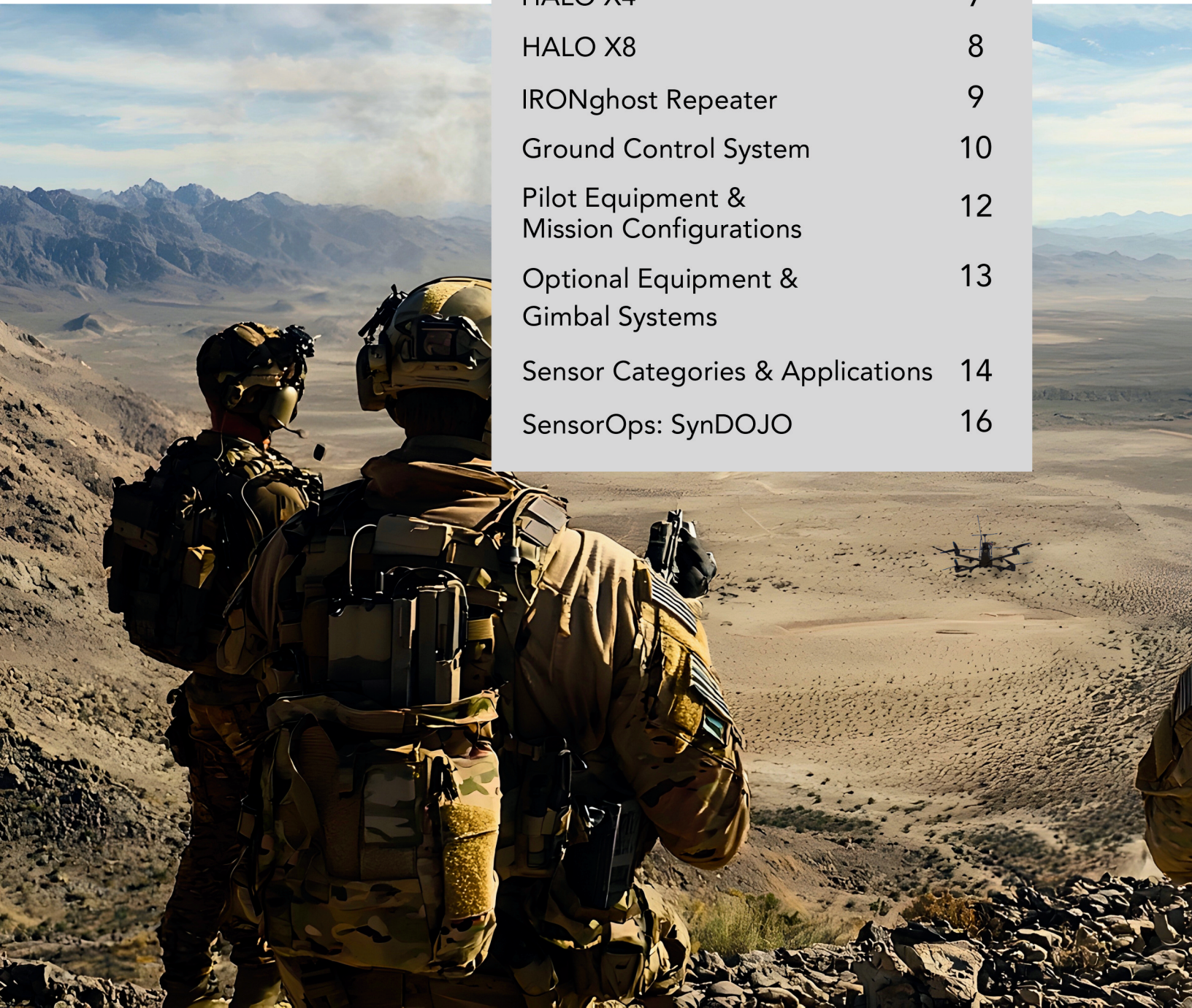


HALO AERONAUTICS
COMMAND THE SKIES
DOMINATE THE MISSION

Unmanned systems, ISR superiority, and integrated mission tech—built for decisive advantage

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HALO AERONAUTICS MISSION-READY UAS FOR GLOBAL DEFENSE

HALO Aeronautics delivers uncompromising UAS dominance to the modern battlespace. We fuse warfighter-driven design with next-gen technology, rapid prototyping, and full-scale production to meet mission-critical demands. Our proven ability to execute at scale and maintain strict federal compliance ensures HALO platforms are ready when the fight calls. From our dedicated prototype facilities in Virginia Beach, VA, and Fayetteville, NC, we provide hands-on support, collaborative design, and onsite training for the Department of War's (DoW) most demanding programs.

