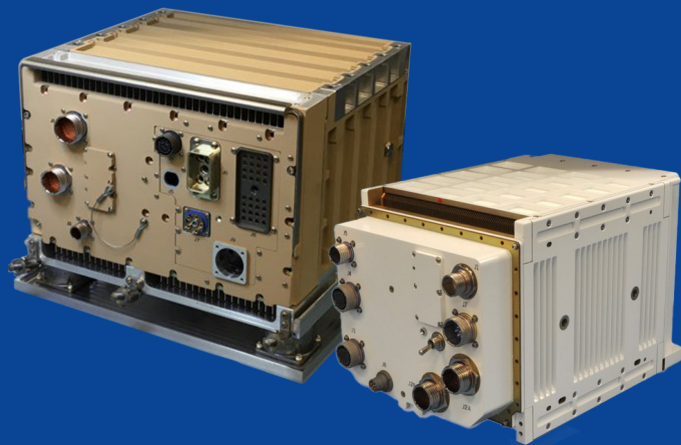# Northrop Grumman Family of Radios

Scalable, cyber-secure, open architecture communications and networking system that connects communications nodes, platforms and sensors to enable Joint All Domain Command and Control

Proven Performance

- Built on Northrop Grumman's market leadership in cutting-edge communications and advanced networking capabilities
- All domain, platform-agnostic resilient solution that connects the battlespace across multiple DoD platforms
- Mature and low-risk technology proven through Northrop Grumman's integrated Communications, Navigation and Identification (CNI) across high-profile DoD platforms and operational flight demonstrations

Enabling Future Growth

- Demonstrated rapid third-party integration through Northrop Grumman's unique Software Development Kit and MOSA design to provide flexibility for future growth while reducing cost, risk and time to deploy
- Multi-functionality and ability to operate simultaneous waveforms increases spectral agility and situational awareness in highly contested environments
- Containerization and common software architecture provide ability to rapidly add and upgrade capabilities and functions across the full family of radios

Enhancing Interoperability

- Supports mission applications leveraging software defined networking, AI/ML, edge processing and SIGINT
- Improves interoperability across platforms, sensors and weapons; adapts to emerging mission demands by dynamically routing and securely distributing critical information needed for mission success through Northrop Grumman's Resilient Network Controller
- Designed to easily integrate a range of enhanced communications and networking capabilities across air, land, sea and space by enabling multi-level secure, fifth-to-fifth, fifth-to-fourth and next generation networked data sharing
- Extends the operational reach of joint and coalition partners and improves lethality, survivability and targeting against any threat for decision dominance at mission speed across existing and future platforms

PROJECTED MILESTONES AND ROADMAP

2020
- **Q3:** First Terminal Built

2021
- **Q2:** Over-the-Air Lab Demonstration
- **Q3:**
  - Safety of Flight Qualification
  - Third party provider integration
- **Q4:**
  - Operational Flight Demonstration
  - TRL7

2022
- **Q1:**
  - SDK delivery to third party provider
  - FACE integration with UH-60V demo
- **Q2:** Edge '22 demo (simultaneous BE-CDL, Link-16, UHF/VHF voice comms, and JREAP message gateway)
- **Q4:**
  - Flight Demonstration
  - NSA IATT

2023
- **Edge '23**
- **NetModX '23**
- **Northern Edge '23**

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Capabilities

Common software architecture and capability set across Family of Radios ensuring interoperability and enabling deployment of new capabilities with speed and agility

- Line-of-Sight Comms
  - UHF/VHF
  - SINCGARS
  - SATURN
  - TSM
  - Link-16
  - BE-CDL
  - MADL
- Beyond Line-of-Sight Comms
  - MUOS
  - BFT
  - DSSS
  - PTW
  - Starlink
- Navigation Aids
  - TACAN
  - VOR/ILS
- Identification
  - IFF-T
  - ADS-B
- Standards
  - OMS ASB Interface
  - FACE TSS Interface
  - OCS ABB Interface
  - CMOSS MORA L2B
- Networking
  - Gateway Manager
  - Cross Domain Solution
  - Resilient Network Controller
- Advanced Capabilities
  - Edge Processing
  - Artificial Intelligence

Specifications

F-551 Multi-Function Processor

- Supports four simultaneous waveforms to enable communications and networking across disparate platforms with architecture to support additional waveforms and skills

SWaP-C Specifications			
Size	Weight	VDC Power	Cooling
9.4" H x 9.5" W x 12.7" L	47 lbs	281.3 W	Air Cooled

F-570 Multi-Function Processor

- Supports a broader range of simultaneous capabilities, including navigation and identification, with enhanced capacity for communications and networking for use in operations spanning multiple, concurrent mission sets

SWaP-C Specifications			
Size	Weight	VDC Power	Cooling
10.1" H x 14.4" W x 16.8" L	84 lbs	950 W	Air Cooled

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