When conventional disruption and neutralization methods fail, it’s time to choose a kinetic solution. The Space Dynamics Laboratory (SDL) has developed Shotgun Interdiction of Enemy Low-flying Drones (SHIELD), an sUAS interdiction system.

SHIELD is a demonstrated proof of concept for an automated, state-of-the-art kinetic counter-UAS system. It can quickly eliminate drones and swarms at ranges up to 100 meters.

The current SHIELD weapon system consists of an ultra-reliable, high-capacity, semiautomatic shotgun with a specialty choke shooting tungsten shot. Other weapon systems are optional.

This shotgun is coupled with a precise remote weapon system (RWS). The RWS adds target tracking and real-time ballistics, ensuring high first-round hit probability. Battle-network capable, SHIELD can slew to cue and cue other networked systems.

SHIELD draws on the demonstrated heritage of precision RWS development at SDL.

**SHIELD FEATURES**

- Enables automated kinetic takedown of hostile drones & swarms
- Proves effective against RCAS, quadcopters & fixed wing
- Uses a 12 gauge shotgun with specialty shot as the interdiction method
- Provides integrated sensors: EO/IR cameras, laser range finder, weather, radar, INS/GPS
- Employs automatic target detection, recognition & tracking
- Enables secure battle networking, e.g. Cursor-on-Target (CoT)
- Integrates with third party sensors (acoustic, visible, IR, hostile fire)
- Provides geospatial slew to cue with onboard position & attitude
- Implements a high safety level: safety interlocks, mechanical/software stops & proven fire control system

**SHIELD SPECIFICATIONS**

- **Max effective range**: 100 m using current weapon system
- **Max firing rate**: 3 rounds per second
- **Less lethal range**: ~300 m
- **Magazine capacity**: 12 round box or 25 round drum
- **Reload time**: <1 min
- **Operating modes**: Automatic response, manual
- **Ballistics calculations**: Real-time holdover, windage & predictive target lead
- **Deployment options**: Telescoping mast, vehicles, guard towers, buildings & ships

SDL’s RWS development
SHIELD-OPTIC

SHIELD-Optic is a CUAS aiming solution, effectively a man-packable version of SHIELD that attaches to an issue weapon. It can be mounted to a variety of individual weapons, including shotguns. SHIELD-Optic presents the operator with an optimized aiming point calculated in real time, along with slew to cue and battle network information.

SHIELD-OPTIC FEATURES

SHIELD-Optic shares many features with SDL’s SHIELD weapon system. Additional features include:

• Installs easily on inventory weapons
• Greatly improves small arms CUAS effectiveness
• Provides high probability of kinetic kill against drones/swarms
• Minimizes response time
• Maximizes organic CUAS capability
• Extends maximum effective range
• Preserves baseline combat capability
• Provides battle networked & slew to cue capability
• Includes a human to machine interface with augmented reality
• Provides fire control, sensor integration & automated target tracking
• Enables inertial position & attitude estimation
• Adds minimal SWaP impact on operator
• Empowers users with cost-effective & proportional response

SHIELD-OPTIC SPECIFICATIONS

• Max effective range: 100 m using shotgun with tungsten shot
• Magazine capacity: Host weapon dependent
• Sensors: EO/IR, radar, INS/GPS
• Dimensions: 3 x 3 x 8 in
• Weight: 2 lbs
• Power source: Internal battery
• Platform: Fixed site, vehicle, or ruck portable
• Ballistics calculations: Real-time holdover, windage & predictive target lead
• Mounting options: Unit attached to host weapon’s Picatinny rail

SHOTGUN INTERDICTION OF ENEMY LOW-FLYING DRONES

M1014 shotgun
NSN 1005-01-472-3147

M4 Carbine with M320
NSN 1005-01-472-3147

M320 Grenade Launcher
1010-01-557-2542

Simulated engagement