HALO dominates all phases of UAS development and deployment—operational requirements, tactics, pilot and unit training, sustainment, and advanced engineering. Our systems slash operational costs while amplifying mission lethality. Built for endurance and stealth, HALO platforms deliver extended flight times, ultra-low acoustic signatures, and multi-domain capability across air and water.

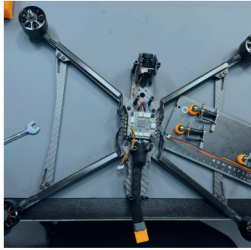
We're not just building UAS. We're redefining battlefield superiority.



UAS DESIGN & ENGINEERING

HALO tailors proven designs to meet mission demands or integrates state-of-the-art technology to build wholly new Group 1, 2, or 3 platforms to your mission specifications.

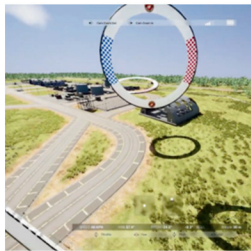
Leveraging advanced manufacturing techniques, HALO's **Rapid Prototyping** capability provides mission-tailored solutions in hours instead of weeks.



MAINTENANCE & SUSTAINMENT

HALO platforms are engineered to be repairable by service members in austere environments. These features are available on all HALO drones:

- Repair parts kits
- Tool-less assembly
- NDAA-compliant components
- Secure supply chain



TRAINING

Military training is a core HALO competency. We offer onsite, multi-level First Person View (FPV) Pilot Training as well as Maintenance and Repair courses. The HALO FPV Pilot Training model features a 3-tier approach:

- HALO FPV simulator – Beginner
- Trainer 3-5" drones – Intermediate
- 8-15" mission drones – Advanced



FPV PILOT TRAINING SIMULATOR

- Multi-mission simulator supports basic, intermediate, and advanced pilot skill levels
- Realistic EW/jamming and other operational effects
- Terrain configurable to support more realistic training – including subterranean
- Suitable for mission rehearsal using actual objective terrain
- Train on all HALO UAS platforms
- Train with multiple munition types/weights
- Laptop-based

UAS PLATFORMS

HALO features an extensive catalog of military UAS platform solutions in wide use by US and European forces. All platforms are Vertical Take Off and Landing (VTOL) and can be flown from virtually any location – no airfield required. First Person View (FPV) piloting enables precision surveillance and strike operations.

- Autonomy and Autopilot enabled through common flight control software: ArduPilot, MAVLink, PX4, Betaflight, iNav as well as Tactical Assault Kit (TAK)
- Group 1-3 platforms optimized for over-ground, over-water, indoor, subterranean, and training applications
- State-of-the-art encrypted and Electronic Warfare (EW) resilient communications

HALO UAS Platforms Feature

- All HALO platforms are fully NDAA-compliant
- Mission-focused design
- First Person View or autonomous piloting
- Vertical Take-Off and Landing
- All carbon fiber, lightest weight construction
- Low-cost non-NDAA-compliant configurations available
- Payload agnostic – integrating any kinetic or sensor payload
- Ultra-low acoustic signature
- Tool-less assembly/Operator repairable
- EW-resilient, encrypted communications

ENCRYPTED COMMAND & CONTROL SYSTEMS

WAVEFORM	EW-resilient frequency-hopping, spread spectrum
FREQUENCIES	Dual sub-GHz C2 link with 5.8 GHz analog video link (FPV video)
TRANSMISSION RANGE	Up to 30+ km LOS. Double operational range with encrypted repeater
STORAGE	Internal black box recorder, 32GB
ENCRYPTION	AES-128/256; secure pairing within 10 seconds
MISSION PLANNING	TAK integration



PERSES FPV QUAD

MULTI-MISSION FLEET



HALO Perses is the premier multi-mission First Person View (FPV) multicopter system, designed and built for versatility, effectiveness, and cost efficiency. Perses comes equipped with an EW-resilient encrypted control link or can be configured with the IRONghost radio operating on two sub-GHz bands and a 5.8 GHz analog video channel for FPV pilot video.

