

INTRODUCING LEONIDAS

A next-generation high-power microwave (HPM) C-UAS system capable of instant swarm defeat.

Overview

Leonidas is a family of truly portable Counter-UAS systems using directed energy to deliver the power and precision to disable multiple threats across a wide area, or neutralize a single system in tight, crowded spaces.

Leonidas uses solid-state, software-defined high-power microwave to disable electronic targets, delivering unparalleled control and safety to operators. Digital beamforming enables pinpoint accuracy so that operators disable threats...and nothing else. All Leonidas systems utilize the latest solid-state technology from Epirus to dramatically reduce the size, weight and power of the high-power microwave (HPM) weapon.

Leonidas takes the traditional HPM design from a box car to a pickup truck, enabling better maneuverability as well as the ability to be vehicle mounted or rapidly towed into the field of action.



Technology Overview

Leonidas utilizes solid-state Gallium Nitride (GaN) power amplifiers that give the system deep magazines and rapid firing rates while reducing size and weight. The system is frequency agile and rapidly fires a barrage of unique waveforms to exploit the specific frequencies that UAS targets are most susceptible to. This enables tactically relevant counter-swarm ranges beyond small arms fire, even against diverse swarms. It operates very efficiently at low temperatures, eliminating the need for large cooling solutions and enabling system use within minutes of powering up. Leonidas has an open system architecture and a modular hardware design that employs field-serviceable line-replaceable amplifier modules (LRAMs) that can be serviced or replaced in under eight minutes. Upgraded LRAMs can be shipped to deployed Leonidas units to instantly improve range.

Design Principles

The blending of tech and aerospace disciplines at Epirus creates a unique combination of capabilities to tackle problems and offer powerful solutions for our customers.



Scalable

Epirus provides the ability to scale our technology in multiple dimensions, up and down, to achieve the high-powered requirements of our customer's applications.



Open

Epirus is interoperable by design. By implementing open standards and common protocols, customers can use our API to interface with other sensors or equipment within the customer's environments.



Safety

We go all out to protect the operator and surrounding area when our products are used. By creating solid-state, software-driven devices, we can create safe zones for the operator and other electronics equipment.



Rigorous Quality

Epirus has invested in a state-of-the-art Anechoic Chamber to test each component before it's integrated into a system. Additional testing is conducted to validate system effectiveness and ensure fully operational capabilities are delivered to our customers.

Leonidas Key Features & Benefits



Swarm Defeat: Enables simultaneous targeting and neutralization of multiple UAS.

Precision Strike: Beam steering optimizes power on target and prevents blue force electronic fratricide.

Dynamic UAS No-fly Zones: Programmable no-fly zones permit friendly UAS to travel freely while neutralizing hostile UAS.

Interoperability: Open system architecture enables integration with users' existing command-and-control (C2) systems for UAS detection, targeting, and tracking.

High Rate of Fire: Deep magazines enable continuous rapid firing for precision or area fires without overheating or reloading.

Safe Operational Environment: Low operating voltages prevent harmful unintended emissions to system operators.

Innovation at the Core: Epirus invented SmartPower, which utilizes artificial intelligence-enabled Gallium Nitride (GaN) semiconductors to produce extreme levels of power density during HPM transmission, without special cooling.

Multiple Use Cases: Ideal for a variety of mission sets including counter-UAS swarm, counter jammer, and counter radar.