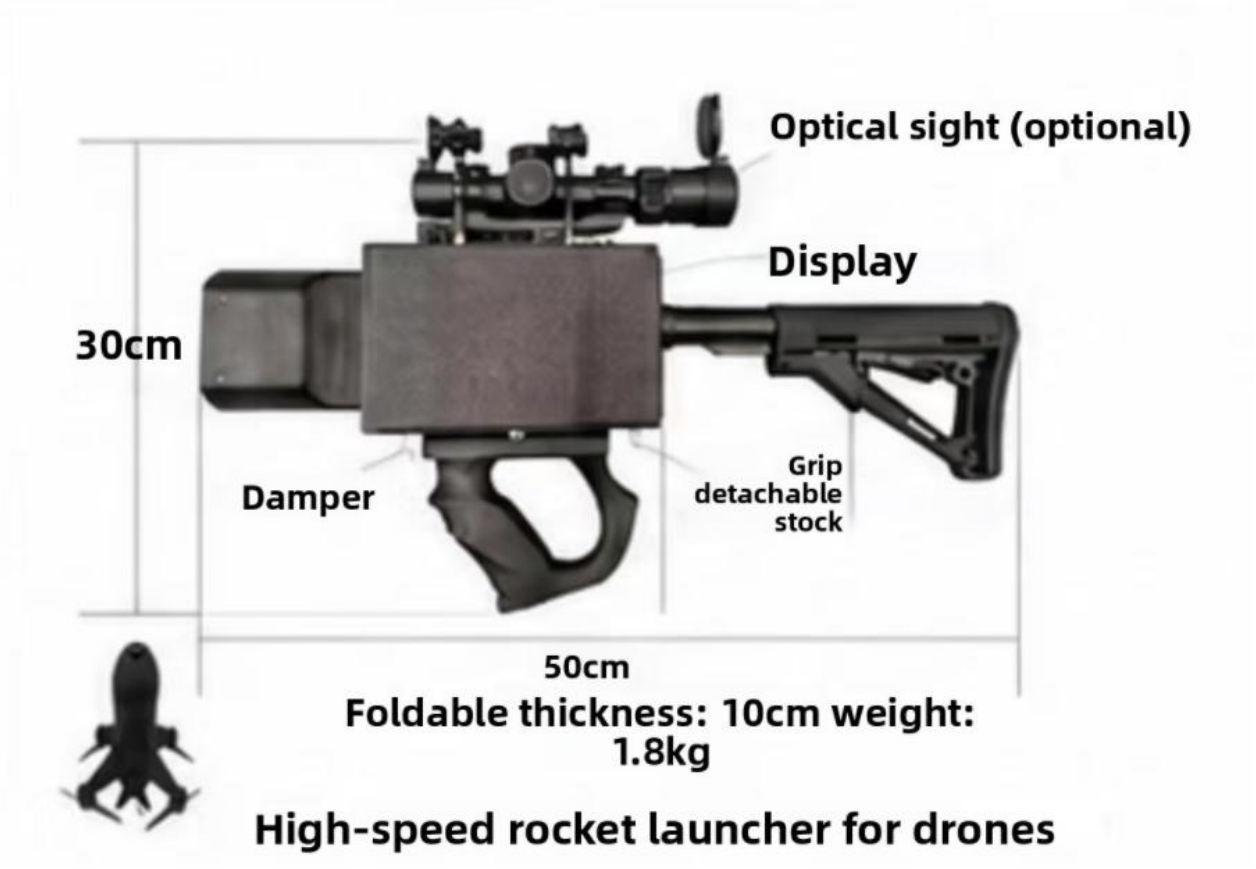


7-inch High-Speed FPV Drone

AI Dual-Visible-Light Tracking System

Technical Datasheet

Product Model	7-inch FPV + AI Dual Visible Integrated System
Document Revision	V1.0
Release Date	September 2026
Document Type	Technical Datasheet



1. Product Overview

This system integrates a 7-inch high-speed FPV drone platform with the DD075CCT AI dual-visible-light tracking module. It is a rocket-type racing quadcopter interceptor drone with a maximum flight speed of 350 km/h, specifically designed to intercept low-slow-small UAVs flying at speeds below 250 km/h.

The DD075CCT AI dual-visible-light tracking module integrates a telephoto visible-light camera and a short-focus visible-light camera, featuring autonomous target recognition, lock-on, tracking prediction, and geo-location capabilities. The telephoto camera provides long-range target recognition and tracking, while the short-focus camera outputs ultra-low-latency analog video for first-person-view (FPV) flight. Once locked, tracking is not interrupted by signal jamming devices.

The system supports ground takeoff mode and can track and strike moving ground targets from the air. It is also suitable for critical infrastructure air defense, counter-terrorism, and emergency response scenarios.