Built around a robust common core and interchangeable arm sets, the Perses provides an effective balance between vehicle form-factor, payload capacity, and range. Thanks to the encrypted control link, the Perses can achieve unparalleled range with best-in-class EW performance.

- Optimized for autonomous flight
- Modular/Serviceable system
- Multi-C2 Band options available
- Picatinny & V-block payload mounts
- Ultra lightweight/All carbon fiber
- Foldable, waterproof
- Ready to fly in less than 1 minute
- Low acoustic signature

PERSES MODELS & PAYLOADS

3"	600g
5"	900g
8"	2.0kg
10"	4.0kg
10" HL	5.5kg
13"	6.0kg

HALO INDOOR TRAINER

(HIT)



HALO Indoor Trainer (HIT) is a lightweight multi-role First Person View (FPV) multicopter UAV, designed for simplicity and cost efficiency, without compromising operational capabilities and effectiveness.

The HIT has been designed as a high-performance 3.5" quadcopter that can be easily and quickly assembled without any special tools, expert knowledge, or specific skills, while still ensuring professional-grade build yield and reliability.

- Ideal for indoor & subterranean ops
- Multi-C2 band options available
- 700g payload for 4 minutes flight time
- LED flood/IR lighting
- Ruggedized carbon frame
- Custom video switch board
- Custom power switch board
- Ready to fly in less than 10 seconds
- Payload agnostic up to 700g
- Fiber optic ready
- Non-NDAA-compliant configurations available

MATRIX 5" | 10" | 15"



MATRIX 5", 10", and 15" are lightweight, low-cost, UAVs, designed for performance and endurance at an attritable price point. Developed and tested in real-world conflicts, the MATRIX series drones offer unmatched versatility in any battlespace.

- Low-cost
- Ready to fly in less than 1 minute
- Payload agnostic up to 7kg (typical 3kg load)
- Various C2 Options (TBS/ELRS/ HUSH Encryption ELRS)
- Digital radio ready! (MPU5, SILVUS, DTC, Doodle, etc.)
- 3.2W wide band VTX stock (other band options available)
- Dual camera switcher included and ready to plug in
- Various EO camera options available
- HUSH thermal camera options (256, 384, 640 res)
- Click-on side covers to protect electronics
- Universal payload mount included
- Maritime & fiber optic ready
- Non-NDAA-compliant configurations available

HALO X4



HALO X4 is a lightweight, heavy lift, multipurpose and modular quadcopter. With its unique reconfigurable payload system, robust C2, and mission planning software, the X4 rapidly adapts to mission and operational requirements.

- Optimized for autonomous flight
- Max flight time - 2 hours
- Max payload weight - 7kg
- Ultra lightweight/All carbon fiber
- Foldable, waterproof
- Low acoustic signature
- Reconfigurable payloads:
 - EO/IR thermal gimbal cameras
 - * Next Vision, Trilium, Other
 - LiDAR/mapping
 - Ground penetrating radar
 - Single & multiple dropper
 - Megaphone
 - IR/white light gimbal/non-gimbal
 - Various C2 options (TBS/ELRS/HUSH encryption ELRS)
 - Digital radio ready (MPU5, Silvus, DTC, Doodle, etc.)
 - Laser target designator (LTD)
 - Winch
 - HUSH defense trigger ESAD
 - Drone dropper (Mothership)
 - Repeaters/mesh
 - Fiber optics/fiber mothership

HALO X8

FOLDING OCTOCOPTER



HALO X8 provides the same robust modularity and footprint as the X4, with increased lift and endurance.

- Optimized for autonomous flight
- Max flight time - 2 hours
- Max payload weight - 10kg
- Ultra lightweight/All carbon fiber
- Foldable, waterproof
- Low acoustic signature
- Reconfigurable payloads:
 - EO/IR thermal gimbal cameras
 - * Next Vision, Trilium, Other
 - LiDAR/mapping
 - Ground penetrating radar
 - Single & multiple dropper
 - Megaphone
 - IR/white light gimbal/non-gimbal
 - Various C2 options (TBS/ELRS/HUSH encryption ELRS)
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IRONghost REPEATER



The IRONghost Repeater is a fully integrated, easy-to-use control/telemetry and video repeater. Compatible with all IRONghost ground and air systems, it doubles operational range and enables beyond line of sight (LOS) missions.

