Joint Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (JCREW) DRAKE

THE VALUE OF PERFORMANCE.

NORTHROP GRUMMAN

Northrop Grumman Joint Counter Radio-Controlled Improvised Explosive **Device Electronic Warfare** (JCREW) systems shield the Warfighter from multidirectional Improvised Explosive Device (IED), **Unmanned Aerial System** (UAS), and emerging threats simultaneously

## Spectral Aware for Intelligent Counter-Communications

JCREW systems establish a protective barrier from enemy threats while allowing blue force communications to continue. The spectrally aware, always on, counter-communications system provides 360 degrees of protection regardless of the number of threats present or inputs from external warfighters or electronic sensors threat detections. The omni-directional solution provides protection independent of requiring sensors to quickly and accurately detect and locate a threat. Low latency JCREW transceivers scan for signals of interest then quickly disrupt those signals to defeat enemy operations. The advanced signal processing used, combined with advanced defeat techniques and exceptional signal filtering, enable surgical attacks with low spurious output and clean spectrum operations. This surgical technique provides superior performance at reduced transmit power levels, allowing extended omnidirectional coverage and less spectrum noise which would degrade blue force communications.

#### **Multi-Purpose Platform**

JCREW systems are multipurpose, software defined, counter-communication platforms. These platforms can be configured with specific personalities optimized for the mission need (for example Counter-Improvised Explosive Device (C-IED) or Countersmall Unmanned Aerial System (C-sUAS) only, or concurrent

C-IED/C-sUAS). Each platform is net-ready and has the ability to operate independently or in coordination with other platforms creating a lavered or collaborative protection approach against threats.

As the concept of operations evolve, JCREW systems provide the flexibility to

Northrop Grumman JCREW On-The-Move and Fixed Site Systems Establish Radio Frequency Shields for IED and UAS Threats





Integrated Fixed Site and On-The-Move

Fixed Site Configuration **Omni-Directional Protection** 

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support the driving needs. JCREW systems can be fitted with directional antennas if required to support sector and slew-to-cue operations.

As a system of systems, the common architecture between the Dismounted and Mounted/Fixed Site systems allows software, hardware, and techniques to be shared between the form factors without unique development costs/timelines. "Pay once, then reuse." In addition, Multi-Function (multi-purpose) platforms allow the Government to minimize development and sustainment costs by utilizing established products for multiple missions.

# DRAKE

DRAKE refers to the C-sUAS capabilities of the JCREW systems. The proven effectiveness against today's top threats allowed DRAKE to advance from a test prototype to a fielded solution within seven weeks in response to urgent warfighter need.

Today, DRAKE addresses the Detect and Defeat aspects of the C-sUAS kill chain. In response to the urgent

warfighter need, new capabilities are introduced quarterly following the DRAKE Rapid Capability Development Framework. This framework follows Agile processes to quickly develop, test, and field capability. The current development focus is addressing the Identify and Track elements of the kill chain and expanding alerting capabilities.

## **Operational Today**

JCREW Increment 1 Block 1 is an Acquisition Category II program, currently in Full Rate Production. The program completed the Initial Operational Test and Evaluation in May 2015 and was deemed "Effective and Suitable, Recommend Fielding."

perso agile tech field. push

In addition to satisfying the JCREW program requirements, the Dismount systems were selected to satisfy the urgent warfighter need for Counter UAS protection. Later, the need was expanded to include the JCREW Mounted systems as well.

### **Emerging Threats**

The threat from unmanned systems will continue to grow more complex along with tactics utilized by the enemy. JCREW personalities, known as loadsets, are a cost effective method to development defeat techniques without requiring software development and qualification testing. Since the C-IED and C-sUAS threats are constantly evolving, the loadset personalities can be configured and tested in a rapid agile fashion, to ensure the warfighter has the latest techniques available to them while deployed in the field. Approved loadsets are available to the user via push button selection.



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