2. Application Scenarios

- Low-slow-small UAV detection and interception
- Ground moving target tracking and precision strike
- Critical infrastructure air defense and perimeter surveillance
- Counter-terrorism and emergency response
- FPV racing and high-speed flight platform

3. System Components

3.1 7-inch FPV High-Speed Drone Platform

Rocket-type fuselage design with four-axis power layout and 7-inch propeller configuration. Features high speed and high maneuverability, with a maximum flight speed of 350 km/h and a control radius of 10-15 km.

3.2 DD075CCT AI Dual-Visible-Light Tracking Module

The DD075CCT AI tracking module is equipped with one telephoto visible-light CMOS sensor and one short-focus visible-light CMOS sensor. The short-focus visible-light camera can output analog visible-light video with extremely low latency for FPV first-person-view flight; the telephoto visible-light camera features autonomous recognition, lock-on, tracking, and guidance capabilities for targets such as people, vehicles, and windows.

The module integrates a tracker with autonomous target recognition, target detection and tracking prediction, and target geo-location functions. The servo controller and tracker board are mandatory components.

4. Technical Specifications

4.1 FPV Drone Platform Parameters (7-inch)

Parameter	Specification
-----------	---------------

Wheelbase	300 mm
Maximum Load	550 g
Recommended Load	450 g
Control Radius	10 - 15 km
Maximum Flight Speed	350 km/h
Maximum Flight Height	5 km
Average Flight Speed	97 m/s
Battery Life	6 min
Interceptable Target Speed	≤ 120 km/h (ground targets)
Takeoff Mode	Ground takeoff

4.2 DD075CCT AI Tracking Module Parameters

4.2.1 Telephoto Visible-Light Camera

Parameter	Specification
Visible-Light Sensor	1/3.52" CMOS
Pixel Size	2.2 μm × 2.2 μm
Optical Focal Length	16.26 mm
Field of View (FOV)	14.8°(H) × 8.4°(V) (±5%)
Image Resolution	1920 × 1080
Video Resolution	1920 × 1080 @ 50 fps

4.2.2 Short-Focus Visible-Light Camera

Parameter	Specification
Visible-Light Sensor	1/4" CMOS
Pixel Size	2.7 μm × 2.7 μm
Optical Focal Length	1.75 mm
Field of View (FOV)	113.1°(H) × 63.6°(V) (±5%)
Image Resolution	1280 × 720
Video Resolution	1280 × 720 @ 100 fps
Video Output	Analog video (ultra-low latency)

4.2.3 Tracker

Parameter	Specification
Functions	Autonomous target recognition; Target detection and tracking prediction; Target geo-location.

4.3 AI Guidance System Performance

Parameter	Specification
Target Recognition Range	Under daytime visibility ≥8 km: telephoto camera adult target recognition range >600 m, short-focus camera >80 m;
Target Geo-location Accuracy	CEP 10 m
Ground-to-Air AI Lock-on Tracking Range	800-1200 m
Air-to-Ground AI Lock-on Tracking Range	400 m / 1200 m
Trackable Target Speed	≤ 250 km/h (aerial targets); ≤ 120 km/h (ground targets)
Air Defense Strike Hit Rate	75% (target speed ≤250 km/h)
Air Defense Strike Deviation	Maximum deviation from target center: 1 - 1.5 m
Ground Strike Hit Rate	100% (moving target speed ≤120 km/h)
Anti-Jamming Capability	Tracking not interrupted by signal jamming devices once locked
Remote Control Distance	5 km

4.4 Power Supply and Power Consumption

Parameter	Specification
Power Supply	DC 10.8V - 26.4V @ 3A
Steady-State Power Consumption	< 7 W

4.5 Output Interfaces

Interface Type	Description
Video Output	IP video, Analog video
Control Interface	TTL UART, Network

5. Physical and Environmental Specifications

Parameter	Specification
Camera Component Weight	43 ± 2 g
Servo Controller + Tracker Weight	56 ± 2 g (mandatory)
Operating Temperature	-20°C to +55°C
Storage Temperature	-45°C to +60°C
Rain Test	Operates normally under light rain conditions

6. Launcher Parameters (Optional)

Parameter	Specification
Weight	1.8 kg
Overall Length	50 cm
Maximum Width	30 cm
Folded Thickness	10 cm
Top Eyepiece	Aids human eye in identifying targets up to 800 m away
Body Display Screen	Foldable
Tail Handle	Retractable

7. Working Procedure

The system working procedure is as follows:

Identify > Aim > Confirm with remote control lever > AI tracking and strike

The drone camera identifies the target type and generates a lock symbol. The operator moves the crosshair cursor to a specific target and locks onto it using the remote control joystick. Once locked, the AI algorithm hardware takes over the drone, maximizing its speed to pursue the target.

8. Precautions

- Before use, always confirm that the drone is securely mounted on the launcher.
- Do not frequently power the drone on and off. Wait at least 30 seconds after shutdown before restarting.
- Do not touch the camera lens surface directly with fingers. Use a soft, dry cleaning cloth to wipe the lens.
- Use the product within the specified temperature range. Avoid extreme environments.
- Specifications are subject to change without prior notice.