stack. Operates in GPS-denied conditions.

// FT-03

Ducted Interceptor

High-velocity prop ducts deliver the pursuit closure speed without sacrificing the platform's small form factor.

// FT-04

Mesh Networking

Cydra units form a peer mesh — one detection becomes a coordinated kill chain across the swarm.

// 04 · WHY CYDRA

The economics **have to flip.**

Five reasons Cydra reverses the equation where legacy systems can't.

// 01

Cost-Symmetric Defense

Cydra's per-engagement cost is engineered to match or undercut the attacker's per-drone cost. The math finally works for the defender.

// 02

Passive Detection First

No radar, no jammer, no emissions. Cydra finds drones that defeat conventional sensors — including fiber-optic and low-RF threats.

// 03

AI-Native Autonomy

Onboard inference handles classification, trajectory prediction, and intercept planning. No tether to a ground station required.

// 04

Distributed by Design

The mesh is the system. More nodes mean more coverage, more bearings, faster triangulation, and graceful degradation under attack.

// 05

Built for Mass-Produced Threats, Across Theaters

Operational pilots span MENA, Eastern Europe, Black Sea, and other theaters where hostile sUAS operate today. Cydra is fielded for the threat as it actually exists — not as it was forecast a decade ago.

OPERATIONAL PILOT · NOW BOOKING

Reverse the **cost equation** of drone warfare.

From low-cost attack and high-cost defense to low-cost attack and even lower-cost defense.

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