GENERAL

- Power requirements: 2s - 6s (7V - 28V) via XT30 connector
- Total weight: 350g with 9xx and 4xx MHz drone-link antennas (without battery)

DRONE LINK

- Two control/telemetry radios, each with two control/telemetry radios
- 3W RF output power for control link
- EW-resilient IRONghost protocol
- Wide band frequency range-video link

GROUND LINK

- Extremely low harmonic content
- Integrated dual-subGHz hybrid, with control/telemetry and video transmitter on board
- 25mW - 1.5W video downlink

***Ground based or air (drone) applications

GROUND CONTROL SYSTEM



A complete solution for tactical FPV UAS operations, our Ground Control System contains everything that is required for safe and reliable FPV mission deployments.

Displace radio modules up to 1 km from pilot for survivability.

All Pro-series equipment, ruggedized for military tactical operations.

- Tac.Ctrl tactical remote controller
- IRONghost C2 radio
- IRONghost video link 5.8 GHz
- FPV.Pro goggles
- Tripod, cables, and tactical case



PILOT EQUIPMENT

Every drone requires standard equipment for operation. Standard equipment is bundled with drones in ratios meeting customer requirements. Normal ratio is 1:5 – one set of pilot equipment with every 5 drones.



FPV Goggles



Radio Controller



Batteries & Chargers

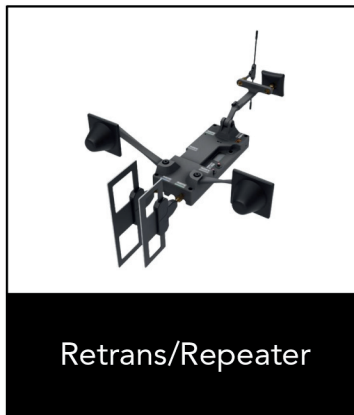
MISSION CONFIGURATIONS

All base model HALO UAS are useful for pilot training. Additional equipment must be added to enable specific tactical missions.



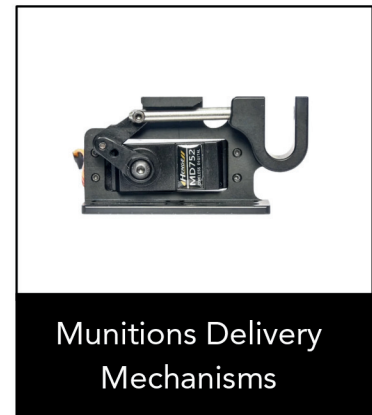
ISR-Dual EO/IR
Cameras

Multiple High-Definition (HD), Electro-Optical/Infra Red (EO/IR) Cameras available for observing enemy formations and target acquisition.



Retrans/Repeater

Repeater module doubles operational range and enables beyond-line-of-sight missions.

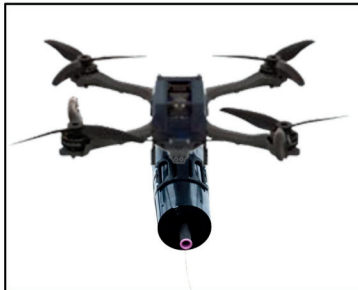


Munitions Delivery
Mechanisms

Multiple dropper, adapter, and triggering mechanisms are available to enable both one-way and drop-and-return kinetic strike missions.

OPTIONAL EQUIPMENT

Optional equipment enhances mission effectiveness in diverse environments.



Fiber Optic C2

Fiber Optic C2 solutions are for contested EW environments and underground operations. Available in lengths up to 20km.



Chest Mount Video Display

Chest-mounted screens are preferred over FPV goggles in many tactical situations. Chest displays come with flip-down adapter plates.



Repair Parts Kit

Parts kits contain highly expendable parts and enable soldiers to sustain operations without contractor support.

GIMBAL SYSTEMS

Gimbal systems enhance a wide array of capabilities, including high-definition electro-optical (EO), infrared/thermal, multispectral, and LiDAR sensors. This enables advanced missions such as day/night ISR, mapping, target tracking, search and rescue, and environmental monitoring—all integrated for real-time, multi-sensor intelligence collection.



SENSOR CATEGORIES/TYPICAL APPLICATIONS

Many modern Group 2–4 UAS fuse multiple sensors in a multi-intelligence (Multi-INT) configuration — e.g., an EO/IR gimbal + LiDAR + SAR or an EO/IR + SIGINT pod. Data fusion enables AI-assisted Automatic Target Recognition (ATR) and real-time mission adaptation.

