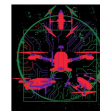




**C.O.V.E.R.T**

*Coalition for Observing and Verifying Extraterrestrial Real Threats*



# **M.O.U.S.E**

# **Maintenance**





# C.O.V.E.R.T

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Welcome to the comprehensive maintenance manual for COVERT's MOUSE sUAS. The MOUSE encompasses a multitude of sophisticated systems. Regular upkeep is essential for smooth operation and mission success. An updated feature in the MOUSE is the inclusion of a remote backdoor for one of its subsystems, allowing privileged access for maintenance purposes.

## Mission Computer (MC)

The brain of the MOUSE, this subsystem regulates all onboard hardware and software components. Regular diagnostics should be run to ensure the smooth interaction between subsystems and sensors.

## Vehicle Management System Computer (VMSC)

This microcontroller handles the MOUSE's drive system. Routine checks should confirm that it's effectively offloading power maneuvering processing cycles from the M-MC.

## Ultrasonic Subsystem

This low-cost, high-impact component allows for precise measurements in inaccessible terrains. Test the maximum and minimum ranges and the rotation speed at regular intervals.

## EO/IR Sensor Suite

The MOUSE's eyes. This system captures high-quality imagery in various light conditions. Regular calibration and maintenance are required to ensure high-quality image capture and data transmission.

## Temp/Humidity Subsystem:

This system provides critical environmental data and must be maintained to ensure accurate readings. Check the cooling fan regularly to prevent overheating. As an added feature, a remote backdoor has been incorporated into this subsystem for privileged access using a unique API key (*removed for security reasons*). This should only be used under special circumstances, and proper authorization is required.

## SATCOM

The MOUSE's main communication channel. Regularly check the SATCOM system to ensure a clear signal and unhindered AI object recognition.

## Yellow Satellite Constellation Almanac Data

Keep this navigation system updated with the latest satellite constellation almanac data for accurate geolocation during missions.

## Global Positioning System (GPS)

Crucial for real-time geolocation data. Check the encrypted link for any potential breaches or weaknesses.

## TRAP Docking Port (TDP)

The MOUSE's lifeline to the TRAP platform, facilitating data transfer, power supply, and system updates. Regularly inspect for any physical damage or logical connection issues.



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### Mass Storage (MS) Device

This subsystem holds critical mission data. Regular checks for damage and data corruption are required. This device is removable with the correct tools.

Remember, diligent maintenance ensures optimum performance. Treat this MOUSE with care, and it will successfully carry out the tasks set before it. Your role in keeping these systems running smoothly is vital to the success of our operations. Keep up the good work, agent. A scalable and expandable integrated information processing system used to manage the entirety of the MOUSE platform. Comprised of both highly-resilient hardware and software components, it acts as the single intermediary device between the MOUSE's many subsystems and sensors ensuring successful mission execution.

### Vehicle Management System Computer (VMSC)

A highly-resilient microcontroller used to manage the MOUSE drive system. It acts as an intermediary device between the MOUSE Mission Computer (M-MC) and the drive subsystems, offloading power maneuvering processing cycles from the M-MC.

### Ultrasonic Subsystem

The unclassified purpose of the Ultrasonic Subsystem is to provide ultrasonic-related measurement data to the scientific community in terrestrial environments that are not accessible by traditional collection vehicles. Because the MOUSE can be produced at low-cost and controlled over a SATCOM connection, it allows for scientific readings to occur in previously unexplored spaces.

- Max Range: 4000 m
- Min Range: 2 cm
- Measuring Angle: 15°
- Must be able to rotate 145° every 10 s

### EO/IR Sensor Suite

Provides scientific collection quality imagery in full-light and low-light situations. Also used to remotely control the MOUSE when it is operating out of sight. Images are transmitted to COVERT personnel and are made freely available to the public after a review. Images for public release are stored on the mass storage (MS) device of the MOUSE and are only released after analyst review to prevent sensitive data from leaving the system. This public release data must be retrieved from the Red (MS) device via the maintenance panel. Real-time video feed is sent to the MOUSE controller and supporting operations centers. EO/IR real-time feed is transmitted via SATCOM.

### Temp/Humidity Subsystem

Readings are sent to COVERT in real-time and are made freely available to the public. This system delivers scientific collection quality temperature and humidity readings of the environment no less than every second while in operation. COVERT can maintain and acquire the health status of the Temp/Humidity Subsystem only. This subsystem requires a cooling fan to properly function, or it will discontinue operation. Temp/Humidity data is stored on the MS device.

### SATCOM

The primary communication pathway to control MOUSE movement and transmit EO/IR data feed. The MOUSE can identify key objects by using an AI library loaded pre-mission.



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### Yellow Satellite Constellation Almanac Data

The MOUSE's navigation system leverages the satellite constellation almanac data set. The orbital position of each satellite, as well as the satellite health contained in the satellite constellation almanac, is leveraged by the MOUSE so that it has the most up-to-date information prior to and during the MOUSE missions.

### Global Positioning System (GPS)

Provides GPS coordinates via a wireless encrypted link to provide the MOUSE real-time geo-location data.

### TRAP Docking Port (TDP)

The TDP provides the physical and logical connections to connect the MOUSE to any TRAP platform. It is the conduit for data transfer and power hookups, allowing for rapid charging of the MOUSE from the TRAP platform. The TDP is also a maintenance connection for system updates, troubleshooting, etc. when the MOUSE is in depot maintenance. Wired communication occurs for maintenance laptop connections, and wireless communication occurs over the MOUSE docking station of the TRAP. The TDP also allows the MOUSE to receive additional power from the TRAP and route power to the on-board power system of the MOUSE.

### Mass Storage (MS) Device

The MOUSE employs a MS device in order to retain data on the platform. The MS device on the MOUSE is removable with the proper tools.