

3AUTONOMY LLC

3AK02 MIRA /'mi.ra/ verb, Spanish — "to look; to see"



NDA A COMPLIANT EXTENSIBLE ISR sUAS PLATFORM

The K2 Mira is a lightweight, modular quadrotor sUAS designed for ISR, training, and payload delivery applications. Built on an FDM 3D-printed ABS-GF airframe, K2 Mira is operator-friendly, field-repairable, and designed for rapid iteration, development, and deployment.

The platform architecture is component-agnostic: flight controllers, ESCs, GNSS modules, RF data links, and cameras can be swapped to meet customer requirements or adapt to component availability. The default configuration described here represents a proven, flight-tested baseline.

NDA A Section 848 compliant. Designed and assembled in the United States from domestic and allied supply chains. Available as a ready-to-fly system, build kit, training package, or custom integration.

SPECIFICATIONS

In baseline configuration

PERFORMANCE

- 30+ min flight time (mixed mission)
- 35+ mph max speed
- Wind tolerance: 25 mph sustained
- 5-10 km operational range
- 2.1 kg (4.6 lbs) ready to fly

CAMERAS

- 12MP wide angle daylight (Sony IMX708)
- *Hardware accelerated AI camera (IMX500)*
- *SEEK Thermal imaging options*
- 1080p / 720p / 480p selectable
- Single-axis gimbal (pitch)

BATTERY

- 6S3P Li-Ion, 12,000 mAh
- Amprius Silicon Anode 18650 Cells
- XT90 power + JST balance connector
- Standard hobby charger compatible

NAVIGATION

- GNSS (GPS/GLONASS)
- Optical flow + rangefinder
- GPS-denied position hold
- Autonomous flight and mission planning

CONSTRUCTION

- FDM 3D-printed ABS-GF airframe
- Compact, portable folding design
- 12-inch polymer fiber propellers
- Field-repairable by end user

DATA LINK

- Modular RF data link bay
- Default: dual-band 2.4/5 GHz
- Up to 8 Mbps video downlink
- 600 kbps telemetry + RC uplink
- AES-256 encryption
- Customer-specified radios supported

PAYLOAD SUPPORT

- MIL-STD-1913 Picatinny hardpoint
- 5V @ 2A regulated payload power
- PWM/GPIO configurable control
- 3-pin connector (GND, Signal, VIN)
- 1 kg max payload weight

GROUND CONTROL STATION

- Custom handheld GCS
- Integrated display, gimbals, controls
- QGroundControl / ATAK compatible
- Supports customer-specified data links

DEFAULT ELECTRONICS

- Flight Controller: STM32H7-based
- Companion Computer: Linux SBC
- Firmware: ArduPilot (open source)
- IMU: Dual redundant gyroscope
- Video: 1080p @ 30fps, H.265
- Interfaces: UART, I2C, SPI, CAN, PWM

3AK02 MIRA System Details

BUILD KIT CONTENTS

Airframe: 3D-printed ABS-GF frame components (optional, files provided)

Flight Controller: STM32H7-based (preconfigured)

Companion Computer: Linux SBC (software loaded)

Camera: 12MP wide angle daylight camera

ESC: 4-in-1 electronic speed controller

Motors: 4x brushless motors, pre-wired

GNSS Module: GPS receiver

Optical Flow: Position hold sensor + rangefinder

RF Data Link: Air unit + antennas (configurable)

Battery: 6S3P Li-Ion pack + XT90 connector

Props: 12-inch carbon fiber (2 sets)

Gimbal: Single-axis pitch servo mount

Hardware: Fasteners, wiring, connectors

AVAILABLE CONFIGURATIONS

Build Kit: Component kit for student assembly and training. All electronics are preconfigured. Frame printed on-site or provided.

Ready to Fly: Fully assembled and flight-tested system. GCS available bundled or purchased separately.

Training Package: Complete curriculum with build kits, GCS units, lab materials, and on-site support.

Custom: Customer-specified component selection. Tailored to mission requirements and organizational standards.

COMPLIANCE

- NDAA Section 848 compliant
- No components from covered foreign entities
- All active electronics sourced from US or allied nations
- Open-source flight firmware (ArduPilot)

TRAINING PACKAGE

- Design, Build, Fly, Repair Curriculum
- CAD and additive manufacturing
- Electronics assembly and soldering
- ArduPilot configuration and tuning
- Ground control station operation
- Field maintenance and diagnostics
- Supports class sizes up to 6 students
- 2-day, 3-day, and 5-day course options

UPGRADE PATH

- SEEK Thermal imaging sensor
- Hardware accelerated AI camera (IMX500)
- Multi-axis gimbal stabilization
- Custom payload integration
- Carbon fiber premium airframe



The K2 Mira is designed and assembled in the United States from domestic and allied supply chains. The airframe is open for modification and can be printed on consumer grade FDM printers using ABS-GF filament. The modular design allows end users to make field repairs or airframe modifications themselves.