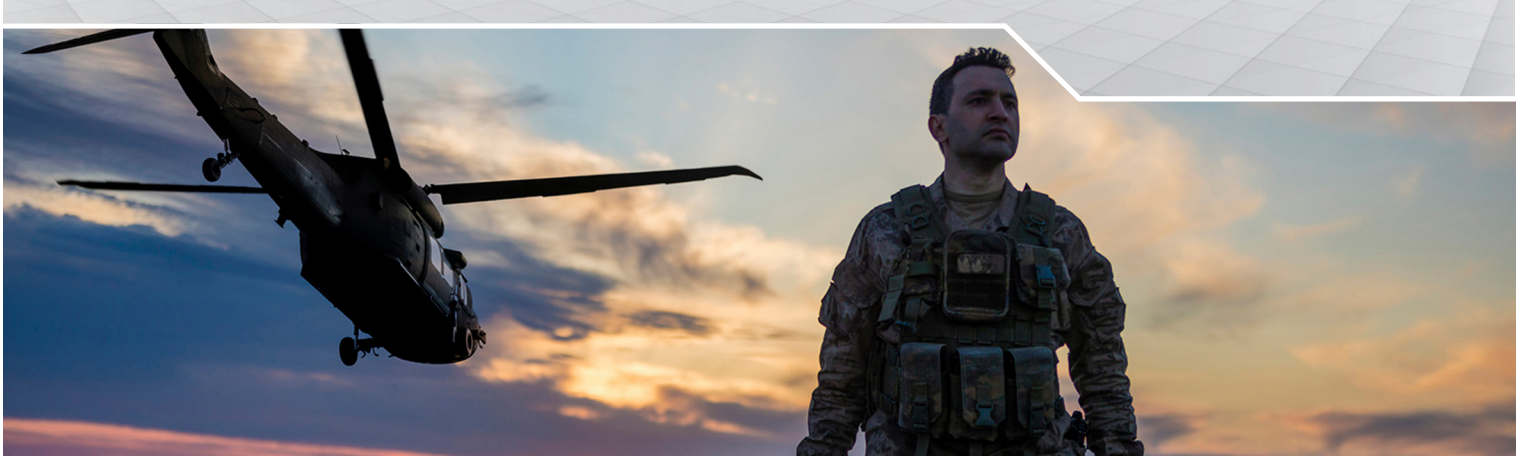
A Small SATCOM Receiver Played an Outsized Role in the Quick Rescue of a Warfighter



The easily overlooked device decoded hidden RF signals revealing the soldier's location and is installed in nearly a dozen ground stations worldwide.

A warfighter behind enemy lines needed rapid extraction to avoid capture or worse recently and used a SATCOM radio with GPS and a specific waveform to share location data while hiding the radio frequency signal.

Low probability of intercept/low probability of detection (LPI/LPD) techniques rely on burst transmissions to blend in with background noise, so only those who know where to search for them can pinpoint them.

Modern militaries regularly employ SATCOM systems that can find such signals, and the wars in Ukraine and Iran have shown how important reliable communications are in protecting warfighters.

"In these conflicts, adversaries target satellite communications infrastructure early and often to mitigate our clear advantage," says Matt Langenbahn, a senior vice president at Kratos. "Kratos helps support service men and women by protecting communication paths, so lifesaving messages get through quickly and clearly."

Mission-Ready, LPI/LPD-Enabled Receivers

Rescuing the warfighter would not have been possible without the custom receiver, which was able to receive and decode the radio's satellite-transmitted, hidden signals inside the military ground station where it was installed. These mission-specific receivers were spread across nearly a dozen ground stations globally and refreshed and retested in 2017, ensuring 24/7, two-way SATCOM availability that wouldn't lead adversaries directly to their target.

The receivers work in concert with other Kratos technologies, like the KnownSpace platform for RF awareness, to support reconnaissance and command and control operations as well — securing SATCOM in real time over government and commercial satellites.

"Kratos' satellite communication legacy includes signal monitoring, interference geolocation and protected communications through radio design," Langenbahn says. "Keeping warfighters connected at home, on base or in the direct path of danger is how Kratos helps get everyone home safely."