

Counter UAS

FIELD PROVEN FULLY INTEGRATED SOLUTIONS

X-MADIS

Trusted to Protect Combat Forces, VIPs and Critical Infrastructure
Around the World From Hostile sUAS and Drone Swarms



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AVT 
A CACI COMPANY

Full-Spectrum Counter UAS

eXpeditionary Mobile Air Defense Integrated System (X-MADIS)

To combat the growing threat of hostile small unmanned aerial systems (sUAS), and near-peer air threats, the X-MADIS provides a powerful full-spectrum C-sUAS solution that detects, locates, tracks, identifies, exploits and defeats airborne threats, including armed sUAS and drone swarms.

The X-MADIS is a battle-proven, rugged and reliable solution that has been deployed in a range of extreme environments and conditions, providing unmatched counter UAS protection on the move and in fixed locations. Capable of operating in urban, rural and littoral environments, the X-MADIS provides peace of mind for security and military personnel tasked with protecting VIPs and leaders; combat forces; military bases and assets; national borders; critical infrastructure; and public events.

Multi-mission functionality facilitates detection and early warning of traditional and improvised aerial threats; rockets and artillery fires; and IED threats, while providing long-range detection and surveillance of ground targets. The X-MADIS is a platform agnostic, multi-mission solution that achieves reliable detection, identification and defeat while moving at speeds exceeding 30mph on rough terrain. The X-MADIS can be tailored to suit specific customers requirements.



Combat Force & FOB Protection

Protect soldiers and military bases from weaponized sUAS, drone swarms and adversary surveillance UAS. The X-MADIS offers easy relocation between facilities and reliable on-the-move detection, identification and defeat of sUAS.



Naval Protection

Optimized for the maritime environment, the X-MADIS is a proven and powerful counter UAS solution that protects military assets at sea. The X-MADIS is a multi-mission system that delivers superior surveillance at day and night.



Critical Infrastructure Protection

For improved protection of critical infrastructure, the X-MADIS provides reliable 5km hemispheric detection, rapid identification and mitigation of sUAS threats. Mounted on a vehicle, the X-MADIS offers quick and simple relocation around a facility.



VIP Protection

The X-MADIS is protecting VIPs and leaders around the world from hostile drones. Its flexibility in operating at fixed locations and on-the-move ensures VIPs are consistently protected against hostile sUAS and drone swarms.

sUAS Detection

All-Threat Air Surveillance Radar

For rapid detection of aerial vehicles, the X-MADIS incorporates All-Threat Tactical Air Surveillance Radar systems that detect all types of aerial vehicles (including UAS of all groups), missiles, rockets and mortars. Other capabilities include object classification, tracking, locating and early warning/alerts.

The X-MADIS includes four all threat air surveillance radar faces to deliver 5km reliable hemispheric detection of sUAS. The radar faces are seamlessly integrated into AVT's command and control software, CUAS Suite, providing a clear view of the aerial activity in the area.

Using the touchscreen interface, the operator can select an object that has been detected, which then commands the optic to slew to cue for rapid positive identification (PID). Drone PID is crucial in any counter UAS mission as it facilitates quick and informed

EXTENDED COVERAGE

360° hemispheric coverage is achieved when four radars are employed as a system.

A single radar face provides single quadrant coverage.

MULTI-MISSION

Ideal for a variety of operational missions such as hostile fire location, counter UAS and ground/surface surveillance.

THE COMPLETE SOLUTION

To provide quick and simple deployment and operation, the X-MADIS is a fully integrated system that includes radar, an EO/IR sensor and an EW system.

These components are seamlessly integrated with AVT's revolutionary CUAS Suite software to offer a complete "soft-kill" solution against nano, micro and mini-size drones.



Positive Identification (PID)

Multi Sensor Gyro-Stabilized Counter UAS Payloads

For accurate positive identification of sUAS threats, the X-MADIS incorporates a cutting-edge multi sensor optic optimized for counter UAS missions. AVT offers three variants, the CM202U, CM262 and CM262M (optimized for maritime counter UAS & ISR).

These systems are man portable, robust and include Counter UAS Operator Assist (CUAS-OA) software. CUAS-OA uses two different threat detection algorithms (Moving Threat Detection and Static Threat Detection) that work together to minimize operator workload.



SHORTEN THE DECISION CYCLE

Moving Threat Detector rapidly identifies targets in the frame much faster than what can be manually achieved by an operator. This shortens the decision cycle for the operator and allows them to prosecute a hostile target sooner.

EFFECTIVE TARGETING

Automated object detection increases the likelihood of detecting targets that could go unnoticed by the naked eye.

IMPROVED FORCE PROTECTION

Operator Assist utilizes advanced algorithms to detect and track objects of interest that are in the air and on the ground. This reduces operator fatigue and workload to increase the efficiency of the counter UAS operation.

