Raytheon
An RTX Business

MS-110 for uncrewed aerial vehicles

The next generation of airborne reconnaissance

BENEFITS

- Long-range, wide-area, passive target detection and identification with simultaneous track-while-scan targeting capabilities.
- SCI-Edge Automatic Target.
- Classification/machine learning feature enables rapid analysis and decision-making.
- Allows for wide-area search coincident with traditional turret system target tracking.
- Target-detecting capability in smoke, haze, clutter and camouflage.
- Capable of operations in medium and high-threat environments due to standoff imaging.
- Real-time data link for actionable intelligence.
- Maritime and littoral surveillance.
- Combat SAR and counter narcotics operations capablility.
- Supports humanitarian assistance planning and activities.
- SCI-Edge automatic target classification/machine learning feature enables rapid analysis and decision-making.

Improve your intelligence advantage

The MS-110 represents the next generation of the Raytheon airborne optical reconnaissance systems, providing wide-area, long-range, multispectral imagery coverage – day or night.

The system adds significant capability to uncrewed aerial vehicles (UAVs) by offering:

- Increased survivability by increasing UAV standoff imaging ranges.
- Multispectral imaging in multiple visual and IR bands.
- Common ground coverage of all bands.
- Significantly improved area coverage when compared to legacy turreted systems.
- Higher image quality (NIIRS).
- Imagery exploitation software designed to rapidly leverage unique MS-110 composite imagery features.
- Shortened sensor-to-shooter timelines through rapid exploitation of multispectral imagery via high-speed, near-real-time data link capability.

In addition to MQ-9 class MALE UAVs, the sensor is compatible with carriage on advanced fighters (U.S. F-16, F-15 and F/A-18, as well as Gripen and other fast jet platforms), C-130s, MPA class aircraft, and ISR business jets.

For UAV applications, the sensor and supporting avionics/systems are housed in a lightweight pod. MS-110 imagery can be transmitted via most standard UAV data transmission systems.

Additional multispectral advantages for UAVs

The MS-110 standoff capability increases UAV survivability, enabling the end-user to see true color and also discriminate between the subtle features of a target that a traditional grayscale image cannot. Most important, by combining select three bands into certain composite views, analysts gain unique knowledge of individual scenes, enabling important military analytical applications.

The Raytheon MS-110 multispectral airborne reconnaissance system is an important advancement over the third-generation DB-110 and other EO/IR systems, providing new multispectral detection capabilities, improved image quality, and increased coverage in a SWaP configuration that is compatible with UAVs, such as the MQ-9 Reaper.

The simultaneous multiband imagery collection provided by the MS-110 is a battlefield discriminator that can facilitate enhanced target discrimination and change detection while defeating enemy camouflage, concealment and deception (CC&D), as well as providing detailed maritime and littoral surveillance.

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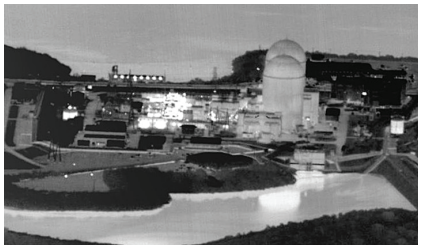
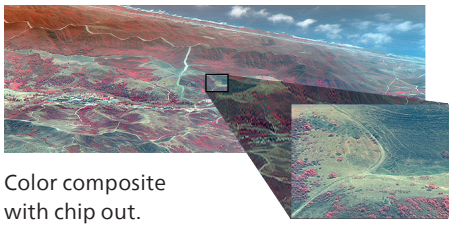
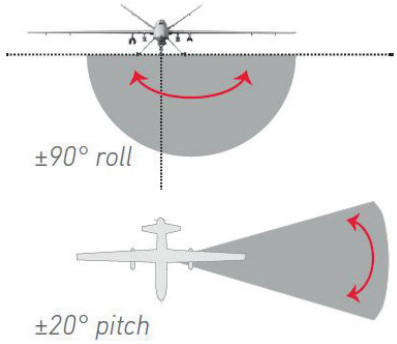




Color composite with chip out.



As part of an end-to-end ISR system, the Raytheon SCI-Toolset suite of imagery exploitation software tools is specially configured to gain maximum benefit from the MS-110's unique capabilities. The SCI-Edge component of the toolset allows for rapid target classification over wide areas of imagery coverage.

MS-110 sensor head characteristics

Sensor type	Line-scanning TDI; seven channels
Collection mode	Spot, wide-area, persistent imaging
Field of regard	Roll ±90°/Pitch ±20° maximum
Power	340 W
Length	51.25" (±20° pitch)
Diameter	26.2" (±20° pitch)
Sensor head weight	346 lbs

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