

Nightwing MC2 Hub

*Resilient, Mounted Command & Control Hub
for Contested RF and Austere Environments*



Enhanced Transport Diversity

Automated PACE Operations

Seamless Platform Integration

Proven EW Resilience

Future-Proof Architecture

Assured Communications When It Matters Most

In the modern battlespace, maintaining situational awareness and command & control (C2) is non-negotiable. The Nightwing MC2 Hub is a next-generation transceiver designed to deliver resilient, high-throughput connectivity in the most demanding RF environments. A modernized replacement for the fielded BFT-2, the MC2 Hub integrates a modular, mounted design with advanced anti-jam and beamforming capabilities. With automated network management and a drop-in replacement form factor, the MC2 Hub ensures your forces stay connected, informed, and effective.

Key Capabilities at a Glance

- **SMT (Inmarsat):** ~295 kbps down /~16.5 kbps up; backward compatible with BFT-2; Enhanced with GDMS beamforming, beam-nulling, and anti-jam
- **pLEO (aux port):** ~250 Mbps down /~30 Mbps up; pole-to-pole coverage; tested interoperability with Starlink/Starshield via 1 GbE; applicable to future OneWeb, etc
- **Iridium SBD:** Reliable, global burst data up to ~50 kbps for backup satcom
- **5G NR:** Support for commercial or private networks
- **Wi-Fi 6e:** Provides a 2.4/5 GHz access point for local and dismount connectivity
- **Resilient LOS Mesh :** Anti-jam mesh networking up to 200 nodes, 560kbps, relays for range extension beyond 5km

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Mission-Critical Advantages

- **Enhanced Transport Diversity:** Leverage up to six independent communication paths. The system automatically manages SMT (Inmarsat), Iridium, 5G/LTE, Resilient LOS Mesh, Wi-Fi, and a high-throughput pLEO, ensuring connectivity is always available.
- **Automated PACE Operations:** Our Software-Defined Networking (SDN) controller automates Primary, Alternate, Contingency, and Emergency (PACE) routing. The system intelligently selects the best available transport based on link quality and mission policy, reducing operator burden and guaranteeing message delivery.
- **Seamless Platform Integration:** Designed as a form-fit replacement for the existing BFT-2 mounting tray, the MC2 Hub dramatically simplifies vehicle installation, reduces upgrade costs, and accelerates fielding schedules.
- **Proven EW Resilience:** Maintain the tactical edge with integrated directional nulling and beamforming on the SMT link and directional nulling on the Resilient LOS Mesh. This technology has been successfully demonstrated at Army test events like EWDT24.
- **Future-Proof Architecture:** Built with a forward-looking design, the MC2 Hub architecture is ready for tomorrow's pLEO and security requirements, supporting future LEO constellations and alignment with FIPS 140-3 and NIST SP 800-53/800-171 security standards

Availability

General Dynamics Mission Systems (GDMS) Part Number: US00311692

Production Capacity: Domestic production capacity greater than 20,000 units/year with surge sites for redundancy

Technical Specifications

- **Form Factor**
 - Fits BFT-2 mounting tray for drop-in replacement
- **Dimensions**
 - 8.75" x 8.75" x 6.25" (L x W x H)
- **Weight**
 - 6.2 lbs max
- **Cooling**
 - Passive conduction cooling (no fans)
- **Power**
 - MIL-STD-1275 compliant; 20-33 VDC input (28 VDC nominal)
 - Peak power draw: 100 W¹
- **Networking**
 - Host 10/100/1000 Ethernet; Aux GbE to pLEO; VLANs supported per transport
- **Antennas**
 - Internal arrays for SMT, Iridium, and 5G
- **Security**
 - Designed for FIPS 140-3 and NIST SP 800-53/171
 - Secure boot, DevSecOps software pipeline, OpenVPN tunnels
 - NDAA compliant
- **Environmental**
 - Designed for MIL-STD-461G EMI/EMC, MIL-STD-810H ruggedization
- **Cellular**
 - Module is compliant with the FCC, GCF, IC, KCC, PTCRB, EU RED, and JATE/Telec Regulations

1. Power draw not considering pLEO Auxiliary Connection power consumption

GENERAL DYNAMICS

Mission Systems

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