ELECTRO-OPTICAL (EO) SENSORS

- Daytime surveillance
- Mapping, object detection, and visual tracking
- Target recognition and post-strike assessment

INFRARED (IR)/THERMAL SENSORS

- Night operations
- Target detection through smoke/fog
- Search and rescue, fire detection
- Engine or human heat tracking

MULTISPECTRAL & HYPERSPECTRAL SENSORS

- Precision agriculture (NDVI, crop health)
- Mineral mapping
- Camouflage or concealment detection
- Environmental and oceanographic studies

LIDAR (LIGHT DETECTION AND RANGING)

- Terrain mapping and obstacle avoidance
- Vegetation canopy profiling
- Infrastructure inspection
- Autonomous navigation

RADAR SYSTEMS

- All-weather ISR
- Maritime surveillance
- Border security

GNSS & INERTIAL SENSORS

- Autopilot and waypoint navigation
- RTK/PPK precision mapping
- Attitude and heading reference systems (AHRS)

ENVIRONMENTAL & ATMOSPHERIC SENSORS

- Weather profiling
- Pollution monitoring
- Hazardous gas detection

ACOUSTIC & VIBRATION SENSORS

- Terrain mapping and obstacle avoidance
- Vegetation canopy profiling
- Infrastructure inspection
- Autonomous navigation

ELECTRONIC & SIGNAL SENSORS

- Electronic warfare (EW)
- Spectrum monitoring
- Emitter geolocation

SPECIALIZED/EMERGING SENSORS

- Counter-camouflage
- Material identification
- Urban reconnaissance



SYNDOJO: MISSION-REALISTIC SIMULATION FOR UNMANNED SYSTEMS

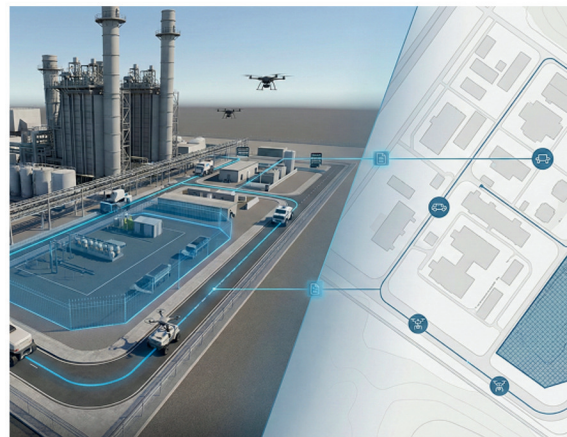
SynDOJO from HALO Aeronautics accelerates unmanned systems readiness with physics-true simulation that mirrors real-world conditions. Operators, sensors, and autonomy algorithms can train, rehearse, and validate side-by-side without the cost, constraints, or risk of live events.

Aligned with the DCMA Blue UAS standards, SynDOJO delivers the realism, integration, and repeatability required for modern multi-domain missions.

WHAT SynDOJO DELIVERS:

- Seamless integration with TAK/COPs for enhanced operational collaboration
- Developed using Unreal Engine for advanced simulation and compatibility with the Army's Synthetic Training Environment
- Flexible deployment options including cloud and portable "sim-in-a-box" solutions
- Supports complex, multi-domain scenarios across air, ground, and maritime operations
- Hardware-in-the-loop support with communications and EW effects modeling
- Automated, objective performance scoring with timelines and heatmaps





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Aligned with the DCMA Blue UAS standards, SynDOJO delivers the realism, integration, and repeatability required for modern multi-domain missions.

INSIDE THE SynDOJO PLATFORM:

- EO/IR, radar, AIS, and track-data ingestion for training, playback, and analysis
- AI-driven pedestrian, vehicle, and adversarial behavior modeling
- RF communications modeling for realistic link and signal degradation effects
- Support for TargetModeler data, TacOS logs, custom terrain, airspace, and shapefiles
- Joint-force, multi-domain scenario development with emerging-threat modeling

WHY TEAMS CHOOSE SynDOJO:

- Faster qualification and repeatable, high-volume synthetic prep
- Reduced range requirements through replayable synthetic missions
- Efficient sustainment training for operators and onboard autonomy



CONNECT

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