

# Fire Control/Communications

## Ground-Based Midcourse Defense





*Ground-based Midcourse Defense (GMD) Fire Control and Communications (GFC/C) integrates all components of the GMD segment of the nation's missile defense program.*

One of the most significant advancements in U.S. missile defense capability is attributed to the sophisticated fire control system Northrop Grumman is developing for Ground-based Midcourse Defense (GMD) against enemy ballistic missiles – GMD Fire Control and Communications (GFC/C).

Known as the brains of the GMD segment, GFC/C integrates the elements of fire control – from situational awareness displays to critical, real-time interceptor control.

### GFC/C Components

GFC/C integrates all components of the GMD segment of the nation's missile defense program. The GFC/C system includes:

- GMD Fire Control
- In-Flight Interceptor Communications System Data Terminal
- Communications Node Equipment
- Network/System Manager
- Test Exerciser
- GMD System Trainer

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### System Capabilities

**GMD Fire Control (GFC).** The GFC component processes reports from missile defense sensors around the globe and in space. It constructs a real-time picture of an attack in progress. This information is displayed to Warfighters at Cheyenne Mountain Operations Center, the Missile Defense Element at Schriever Air Force Base, Colo., and the Fire Direction Center at Fort Greely, Alaska. Under Warfighter control, GFC develops intercept solutions and guides interceptors until their sensors acquire their targets. Its software coordinates sensor and interceptor operations during flight and provides vital decision-support information to Warfighters.

**In-Flight Interceptor Communications System (IFICS) Data Terminal (IDT).** The IDT serves as the communications link to interceptors, providing the last opportunity to send data about threat location to launched interceptors. In addition, it processes information from the interceptor, providing the Warfighter with in-flight status. Northrop Grumman has constructed IDTs at Fort Greely and Eareckson Air Force Station, Alaska; Vandenberg Air Force Base, Calif.; and on the Sea-Based X-band Radar platform.

**Communications Node Equipment (CNE).** The CNE, in conjunction with the NSM, provides a “plug and play” point of service for a secure, robust, IP-based communications network for all GMD asset locations.

**Test Exerciser (TEx).** TEx consists of models of threats and all GMD components, driving GFC/C for testing.

**GMD System Trainer (GST).** TEx, integrated with GFC hardware and software, forms the heart of the trainer capability. The GST runs in a stand-alone mode in Colorado Springs, or in a distributed mode with nodes in Fort Greely, Schriever Air Force Base, and Cheyenne Mountain Operations Center.

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