

## Company / Program

General Dynamics C4 Systems develops communication products, integrating them into secure networks that deliver vital information for military, homeland security and public safety professionals. The company was chosen by the U.S. Army as the prime contractor and systems integrator for upgrades to the Prophet tactical signals intelligence program. General Dynamics is headquartered in Falls Church, Virginia.

Prophet is the U.S. Army's top SIGINT program that enables tactical commanders to securely and accurately detect, identify, locate and deter a wide range of signal emissions on the battlefield. The system is comprised of electronic components that are vehicle-mounted or soldier-transportable.

## Mission Situation

Prophet's mission requires an evolving technological platform that can be adapted to changing battlefield situations and transportation needs. Project leadership sought proven technology and dependable device management to be able to respond quickly as program elements change.

## Solution

General Dynamics C4 Systems chose Crystal Group's RS112 1U for upgrade projects based on past performance and reliability of the company's rugged servers. Crystal Group's responsiveness, fast turnaround time, and extensive configuration management were also important determining factors.

## Benefits

- Improved SWaP provides less weight, less power consumption, and smaller size
- Device ruggedness, reliability and dependability
- Configuration flexibility
- Low maintenance
- Responsive customer support.

## U.S. Army's Prophet Program Expands Signal Intelligence Capabilities with General Dynamics Upgrades and Crystal Group's Rugged Server



*Prophet provides the tactical commander with an enhanced capability for electronic intelligence preparation of the battlefield, battlespace visualization, target development and force protection. Crystal Group's RS112 1U rugged server located inside Prophet vehicles provides data analysis and other tasks in a battlefield environment.*



## Battlefield Challenge

Information on the battlefield changes rapidly. A key element in the U.S. Army's combat zone mission is to provide field commanders with the ability to disrupt enemy operations, protect friendly forces while operating under an information assurity protocol. The Prophet system is specially designed to meet these mission challenges with a near-real-time picture of the battlespace through the use of signal intelligence sensors and high performance computing.

General Dynamics C4 Systems serves as the prime contractor and system integrator to upgrade the Prophet tactical signals intelligence systems. Upgrade components for Prophet require smaller, lighter weight and less power-hungry battle hardened servers to provide integrated electronic attack capability and the ability to process quickly changing communications data. The requirements also meant making the system compatible with a new fleet of battle area vehicles as well as mobile man-carried units.

## Crystal Group Solution

Crystal Group's RS112 1U rugged server was selected for the program and upgrade stages (Spiral 1 and Prophet Enhanced – POR-A, POR-B) for its superior ruggedness, configuration management capability, compute density dependability and the company's customer responsiveness.

RS112 1U meets MIL Standard 810's stringent environmental requirements with a lightweight aluminum chassis in a 20" depth. The unit is designed for Size, Weight, and Power (SWaP)-sensitive mobile, ground, manned or unmanned vehicle applications.



*Prophet delivers support to the tactical battlefield, with the flexibility to quickly incorporate new technologies as they become available including Crystal Group's RS112 1U rugged server.*

**"Crystal Group delivered 100% of their commitments on-time and with superior quality."**

Terence Winn  
Prophet Program Manager  
General Dynamics C4 Systems

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The RS112 1U rugged server features one expansion slot, two drive bays and leading edge Intel® Sandy Bridge, or Ivy Bridge CPU options. The system's modularity allows for easy reconfiguration and versatility.

The rugged server is hard mounted in Prophet vehicles or can be packaged in transit boxes that allow for quick installs.

### Customer Benefits

Crystal Group worked closely with General Dynamics' engineering team to understand their needs and those of the Army. This teaming resulted in a rapid response to the Army's requirements and improved product integrity.

"Crystal Group was the spark behind our up-gunned (modified) server and server capability module upgrade," said Terence Winn, General Dynamics C4 Systems' Prophet Program Manager. "This capability has had a very positive impact on our system performance and more importantly, our customer relationships with the Army. Crystal Group delivered 100% of their commitments on-time and with superior quality."



*The RS112 1U rugged server meets MIL STD 810 for shock, vibration, and temperature limits.*

The selection of the RS112 1U rugged server provided the ruggedness, dependability and reliability needed for Prophet mission profiles. The unit provides less weight, less power consumption, and a smaller size that conforms to Prophet's flexible architecture configurations – dismounted, mobile and ManPack.

### About Crystal Group

Crystal Group Inc., an employee-owned small business located in Hiawatha, Iowa, USA, designs and manufactures deployment-ready, rugged servers, displays, networking devices, embedded systems, and storage devices that fit mission critical and industrial applications. Crystal Group's rugged servers and electronic devices are powerful solutions ready for future expansion whether it's for a more versatile software application, harsh environment, or demanding performance standard.