# Counter UAV / UAS Platform

## *World Leading UAV Identification, Tracking and Denial*

Silent Sentinel have developed one of the world's most advanced Digital Counter-UAV System. Providing a ready-to-go Counter UAV platform consisting of a Pan & Tilt electro-optical system, comprehensive video tracking capability and a world leading UAV effecting systems.

Detection: The Jaegar is ready-made for integration with third party RADAR or RF-based detection systems. The thru-shaft and top mount allow for third party capability to be mounted and remain static leaving the EO and Effector capability free to rotate 360 degrees.

Tracking: The C-UAV platform offers a fused tracking capability utilising information from the RADAR track which is paired with a hardware-based video tracking capability to ensure smooth and reliable tracking at all ranges and speeds.
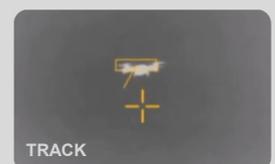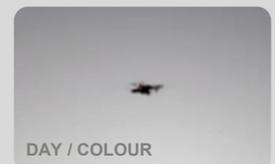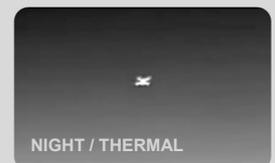
Identification: The Jaegar camera platform at the core of the C-UAV system is highly modular. The recommended standard system compromises of a 12-500mm, 33x, HD Daylight camera combined with a 25-225mm, 11x, 640x480, un-cooled thermal camera.

Denial: The C-UAV platform contains world-leading effectors allowing for the reliable denial of any commercial UAV system on the market. The drone jammer / effector allows the user to selectively deny Control, Video or GPS (and any combination) as well as triggering certain behaviour such as 'freezing' the drone in place, returning the drone to the controller or forcing the drone to land safely. The soft kill laser compromises the images sent back to the controller.

The C-UAV system can be configured and optimised for a broad range of applications and operational theatres with the ability to detect, identify, track and effect unauthorised UAVs..

## Key Features

- Silent Sentinel Jaegar Single Mast Solution
  - Virtually zero backlash.
  - Absolute positioning feedback for radar control with 360° continuous rotation.
  - Allows for integrated radar, effector and the camera solution.
  - Highly modular – options to upgrade cameras if required.

- Effectors
  - Fully digital counter-UAV technology employing "white noise" technology against its targets.
  - "Reactive" system with an "intelligent," self-learning algorithm (5.4km version only).
  - A custom-made, multi-band helix and flat panel antenna array  (5.4km version only) and Tri Band array (750m version only).
  - Broad-ranging operating capabilities with high-powered signal transmission, enabling superior range and target / threat mitigation.
  - Targeted and directional signal capabilities meet class-leading safety parameters, minimising "RF exposure" to operators.
  - Effective range options of 750m and 5.4km.

- Tracking
  - Multiple object detection and tracking.
  - Centroid and edge measurement.
  - Feature based correlation algorithm.
  - Moving object detection.
  - Adaptive background removal with robust clutter rejection
  - Automatic coast.
  - Grey level invariant algorithms and Robust clutter rejection.
  - Electronic image stabilization options.

NIGHT / THERMAL

DAY / COLOUR

TRACK

### The Silent Sentinel Range

Silent Sentinel offer an extensive range of camera and lens configurations to meet your exact surveillance requirements

**Tel: +44 (0) 1920 871 734**
**www.silentsentinel.com**

# SILENT SENTINEL
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# Counter UAV / UAS Platform

## 5.4km Multi Band Drone Effector

| | |
|---|---|
| Frequency of Operation | A range of options are available (depending on the customer requirement) with FSSH Technology |
| Bandwidth / Class of Emission. | Digital Phase and Frequency Modulation - Algorithm |
| Antenna Type | Helix |
| Antenna Gain | 13.5 dBi |
| Antenna Beam | 34 Degrees |
| Direction of Max Radiation | 45 Degrees |
| Elevation of Max Radiation | 41.7 Degrees |
| Effective Range | Up to 10km (Tested to 5.4km) |
| RADHAZ | Regulation Public Limit - 61 V/m 1999/519/EC - ICNIRP and Occupational Limit - 140 V/m 2013/35/EU (Passed) |

## 750m Tri Band Drone Effector

| | | | |
|---|---|---|---|
| Frequency of Operation | 1.57 to 1.58 GHz | 2.4 to 2.5 GHz | 5.745 to 5.805 GHz |
| Bandwidth / Class of Emission. | FM Noise | | |
| Antenna Type | Tri Band | | |
| Antenna Gain | 9 dBi | 10 dBi | 12 dBi |
| Antenna Beam | 30 Degrees at 3 dB | | |
| Effective Range | Up to 750m | | |

## Auto Tracking

| | |
|---|---|
| Channels | 2x Channels |
| Inputs | 1x HD stream and 1x SD stream (usually the thermal camera) |
| Operating System | Linux or Windows platforms |
| Image Stabilisation | Yes |
| Applications | Security and surveillance, UAV and UGV, manned vehicles |
| Features | Multiple object detection & tracking, centroid and edge measurement, feature based correlation algorithm, moving object detection, adaptive background removal, automatic coast, grey level invariant algorithms and Robust clutter rejection, robust clutter rejection. |

## Options

| | |
|---|---|
| Infra Red Illumination | 2.5km IR Illuminator with a 1-40° zoom |
| White Light Illumination | 3.5km white light illuminator with a 1-40° zoom |
| Radar | Radar agnostic, various radar recommendations/solutions can be provided |
| Optics | Various Silent Sentinel recommendations/solutions can be provided |
| Misc. | Please contact us if you have a specific requirement that is not mentioned above. |

## Part Numbers

| | |
|---|---|
| RHT07DJ5000B | Drone jammer, multi band, 5km range, black colour |
| RHT07DJ1000W | Drone jammer, Tri-band - 1.575GHz, 2.4-5GHz, 5.7-8GHz, 750m range, white colour |

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