RAPID RESPONSE

The system assists operators with live, real-time cues of moving and specific static anomalies. This information can be quickly interrogated by the operator to determine whether or not it poses a threat.



Powerful sUAS Neutralization

Reliable sUAS Mitigation



AVT integrates the best-in-class counter UAS technology to effectively combat hostile sUAS at fixed locations and on-the-move. These systems have undergone extensive testing and fielding to ensure they perform successfully for our customers.

AVT's fully integrated systems (various versions of the MADIS family) are in the field supporting counter UAS operations through the detection, identification and defeat of hostile sUAS.

The X-MADIS is a mature and proven product, trusted to protect critical infrastructure, VIPs and leaders, naval military assets, venues, combat forces and FOBs.

A RELIABLE SOLUTION

The X-MADIS incorporates a next-generation electronic warfare system that provides reliable defeat of a single drone or multiple sUAS threats. Omnidirectional antennas offer hemispheric protection. A dedicated directional low, medium or high band antenna can be used to increase directional gain.

FULLY INTEGRATED

An electronic warfare system is integrated into the X-MADIS to provide a complete soft kill solution to combat hostile sUAS and drone swarms. This reduces the need for additional operators and requires minimal training. The system is integrated into AVT's innovative interface, CUAS Suite, which offers a 2-step activation and simple deactivation of the EW system to provide rapid response to hostile sUAS. For mobile and on-the-move counter UAS missions, the EW system is fitted into the vehicle. AVT's fully integrated X-MADIS systems are in operation, effectively countered adversary drones.

TAILORED TO THE MISSION

Each counter UAS mission is unique and faces different challenges. AVT offers several drone mitigation solutions suited to the requirements of the mission. For more information, please contact info@ascentvision.com.



X-MADIS System Specifications

Radar

Type	Pulse Doppler
Frequency	S Band
Weight	57.3 lb / 26 kg
Operating Temperature	-40 to +55°C
On the Move Operation	Yes
Spatial Coverage	90°C Az, 90°C El (Single)
Nano UAS Detection Range	Up to 3.5 km
Medium Sized UAS Detection Range	Up to 15 km
Fighter Detection Range	Up to 25 km
Utility Helicopter Detection Range	Up to 30 km
Power Consumption	<290 W
Number of Targets	Up to 500
Environmental Protection	IP66

C2 Interface

Integration of All Components	Yes
Automatic Object Detection	Yes
Operator Assist Software	Included

CM202U

Weight	121 lb / 5.5 kg
EO Resolution	HD 1280x720
EO Zoom	60x Optical
IR Type	Cooled MWIR
IR Resolution	640 x 512
IR Zoom	20 x Optical
Slew Rate	280 deg/s
Environmental Protection	IP66
Object Tracking	Yes
MILSTD810G	Compliant

CM262

Weight	26.5 lb / 12 kg
EO Resolution	HD 1280x720
EO Zoom	60x Optical
IR Type	HD MWIR & SWIR
IR Resolution	1280 x 1024
IR Zoom	20 x Optical
Slew Rate	280 deg/s
Environmental Protection	IP67
Object Tracking	Yes
MILSTD810G	Compliant

EW System

	Standard	Advanced
Equipment Frequency Range	20 MHz – 2.5 GHz	20 MHz – 6 GHz
RF Power Output	Up to 45 W	Up to 80 W
Operating Temperature Range	-20°C to +60°C	-20°C to +60°C
IP65 Environmental Protection	✓	✓
Programmable	✓	✓
Built-In Self-Test	✓	✓
Anti-Tamper	✓	✓
Zeroise	✓	✓
Weight	14 kg (31 lbs) excluding batteries	28 kg (62 lbs) excluding batteries
Training	Minimal Required	Minimal Required
GPS Jamming	Please ask about options available	Please ask about options available

X-MADIS MATRIX

X-MADIS FS



X-MADIS Mobile



X-MADIS OTM



	X-MADIS FS	X-MADIS Mobile	X-MADIS OTM
• Radar Detection	○	○	○
• RF Detection	○	○	○
• Optical PID	○	○	○
• EW Mitigation	○	○	○
• CUAS Suite Software	○	○	○
• Mobile Platform for Fixed Operation		○*	○**
• Full Operation On-The-Move			○

*Can maneuver as a system and must be fully halted to detect, track, identify and defeat UAS threats.

** Can maneuver as a system and can operate all systems during maneuvers and movements.



X-MADIS Fixed Site (FS)

The X-MADIS Fixed Site is mounted to a tripod or fixed to a permanent installation to deliver a full-spectrum fixed-site counter UAS solution.



X-MADIS Mobile

X-MADIS Mobile offers a rugged and transportable solution for CUAS security. Ideal for missions that move from one facility to the next.



X-MADIS On-The-Move (OTM)

X-MADIS On-The-Move provides an effective air defense solution for missions on-the-move, performing at speeds exceeding 30mph on rough terrain.

Contact Us



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